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TECHINCAL MANUAL V6.1.1

BREEAM-NL In-Use Commercial

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Code for a Sustainable Built Environment
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Dutch Green Building Council
Benoordenhoutseweg 46
2596 BC The Hague

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V6.1	January 13, 2025	First publication
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Dutch Green Building Council Foundation

The Dutch Green Building Council (DGBC) is an independent foundation that has developed the BREEAM-NL sustainability label for Dutch buildings and areas. It issues certificates to projects whose degree of sustainability has been assessed according to pre-defined criteria laid down in an assessment guideline (BRL). The BREEAM-NL family of quality marks largely follows the international BREEAM, developed by BRE in Great Britain (see further under BREEAM).

In the present assessment guideline, called BREEAM-NL In-Use Residential, you will find all information about the Dutch version of the quality mark for existing homes and residential buildings. There is also a quality mark specifically for the existing commercial buildings called BREEAM-NL In-Use Commercial v6.1.1. The quality mark for new buildings is called BREEAM-NL New Construction and is available in a version for homes and a version for non-residential buildings. There is also a quality mark for areas, BREEAM-NL Area Development.

This document only deals with BREEAM-NL In-Use Commercial v6.1.1 It is very important to choose the schedule that suits your project; if in doubt, contact DGBC.

For more information about BREEAM-NL and the quality marks, please visit www.breeam.nl.

BRE Global Ltd. BREEAM

BREEAM stands for 'Building Research Establishment Environmental Assessment Method' and is a measuring instrument for assessing the sustainability of projects. With its development in 1991, BREEAM was the first sustainability label for the built environment. BREEAM was developed by the Centre for Sustainable Construction, part of the British Building Research Establishment Global (BRE Global England).

Schedule management

DGBC manages BREEAM-NL under license from BRE Global Ltd. DGBC is formally recognized by the BRE as a 'National Scheme Operator'. DGBC is the only party in the Netherlands entitled to manage this quality mark. As a Scheme Manager, DGBC is responsible for the content and proper functioning of the BREEAM-NL system, of which the assessment guidelines are a part. The internal organisation is divided into a project office, a board, Advisory Groups and an independent Board of Experts (CvD). The primary task of the CvD is to monitor the quality and functioning of the BREEAM-NL quality marks. The CvD is independent of both the project office and the advisory group and the board. Both the CvD, the Advisory Groups and the Board are composed on the basis of the 'all parties concerned' principle and therefore represent the relevant stakeholders.

To guarantee the independence of testing, a three-party certification system is used for the BREEAM-NL quality marks. The project (building or area) builds up the file and substantiates the intended score with evidence; an independent BREEAM-NL Assessor checks the accuracy and completeness of the file and determines the qualification of the project; DGBC randomly tests the work of the BREEAM-NL Assessor.

DGBC is supported in its activities by a large number of organizations that all have a sustainability ambition and endorse DGBC's objectives. These partners are actively involved in the development and continuous improvement of the seals. More information about DGBC and about partner opportunities can be found on our website: www.dgbc.nl.

Certainty by BREEAM-NL and certification

Increasingly higher demands are being placed on the sustainability of the built environment. The BREEAM system provides a good assessment framework, with which you can determine the sustainability performance of buildings and areas in an unambiguous manner. BREEAM-NL is based on the globally tested and applied BREEAM International quality mark. BREEAM-NL is in line with the international Code for a Sustainable Built Environment (CSBE) developed by BRE Global. CSBE also forms the basis for the other national variants for BREEAM quality marks, such as BREEAM-NOR, BREEAM-DE, BREEAM-ES, BREEAM-SE and of course BREEAM-NL.

The international Code for a Sustainable Built Environment (CSBE) provides a framework for assessing sustainability in the built environment. The strategic principles and requirements in the CSBE define an integrated approach to the design, management, evaluation and certification of the environmental, social and economic impacts of the built environment. At the highest level of this code, a vision is formed for a sustainable built environment. CSBE is then interpreted in a Core Technical Standard and a Core Process Standard, both supported by the Core Science base.

The BREEAM Core Standard consists of two separate, but related documents: the technical requirements in the Core Technical Standard (CTS) and the process requirements in the Core Process Standards (CPS). These documents contain lists of requirements that a Scheme Operator (such as DGBC is for the Netherlands) must meet in order to be allowed to use the name BREEAM. DGBC operates BREEAM-NL under license from BRE Global Ltd, BRE is accredited by UKAS. You can find more information about the license in the user manual.

To create certainty, an independent assessment of the sustainability performance of buildings and areas is needed. In the BREEAM-NL methodology, the assessment of sustainability performance is carried out by BREEAM-NL Assessors. DGBC trains BREEAM-NL Assessors. Persons working at DGBC can never fulfil an Assessor role. BREEAM-NL Assessors must also always be independent of the project they are assessing, demonstrably qualified and in possession of a license from DGBC. The quality of every assessment carried out by a BREEAM-NL Assessor is checked by DGBC. These processes are laid down in the user manual. Only when the quality

of all steps is guaranteed, DGBC makes the certificate available to the BREEAM-NL Assessor. The BREEAM-NL certificate provides formal verification that the BREEAM-NL Assessor has completed an assessment of a building, in accordance with the requirements of the scheme and the quality standards and procedures.

A BREEAM-NL certificate gives developers, investors, clients, owners and all other parties associated with the built environment the assurance that the building or area they own, rent out or develop is demonstrably sustainable. And it works! BREEAM is the most widely used sustainability label in Europe and in the Netherlands, BREEAM-NL is frequently used for assessing areas, existing buildings, new construction and large-scale renovations. Visit the website www.breeam.nl for certified projects, more insight into the number of BREEAM-NL certificates obtained per year or the average certificate scores per year.

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Colophon

DGBC owes a debt of gratitude to BRE Global and all those who have provided feedback and recommendations through advisory or working groups, market consultations, and in other ways. Also thanks to the partners who make the development and updating of BREEAM-NL financially possible. Much of the feedback is incorporated into the credit texts and you can always continue to provide input via helpdesk@dgbc.nl. This assessment guideline has largely been established through an 'open source' approach, in which knowledge and expertise from the market have played an important role.

Many expert and experienced people have been involved in finalising this version of the assessment guideline. The Board of Experts and the In-Use Advisory Group in particular deserve special mention, because they guarantee the quality of the quality mark and give direction to the development process.

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The content of this assessment guideline has been reviewed and approved by the In-Use Advisory Group, the Board of Experts and BRE Global. There are also several consultancy firms that have provided substantive support in the development.

The following persons and organisations were involved in providing feedback during the market consultation, writing, checking and correcting the credit texts:

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1. Introduction

1.1 What is BREEAM-NL

BREEAM-NL has been the certification method for a sustainably built environment since 2009. With this method, projects can be assessed for integral sustainability. BREEAM-NL has four quality marks. For new construction and renovation projects, there is BREEAM-NL New Construction (and Renovation). Existing buildings are assessed with BREEAM-NL In-Use and complete areas with BREEAM-NL Area. On [breeam.nl](https://www.breeam.nl) you will find more information about the method, the link with, for example, the Sustainable Development Goals (SDGs) or the EU Taxonomy. You will also find useful documents, such as the BREEAM-NL fact sheets.

Goals of BREEAM-NL

- BREEAM-NL assesses, stimulates and values ecological, social and economic sustainability in the built environment. The BREEAM-NL quality marks:
- Challenge the market to come up with innovative solutions that optimise the sustainability performance of buildings.
- Raise awareness among building owners, occupiers, developers and managers about the benefits of buildings with limited environmental impact.
- Develop trust and value by providing independent certification that demonstrates the added value for individuals, businesses, society and the environment.

Objectives of BREEAM-NL

- Providing market recognition for buildings with low environmental impact.
- Ensuring that sustainable best practices are integrated into buildings.
- Challenging the market to provide innovative, cost-effective solutions that reduce the environmental impact of buildings.
- Enabling organizations to showcase their environmental goals and improvements in a unified way.

Core principle/values BREEAM-NL

- Determining environmental quality through an accessible, holistic and balanced methodology.
- BREEAM-NL is based on objective criteria that value good sustainable performance.
- Using a flexible approach that focuses on positive outputs without prescribing measures.
- Performance is based on scientific evidence whenever possible.
- Certification in an independent way, which increases reliability.
- Where possible, adopt existing tools and standards in the market, to promote the development of policy and technology and reduce costs.
- Drafting technical and operational issues with relevant international and national standards, including the standards of the European Commission's CEN/TC 350.
- Collaboration with a representative range of stakeholders to stay informed of developments that endorse these principles.

The sustainability objectives exceed the legal minimum as laid down in the Living Environment Buildings Decree or other laws and regulations. BREEAM-NL certification is therefore 'non-statutory'. BREEAM-NL is always a voluntary choice of the client. The BREEAM-NL objectives are based on current practice guidelines (best practices). There is freedom of choice in most subjects (credits). For example, development and construction teams can choose for themselves which credits they want to obtain the points for in order to build up the intended total score. For a number of criteria, there is a minimum standard that you must achieve. This means that you have to meet certain criteria to arrive at a certain total score. These criteria are called minimum requirements and mandatory credits.

1.2 BREEAM-NL Quality Marks

The Dutch Green Building Council Foundation is the scheme manager for BREEAM in the Netherlands. DGBC manages several BREEAM-NL quality marks, developed to assess the sustainability performance of buildings and areas over the different stages of their lives.

The Dutch credit lists focus on Dutch laws and regulations, practice guidelines and construction practice. In doing so, consistency with the international BREEAM version is monitored by BRE Global. This allows the user, through the BREEAM-NL Assessor and the certification process, to measure, evaluate and reflect on the performance of the project in an independent and robust way based on current best practices.

The credit lists are bundled into assessment guidelines. The operational assessment guidelines are:

- BREEAM-NL Area for (re)developments at area level
- BREEAM-NL New Construction and Renovation for new and large-scale renovated commercial buildings
- BREEAM-NL New Construction and Renovation for new and large-scale renovated homes and residential buildings
- BREEAM-NL In-Use for existing commercial buildings in use
- BREEAM-NL In-Use for existing homes
- BREEAM-NL In-Use for Sustainable Housing and Business Operations

Sustainability performance can be quantified with a number of individual measures and associated criteria, which extend across different sustainability categories. You will eventually find this expressed as a single certified BREEAM-NL qualification on the certificate. The points to be awarded may differ per type of building or use. In his file, the applicant indicates which use function applies to each part of the building. The current version of this assessment guideline can be consulted and downloaded at www.breeam.nl. The recently published assessment guidelines explain the context and value of each category.

1.3 BREEAM-NL In-Use

BREEAM-NL In-Use Non-Residential Construction is the assessment guideline for the sustainability performance of existing buildings in the Netherlands. The main goal of BREEAM-NL In-Use is to reduce the negative impact on the environment of buildings in the use phase.

BREEAM-NL In-Use consists of two parts that can be certified jointly or separately from each other.

Asset: Sustainability aspects related to the structural and installation components of the building and the location where the building is located. For example, the energy performance of the building.

Management: Assessment of the way in which the management of the building is organized and carried out. For example, the maintenance of the building.

For each component (Asset or Management), a score is determined that is displayed on the certificate. In the Netherlands, it is possible to use this assessment guideline in combination with the assessment guideline 'BREEAM-NL In-Use Sustainable Housing and Business Operations'.

1.4 When to start with BREEAM-NL?

BREEAM-NL In-Use offers a structured approach to improving the sustainability of existing buildings and ensuring them. This certification system focuses on the continuous improvement of buildings through a three-year cycle, in which the building's performance in terms of the environment, health, energy consumption and other sustainability aspects is made transparent and assessed. At the end of this three-year cycle, a building must be recertified to provide insight into the current sustainability performance and to guarantee that the building continues to achieve the sustainability goals or achieves a higher qualification by implementing measures.

When existing projects start working with BREEAM-NL In-Use, it is essential that insight is first gained into the sustainability potential of the building. This forms the basis for setting realistic and achievable ambitions. Before concrete goals are formulated, an analysis must take place to understand what improvements are possible within the specific context of the building. It is important that projects do not

immediately strive for the highest achievable qualification of 'Outstanding', this is a high level of ambition that is only achieved by a select number of buildings and must be tackled step by step. It is recommended to set realistic goals that fit the current state of the building and the possibilities for improvement.

In order to integrate the BREEAM-NL methodology efficiently and effectively into the development to be carried out, it is advisable to engage a BREEAM-NL Expert or Assessor as early as possible in the process. They have experience in integrating and implementing the BREEAM-NL methodology. Involving a BREEAM-NL Expert and Assessor at an early stage helps to achieve the desired qualification and contributes to the smooth completion of the BREEAM-NL certification process.

1.5 How to use this review guideline

With this BREEAM-NL assessment guideline:

- Qualified and licensed BREEAM-NL Assessors can complete a BREEAM-NL assessment and obtain a final qualification.
- Can DGBC have a Quality Assurance (QA) assessment carried out on the assessment report of a BREEAM-NL Assessor, in line with the procedures that have been drawn up.
- BREEAM-NL Experts receive help in supporting project teams in defining, monitoring and successfully achieving the desired final qualification.
- Do clients and project teams have a reference on how the intended building is tested with BREEAM-NL?

The assessment guideline is divided into seven parts:

- Introduction to BREEAM-NL
- Application of this assessment guideline
- Score and qualification
- Argumentation
- Demarcation of the project
- How to read a credit
- Categories, issues and Criteria

Introduction to BREEAM-NL

Chapter 1 shows which version of BREEAM-NL can be applied for different project types. It also explains how the assessment guideline works for existing buildings and when it should be used.

Application of this assessment guideline

The section "Application of BREEAM-NL In-Use Non-Use Construction" (chapter 2) describes the types of buildings and uses for which this BREEAM-NL quality mark applies. Clients and BREEAM-NL Assessors can use this information to check whether the correct BREEAM-NL quality mark has been applied to the project.

Score and qualification

The section 'Score and qualification' in chapter 3 explains how the performance of a building is measured and assessed. It describes the weighting percentages per category, the minimum scores per final qualification, the mandatory credits, filter credits, exemplary performances. The performances are calculated and expressed in the BREEAM-NL qualification.

If all issues within a category have been graded, a category score can be calculated. Then the category weighting is applied. The weighted scores are summed up to form a total score, which can be supplemented by additional scores for innovation credits and example performance. This total score eventually leads to a qualification, for example Good, Excellent or Outstanding.

Argumentation

An important aspect of BREEAM-NL is that the sustainability performance of a building must be demonstrable. The performance must be traceable and demonstrable. Chapter 4, 'Evidence', describes the types of evidence available, and how the suitability and robustness of this evidence for certification are assessed.

Certification process

This section describes the rules regarding registration and (re)certification periods.

Reading guide

Each BREEAM-NL credit is structured according to the same model. The issue describes the criteria and goals that a project must meet in order to earn credits. For a more detailed explanation of the accrual of a issue, see chapter 6, 'Reading guide'.

Categories, Credits and Criteria

The assessment of a building is carried out during the use phase of the building, based on nine different categories that were previously mentioned in the introduction of the technical manual.

Each category and subject (also known as 'credit') is further elaborated in this guideline. For each issue, sustainability goals and criteria are defined that must be met. When the criteria are met and this is demonstrable, an Assessor can award credits.

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2. Application BREEAM-NL In-Use

The BREEAM-NL In-Use Commercial technical manual can be used to assess the sustainability performance of non-residential buildings. This always involves an assessment of an existing building.

2.1 Preconditions for project assessment

In order to certify a building or part of a building with BREEAM-NL In-Use Commercial, the following preconditions must at least be met.

1. The asset is a complete and completed building or part of the building

Asset: If it concerns a new construction or large-scale renovation project*, the asset was delivered in its entirety at least one year ago in accordance with the definition of UAV 2012. If the asset is certified according to the appropriate BREEAM-NL scheme for new construction or large-scale renovation, a certification can be carried out against Part 1 Asset immediately after completion. If the asset has a valid BREEAM-NL In-Use certificate for Part 1 Asset at the start of the large-scale renovation, a recertification can be carried out against Part 1 Asset of BREEAM NL In-Use immediately after completion of this renovation.

AND

At the time of the assessment, at least 80% of the GFA must be in use

Management: The asset must have been commissioned at least 12 months prior to the assessment and have at least 12 months of consumption data. At the time of the assessment, at least 80% of the GFA must be in use.

2. The asset must contain occupiable space(s). An occupiable space is a space where building users stay for at least 30 minutes a day.

3. The relevant facilities and technical areas used by the building and the building users must be included in the assessment. This applies to the assessment of an entire building or a part of the building.

4. The asset must comply with the relevant laws and regulations. An exception is made for the energy label C obligation of offices, office buildings without an energy label can certify with the BREEAM-NL In-Use guideline, but no credits can be obtained for ENE 01. See relevant credit for more information.

Multiple Buildings Under One Asset

5. If the buildings meet the following preconditions, it may be assessed as a single asset for BREEAM-NL:

- a) All buildings are located on the same plot. The boundary of the plot is where the responsibility for managing or owning the plot changes.
- b) All buildings have the same function, have similar performance and have a similar design and year of construction.
- c) The management, maintenance policy, procedures and approach of buildings is the same for all buildings that are part of the asset.
- d) Evidence must be collected from each building included in the assessment. Where performance varies against BREEAM requirements, the final score is determined by the building with the lowest level of performance.

* Large-scale renovation: This refers to large-scale renovation in which the thermal building envelope and the installations (lighting, heating, cooling, ventilation) are changed, with the aim of extending the life of the building.

2.2 Certifying a building or part of a building

For a complete and representative representation of the sustainability performance, it is recommended to assess the entire building with BREEAM-NL In-Use. If this is not possible, BREEAM-NL In-Use can choose to certify a building component, if this building component meets the requirements of paragraph 2.1.

The demarcation of a building part must be clearly displayed in the project data and must be determined on the basis of a physical separation (such as a floor or walls). This demarcation must be adhered to throughout the certification and systems and installations that are necessary to make this part of the building functional or that building users use are part of the certification. In addition, the same demarcation must be maintained for the Asset and Management component.

Example: A building with shops on the ground floor and offices on the first floor, where the heating and elevator are shared, is certified. The client decides to certify only the offices on the first floor and to exclude the shops from the certification. To make the demarcation clear, the title of the project must explicitly state that it concerns the offices on the first floor. In addition, this should be clarified in the project description. For the assessment of the BREEAM-NL In-Use criteria, both the building installations and the lift must be included, even if they are shared with the shops that fall outside the demarcation. This is necessary because the installations are essential for the functionality of the building and the facilitation of the users.

In the event that a building is certified with both a utility function (such as shops) and residential function (such as apartments), this building will be treated as a building part and the user functions must be assessed with the guideline that applies to it.

2.3 Multi-tenant buildings

If a building with multiple tenants is certified, the demarcation of the certification can be determined in two ways:

- Way 1: WHETHER the common areas* for which the building owner/building manager is responsible are assessed
- Way 2: WHETHER the common areas* AND the rentable spaces are assessed.

*Common areas are the facilities and/or passages that are not owned/managed by one tenant but are used by all tenants and building users. In many cases, the common areas are managed and maintained by the building owner or the building manager. Examples of communal areas are passages, stairwells, main entrances and outdoor spaces.

Assessment of the entire building with multiple tenants

If the entire building (common areas and lettable areas) is assessed, the criteria apply to at least 80% of the tenants measured in terms of gross floor area. This demarcation must be determined prior to the assessment and full certification must be adhered to. It is not possible, for example, to include a tenant in the assessment for the criteria for lighting but to exclude it from waste collection.

2.4 Assessable usage features

The overview below indicates which building types are part of the scope of this assessment guideline and which functions require customization.

Table 1: Assessable building types

FUNCTION OF USE	DEFINITION	SCOPE OF SCHEME	CUSTOM
Meeting function	Use function for the gathering of people for art, culture, religion, communication, childcare, the provision of refreshments for use on the spot or the viewing of sports	Community building, dining rooms of a restaurant, canteen, course room, meeting room of an office or restaurant, nursery, childcare room of a crèche. Card and board games area, exhibition room, conference room, reading room, library, café, exhibition room	Grandstand in a sports building, cinema, theatre, casino, church, discotheque, theatre, stock exchange
Cell function	Use function for forced stay of persons	-	Prison, police cell, holding room, cell at a station
Healthcare function	Function of use for medical research, nursing and care	Room for the treatment or nursing of patients in a hospital, nursing home, psychiatric institution, practice space of a general practitioner, physiotherapist or dentist	Operating room, intensive care, imaging diagnostics, nuclear medicine, obstetric unit, emergency room
Industry function	Use for the commercial processing or storage of materials and goods, or for agricultural purposes	Workshop, warehouse, factory (light industry), laboratory, kitchen, restaurant, practical room ('wet')	Refrigerated storage space in a warehouse, data center, factory (heavy industry*)
Office function	Office Function	Administration office, bank building, town hall, office near shop	-
Accommodation function	Use function for providing recreational accommodation or temporary accommodation to people	Hotel, motel, guest house, reception centre for temporary stay of people	-
Teaching/educational function	Use function for teaching	Auditorium/lecture hall, classroom, practical room ('dry'), teachers' room.	-
Sports function	Function of use for the practice of sports	Fitness room, changing rooms at sports function	Swimming pool, riding stables, tennis hall, gymnastics room, squash court, sports hall, indoor cycling track, bowling alley, billiard room, shooting range, indoor football stadium (Excl. grandstand),
Retail function	Function for trading materials, goods or services	Shopping centre, department store, supermarket, pedicure, travel agency, showroom, hairdresser, pharmacy, library (lending part).	Gas station, station ticket office
Other use	Use function for activities in which the stay of people plays a subordinate role	Not certifiable in itself. Parking garage certifiable provided that it is part of another use,	-

FUNCTION OF USE	DEFINITION	SCOPE OF SCHEME	CUSTOM
		where the surface area of the garage does not exceed 1/3 of the total GFA	
Structure not being a building	Structure or part thereof, insofar as it is not a building or part thereof	Not certifiable in itself	-

*In the 'Living Environment Activities Decree (Bal)' (section 3.3), companies that can have a major impact on the living environment are referred to as complex companies. These complex companies cannot be certified with BREEAM-NL In-Use. Subsequently, buildings intended for the mining, storage, transport or production of fossil fuels cannot be certified with BREEAM-NL In-Use either.

If any job types are missing from the table or if there is uncertainty about whether a job type can be certified with this assessment guideline, DGBC can be contacted via helpdesk@dgbc.nl.

This assessment guideline is based on an assessment of the entire building. Rarely does the building consist of a single function. The main function of an office is the office function. Offices usually have meeting rooms, a canteen or other places where building users come together. These rooms have a meeting function. In the Assessment Tool it is possible to fill in the different surface area per function.

Functional function specific criteria

The majority of the credits apply to the entire building and grounds. However, credits may have additional or different criteria for certain uses. In the credits, this is indicated by means of the 'use function specific criteria'.

2.5 Other building types and customization

Custom

With this version of the guideline, only buildings with the functions referred to in paragraph 2.4 can be assessed. If a use function is certified that falls under 'customization' according to paragraph 2.4, DGBC must be contacted to request a customization procedure. DGBC looks at which credits and criteria from the assessment guideline are relevant for that specific building, which are still missing or which are not applicable. For example, an assessment guideline is being developed that only applies to that project.

There may be costs associated with the Customization procedure. These depend on the complexity of the building, the function(s) and the particularities and criteria relating to sustainability. For more information, please contact DGBC (helpdesk@dgbc.nl).

If the building has space(s), with a combined capacity of less than 5% of the GFA and is smaller than 200 m², which fulfils function(s) that falls under Customization, it is possible to disregard this function. This is at the discretion of the DGBC and depends on the project-specific situation and the impact that the position has on the total.

For buildings that require customization, the steps in Instruction Document 115 must be followed.

The surface of a parking garage

The functions present in a project in accordance with paragraph 2.4 of the introduction to the assessment guideline must be entered into the assessment tool with the correct GFA. The GFA of an existing parking garage is entered under 'Other uses' in the project data.

The 'Other uses' function and the associated surfaces must be entered for administrative reasons in order to obtain a complete picture of the space distribution of the object. All functions, including 'Other functions', add up to the total GFA in the project data.

3. Score and qualification

In this chapter you can read how to calculate a BREEAM-NL qualification for a building. A number of factors determine the final BREEAM-NL qualification:

- The scope of the assessment
- Thresholds per qualification
- Minimum requirements
- Weighting of categories
- The BREEAM-NL issues and associated points

The calculation to arrive at a score is explained in the following paragraphs.

3.1 Threshold per qualification

The final score achieved is converted into a BREEAM-NL qualification. The table below shows the minimum score for each qualification.

Table 2: BREEAM-NL qualifications

BREEAM-NL QUALIFICATION	SCORE %	STARS
Outstanding	≥ 85	5 stars
Excellent	≥70 to <85	4 stars
Very Good	≥55 to <70	3 stars
Good	≥40 to <55	2 stars
Pass	≥15 to <40	1 star
Unclassified	<15	0 stars

Additional requirements are mandatory for various qualifications. More information about mandatory credits will follow later in this chapter.

The BREEAM-NL qualifications allow you, as a client or stakeholder, to compare the performance of a building with other buildings of the same type, and with the sustainability performance of a building stock. BREEAM-NL In-Use is a non-statutory standard that goes beyond the legal requirements for existing buildings. Not all qualification levels are achievable for every building, as the score depends on factors such as its current condition, management, and opportunities for improvement. The highest level, 'Outstanding', is rarely achieved and is intended for the most sustainable and well-managed buildings.

If a project receives an 'Unclassified BREEAM-NL qualification', this means that the building performance does not comply with BREEAM-NL. The minimum and mandatory requirements of the main sustainability criteria have not been met, or the general threshold score required for a 'Pass score' has not been achieved.

BREEAM Assessment – issues and credits

This technical manual consists of 83 individual issues divided into nine environmental categories, plus an 'Innovation' category. Chapter 3.2 provides more information on innovation issues and Exemplary Performance. Each credit assesses a specific construction-related environmental impact or issue. Think of topics such as internal air quality or criteria about safe access to the building for all building users. A certain number of credits is available for each credit. See table 3 for the number of credits to be obtained per category.

Table 3: Available credits

CATEGORIES	AVAILABLE CREDITS	
	Asset	Management
Management	0	34
Health	46	27
Energy	70	62
Transport	23	17
Water	40	0
Resources	21	14
Resilience	17	19
Land Use and Ecology	6	10
Pollution	18	15
Total	241	198

A building receives BREEAM-NL points if you demonstrate that it meets the 'best practices performance levels', associated with a specific issue. This means that an environmental impact has been reduced. Or, in the case of the Health category, that a specific building-related problem has been addressed. Think, for example, of good thermal comfort, sufficient daylight or pleasant acoustics.

The number of credits available for an individual assessment criterion varies. In general, the more credits a building can earn for a given credit, the more important that issue is for reducing that building's environmental impact. If you can achieve multiple credits for an issue, the number of credits awarded is usually based on an ascending scale or benchmark. The BREEAM-NL methodology rewards a higher building performance in the field of sustainability with more credits.

In addition to the BREEAM-NL total score and qualification achieved, the building performance achieved also provides insight into a series of important sustainability indicators. Examples are the environmental effects during construction and in the use phase. It means that you can use BREEAM-NL to set general goals, but also to define performance levels of a building. These can then be used to support specific organisational policy objectives for individual environmental criteria.

3.2 Conditions and exceptions

In order to maintain a flexible system, BREEAM-NL uses a 'balanced scorecard' approach to assessing a project. It means that in order to reach a certain level of performance, you can trade the most BREEAM-NL credits. This means that you can compensate building performance in one area with performance in another area, in order to achieve the intended BREEAM-NL score.

BREEAM-NL sets minimum performance standards for the BREEAM-NL qualifications in important areas such as energy, water, waste and so on. For example, the assessment guideline ensures that the BREEAM-NL Assessor, who pursues a particular assessment, does not overlook performance against fundamental environmental issues. Table 4 shows all the conditions and exceptions that apply to credits in this technical manual.

Mandatory issues

The mandatory issues give a minimum standard per issue, with which you can obtain a certain BREEAM-NL qualification. This means that a minimum number of points has been achieved for a number of issues per qualification level.

Table 4: Mandatory issues by qualification level

CREDIT PART ASSET	MANDATORY QUALIFICATION LEVEL				
	Pass	Good	Very Good	Excellent	Outstanding
ENE 01 – Energy performance of the building				Minimum 24 credits	
WAT 01 – Metering monitoring		Minimum 2 credits			
RSC 02 – Reuse and recycling facilities					Minimal 2 credits for answer option B or C
RSL 01 - Climate Risk Assessment				Minimum 2 credits	
CREDIT PART MANAGEMENT					
MAN 02 – Management engagement and feedback				At least 2 credits for answer option G or H	
MAN 04 – Environmental Policy and Procedures				At least 2 credits for answer option B	
ENE 19 – Energy consumption				Minimum 25 credits	
RSC 05 – Sustainable procurement	At least 1 credits for answer option B				
RSL 06 - Emergency plans				At least 3 credits for answer option B	
RSL 09 – Fire risk assessment				At least 2 credits for answer option B	

Filter issues

The list of credits on which the BREEAM-NL Assessor assesses a building depends on the building type to be assessed and certain building components and components used. Think of elevators, escalators or cold and freezer storage for refrigeration of goods. If you enter the building data into the assessment tool, the relevant credit list is automatically generated. The BREEAM-NL Assessor can approve these components in the relevant credits. He or she thus gives a correct justification of the fact that certain credits do not apply, i.e. are 'filtered'.

Innovation issues and exemplary performance

With innovation credits, you can additionally value innovations that increase the sustainability performance of a building. These are innovations, on top of the achievements that are already appreciated in BREEAM-NL. Innovation points encourage clients and construction and design teams to make their building extra sustainable. Moreover, they increase knowledge, techniques and applications in the market. You can obtain an innovation credit if a technique, method or other application has been assessed as innovative. Innovation credits can be applied for using Instruction 101 (see BREEAM-NL website).

For each innovation point awarded, the BREEAM-NL Assessor can add 1% to the total score, with a maximum of 10%. Innovation points are independent of the BREEAM-NL qualification. A BREEAM-NL Assessor can therefore award them for each qualification (from PASS).

A building can also earn extra points if it meets Exemplary Performance. It is an 'exemplary performance criteria' in a BREEAM-NL credit. These Exemplary Performances also have a value of 1% on top of the total score. An Assessor can award a maximum of 10 'EP points' per component (Asset and Management). This means that the maximum additional score is 10%. The BREEAM-NL qualification is capped at 100%. Innovation credit and Exemplary Performance are awarded only as whole percentage credit.

Table 5: Available Exemplary Performance credits

ISSUE CODE	ISSUE TITLE	AVAILABLE EXEMPLARY PERFORMANCE
ASSET		
HEA 01	Daylighting	1
HEA 12	Inclusive design	1
ENE 10	Demand side management (DSM)	4
WAT 01	Water monitoring	1
RSC 02	Reuse and recycling facilities	1
RSC 03	Resources inventory	2
RSC 04	Future adaptability	1
RSL 01	Climate risk assessment	1
RSL 02	Measures to reduce run-off rainwater	1
LUE 02	Ecological features	1
MANAGEMENT		
MAN 04	Environmental Policy and Procedures	1
ENE 19	Energy consumption	5
RSC 05	Sustainable procurement	3
RSL 06	Emergency plans	1
RSL 10	Security risk assessment	1

3.3 Weighing

The number of credits approved by a BREEAM-NL Assessor determines the final total score. In order to arrive at a total score, a number of settlement factors must be taken into account. The BREEAM-NL Assessor does not have to do this himself. The assessment tool makes this calculation automatically.

There is a maximum number of credits to be earned per category. The number of credits obtained in relation to the maximum number of credits to be achieved yields a percentage. This percentage is multiplied by the weighting percentage of each category. By adding up the nine category scores, you get a total score. That is the score on the certificate.

The weighting factors are based on a consensus from the survey among various stakeholders and organizations. Think of government, suppliers, manufacturers and knowledge institutions. This peer reviewed study was conducted by BRE to determine the relative importance (weight) of each sustainability category. In the Netherlands, no research or stakeholder analysis has yet been carried out. That is why we use the same weighting as for BREEAM International. This is therefore a consensus based on qualitative research and not a scientific weighting. The weighting percentages may change over time if social developments give cause to do so.

Table 6: Weighting by category

CATEGORIES	WEIGHING	
	Part: Asset	Part: Management
Management	0%	11%
Health	17,5%	16%
Energy	24%	28%
Transport	8%	0%
Water	9,5%	8,5%
Resources	13%	11%
Resilience	12%	10,5%
Land Use and Ecology	9%	8%
Pollution	7%	7%
Total	100%	100%
Exemplary performance	Maximum 10%	Maximum 10%

3.4 How is a BREEAM-NL qualification established?

The final BREEAM-NL qualification (from 'Pass' to 'Outstanding') is calculated by the assessment tool. The BREEAM-NL Expert has justified the criteria the project meets in the assessment tool. The BREEAM-NL Expert ticks off the points that the project is aiming for. The BREEAM-NL Assessor checks the accountability and burden of proof and approves the points. It does not alter the fact that the BREEAM-NL Assessor and Expert must also be able to calculate the qualification themselves.

To arrive at the correct qualification, they proceed as follows (see also the calculation example below):

1. Within each category of BREEAM-NL In-Use Non-Residential Construction, the number of points that can be awarded per issue is determined by the Assessor, in accordance with the criteria that apply to each issue.
2. The percentage of credits that have been achieved is calculated per category.
3. The percentage of credits obtained per category is multiplied by the weighting percentage of the relevant category. This shows the share of the score per category on the total score.
4. Next, the category scores must be added up to determine the total BREEAM-NL In-Use score (%) for the part that is assessed.
5. Add up the category scores, including innovation issues and Exemplary Performance credits that apply. This results in a draft final score.
6. The Assessor compares the total score with the BREEAM-NL qualifications. If the asset meets all the requirements, the relevant BREEAM-NL score is achieved.

Table 7: Calculation example of scoring

CATEGORIES	AVAILABLE CREDITS	CREDITS EARNED	PERCENTAGE OF CREDITS OBTAINED	CATEGORY WEIGHING	SCORE BY CATEGORY
	Asset				
Management	0	0	0	0%	-
Health	46	30	65,22%	17,5%	11,41%
Energy	70	24	34,28%	24%	8,22%
Transport	23	6	26,09%	8%	2,10%
Water	40	20	50%	9,5%	4,75%
Resources	21	14	66,66%	13%	8,66%
Resilience	17	15	88,23%	12%	10,59%
Land Use and Ecology	6	4	66,66%	9%	6%
Pollution	18	7	38,88%	7%	2,72%
Exemplary Performance	14	2	-	1%	2%
Total	241	120	Total score Asset		56,45%

3.5 Building data in the issues

To ensure that the building data is better recorded in the Assessment Tool, some credits ask you to fill in and validate additional fields. This should be done in addition to checking the criteria or answer options that apply. In this way, it can be checked whether everything has been filled in consistently, changes can be tracked and the improvement of the sustainability performance of the building can be monitored. If an answer option (or criterion) applies to the building and there is an input field associated with it, the points can only be obtained if that field is also filled in. See Table 8 of the mandatory input fields.

Table 8: Building data credits

ISSUE	DATA POINT	UNIT
ENE 01	Energy performance of the building	Label
ENE 01	Energy performance of the building	Expiration date
ENE 19	Energy consumption	kWh/m ² GO per year
ENE 19	Energy consumption	kgCO ₂ /m ² GO per year
WAT 11	Water consumption	M ³
WAT 12	Water recycling	M ³
RSL 01	Climate risk assessment (heat)	ZL/M/H/ZH
RSL 01	Climate risk assessment (drought)	ZL/M/H/ZH
RSL 01	Climate risk assessment (flooding)	ZL/M/H/ZH
RSL 01	Climate risk assessment (flooding)	ZL/M/H/ZH
LUE 01	Planted area	%

4. Evidence

To ensure consistency and reliability, all BREEAM-NL certifications must be based on reliable and verifiable information, which is in line with the project in question. This is guaranteed with the BREEAM-NL certification with the burden of proof. Burden of proof should be used to support the accountability of the number of points to be awarded in the case of a credit. The burden of proof required for this may differ per assessment guideline and per credit.

4.1 Types of evidence

The evidence for the credits is preferably not specially drawn up for a BREEAM-NL certification. In many cases, the requirements of the assessment guideline can be demonstrated with available building information and an on-site inspection.

In the credits, it may happen that specific burden of proof is requested for a criteria. The burden of proof that must be provided is described in the relevant credit under the 'evidence' section. If a specific burden of proof is not required for a credit, the project can use table 9 to determine what burden of proof is needed to demonstrate that the criteria are met.

Table 9: Type of evidence

REFERENCE	EVIDENCE TYPE	DESCRIPTION
E1	Bills/invoices	Evidence in the form of invoices/invoices that supports the requested requirements in the criteria. Billing information must come from the organization that provides the billed services to the item.
E2	Meter readings/ BMS output	Proof based on meter readings of the consumption of gas, electricity and water, among other things. This data is evident from individual meter readings or from data collected from the building management system (BMS), installed in the asset.
E3	Building information model (BIM) data	BIM (Building information model) or BIM files used for the project, which contain relevant information/evidence and are readable by the reviewing party.
E4	Communication with DGBC	For example, the reference for a DGBC response to the technical question of a BREEAM-NL In-Use Assessor
E5	Report of site visit Assessor	Reporting based on the site visit to the asset carried out by the BREEAM-NL In-Use Assessor himself, to determine that the BREEAM-NL In-Use criteria are met. The report serves as separate evidence and may include photos taken by the Assessor during the site visit.
E6	Recognized certificates	Examples such as ISO14001, FSC (Forrest Stewardship Council), EPD (Environmental Product Declaration) etc.
E7	Communicative expressions	Formal documents of communication with stakeholders and/or third parties showing an agreement, outcome or action. This can be in the form of a letter, minutes, e-mail correspondence, a publication or any other form of media.
E8	Computer-aided modelling results and conclusions	Examples are thermal modelling, flood assessments/modelling, life cycle assessment, life cycle cost analysis, ventilation modelling, etc.
E9	Contract documents	Documents/contracts that demonstrate how maintenance/monitoring/testing or other services are performed by a (third) party.
E10	Other third-party information	For example, floor plans, timetables, product specifications, laws and regulations, product labels
E11	Photographic evidence	Photos that support or confirm that installations and building elements or other relevant systems or products are present or installed at the asset.
E12	Professional Services Contract	Agreement for the provision of professional (advisory) services, such as maintenance, testing or legal or technical advice.

REFERENCE	EVIDENCE TYPE	DESCRIPTION
E13	Risk assessment	Risk assessments include various operational risks and other risks to a project. This includes how each risk is managed and who is responsible for managing each risk.
E14	Expert reports	Professional reports based on research, testing or studies by an expert, including (but not limited to): <ul style="list-style-type: none"> • Environmental management system • Flood risk assessment • Acoustic research • Indoor air quality • Transport analysis • Performance assurance and maintenance reports and strategies • Ecological research • Legionella management plan
E15	Overview of services to be provided	An overview of specific services and tasks, to be performed by a party involved in the asset, that are included in the contract with this party.
E16	Interviews with employees	Interviews with employees who confirm that specified (management) practices/reviews are carried out in the asset. Staff interviews are an important part of verifying that formal processes/procedures/documents are made available to staff/building users.

4.2 Reliability and quality of evidence

Evidence used for a BREEAM-NL certification must be reliable and of good quality when it comes to the source and traceability of the evidence. Below is an overview of quality requirements that a BREEAM-NL Assessor can ask for if evidence is provided.

- **Communicative communications:** Newsletters, conversation reports, email conversations, or any other form of media used as evidence must clearly display the name of the asset and/or location, author/organization, and date.
- **Formal letters of correspondence:** letters must be addressed, dated and signed (electronic signature is sufficient).
- **Construction drawings/floor plans/installation technical drawings:** all these documents are provided with the name of the asset and/or location, title of the drawing, date, (if possible revision number and scale).
- **Specification/building manuals:** A specification/building manual must be clearly related to the project being assessed, and must be dated. If parts of a specification or a building manual have been made available, the table of contents and the cover page of the specification or manual must in any case be attached. It should include the name of the project and the date.
- **Photographic evidence:** This must be dated and have a title/description that clearly links the photographic evidence to the asset and the related credit.

4.3 Principles to be used for evidence

In determining the appropriateness and robustness of the evidence for each credit, the BREEAM-NL Assessor should apply the principles set out in Table 10. If the evidence complies with these principles, it is admissible for the assessment. The principles below are not in a hierarchical order, they are all equally important in approving the evidence.

Table 10: Principles of evidence

	PRINCIPLE	PURPOSE	QUESTION TO ASK
1	Evidence provided for all criteria for all points to be obtained		
	Evidence must show that ALL relevant criteria for the point obtained are met.	Completeness	Are all criteria covered? Have all relevant definitions been addressed?
2	Unambiguous assessment		
	The assessment must demonstrate that compliance is made in an unambiguous manner. Evidence (and explanations) must make it clear to the reviewing party that the requirements are met.	Comparability of independent assessment	If a third party reviews my report with the attached evidence, will they be able to confirm that the requirements are met, and award the same points as me?
3	Robust		
	Always ensure that the evidence is robust and relevant to the assessment. The evidence contains all relevant basic information.	The evidence is demonstrably robust and from a reliable source.	Is this the most robust form of evidence available to show compliance with the requirements? Does the evidence contain all the relevant basic information? Can it be fully controlled?
4	Make use of existing and available evidence		
	Use available and existing information to demonstrate compliance. In most cases, evidence will not need to be 'created'.	By using existing and available evidence, I minimize time and costs.	Is evidence that meets the previous principles already present and usable? If I have to ask for more evidence, does the project look for points that they cannot sufficiently demonstrate that they meet?

This document is for informational purposes only and cannot be used for certification. The official Dutch version prevails.

5. Certification process

The formal certification process is described in detail in the User Guide. This describes the certification process, including the various certification conditions for each step. This includes registration deadlines, conditions for releasing a certificate and the site visits carried out by an Assessor.

For each assessment guideline, there are scheme-specific conditions that apply at the Assessment Guideline and project level. These conditions are described in this chapter.

5.1 Register

A new BREEAM-NL In-Use project must be registered against the current version. A registration is valid for one year. If a certificate is not obtained within one year of registration, a new registration must be made against the then current version.

5.2 (Re)certification

Certificate validity

In the BREEAM-NL In-Use V6.1.1, the certificate is valid for a maximum of three years by default, unless the assessment is part of a portfolio approach with a different validity period. The certificate states the certification date (e.g. 01-02-2020) and the date valid until (e.g. 01-02-2023).

Intermediate certification cycle

To implement and verify interim improvements, the 'interim certification cycle' can be used. This gives the Client and the team members involved the opportunity to see interim improvements in the score of the certificate after 1 and/or 2 years.

This is possible if:

- A Part is added. For example, at the initial certification, Part 1 Asset is certified. After 1 or 2 years, Part 2 Management will be added.
- A 'significant' change has taken place. If the score changes by more than 10%, the change is significant.
- A 'relatively minor' change has taken place. If the score changes less than 10%, the change is relatively small.

If a significant change has taken place, a site visit by a BREEAM-NL In-Use Assessor is required. If a relatively small change has taken place, a 'desk-based audit' will suffice. The BREEAM-NL Assessor must indicate in the 'status commentary' whether the interim certification concerns a 'relatively minor' or a 'significant' change.

If a portfolio (in accordance with instruction 117) uses the interim certification cycle, the BREEAM-NL Assessor must take a sample of the square root of the number of buildings with a 'significant' change with a minimum of 10% for the site visits.

For an interim certification, the regular QA (Quality Assurance) procedure and deadlines are adhered to, as described in the User Manual (HL001 User Manual). After approval in the QA, the initial validity of the certificate is maintained. To use the Intermediate Certification Cycle, the Project must copy the assessment in the Assessment Tool and select "copy for intermediate certification". See the fees for the intermediate certification cycle on www.breeam.nl.

Rules for the launch of the new assessment guideline

After the launch of a new version of the BREEAM-NL In-Use Assessment Guideline, it is possible to register against the old version one year after launch. From the moment of registration, it is still possible to recertify against the same (old) version within one year. After this, the new version of the Assessment Guideline will have to be used.

6. How to read the issues

The light green area contains general information about the issue, such as how many credits are available and whether it is a minimum requirement.

Code and name of the issue.

This box shows the purpose of the issue.

For each issue, a question is asked with 1 or more answer options. Above the answer options, it always says if there are

Most answer options come with criteria. The last column of this table shows which answer options the criteria apply to.

Methodology describes how the criteria should be determined, for example with calculations.

HEA 06
GEZONDHEID

Toegankelijkheid

Het waarderen en stimuleren dat de woning toegankelijk is voor alle gebruikers.

Beschikbare punten : **2**

Exemplary performance :

Bevat minimale vereiste :

Bevat filter :

Verplicht vanaf :

Vraag. Toegankelijkheid

Is het gebouw ontworpen volgens principes voor inclusieve toegankelijkheid?

PUNTEN	ANTWOORD	SELECTEER ÉÉN ANTWOORDOPTIE
1	A	Ja, het gebouw is ontworpen en gerealiseerd volgens de basiseisen van een toegankelijke woning.
2	B	Ja, het gebouw is volledig ontworpen op inclusieve toegankelijkheid voor bewoners en bezoekers.

Criteria

#	CRITERIA	TOEPASBAAR OP ANTWOORD
1.	Betreft de BREEAM-certificering een grondgebonden woning, dan zijn de toegankelijkheidseisen van toepassing op de woning en de buitenruimte op de kavel. Wanneer een woongebouw wordt gecertificeerd worden aanvullend de algemene (verkeers) ruimten opgenomen van het gebouw, bijvoorbeeld de entreehal, trappenhuis, bergruimten, enzovoorts.	Alle
2.	De woning is ontworpen en gerealiseerd met toegankelijkheidseisen, hiervoor worden de volgende methodieken geaccepteerd: <ul style="list-style-type: none"> i. NEN 1814, de Minimale eisen (A) en de basiseisen (B) worden gerealiseerd (Niveau 2 - Bruikbaar). ii. ITS Basis voor een woning en ITS Totaal voor een woongebouw. 	A
3.	Het gebouw heeft het ITstandaard Keurmerk 2023 certificaat behaald en voldoet aan de categorie ITS Basis (voor een woning) en ITS Totaal (voor een woongebouw).	B

Tabellen

Geen

Methodiek

Geen

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GEZONDHEID 

Toegankelijkheid

Bewijsvoering

CRITERIA	VEREISTEN BEWIJSVOERING
Alle	Met één of meerdere bewijsstukken zoals vermeld in hoofdstuk 4.0 BREEAM-NL Bewijsmateriaal moet worden aangetoond dat het project aan de criteria voldoet.

Specific burden of proof is described for each credit. The first column indicates the criteria for which the evidence applies.

Definities

TOEGANKELIJKHEID

Het voorzien in gebouwen, gebouwdelen of buitenruimten die toegankelijk en bruikbaar zijn voor alle gebruikers, ongeacht beperking, leeftijd of geslacht.

Definitions describe how important concepts are interpreted.

ITSTANDAARD

De Integrale Toegankelijkheidsstandaard (ITstandaard) biedt een praktische bouwstandaard voor het inclusief ontwerpen van gebouwen. De eisen die worden toegepast voor ontwerp en realisatie zorgen voor een integraal toegankelijk project, waarbij de eisen voortkomen uit algemene richtlijnen, wet en normen en aansluiten op de reguliere bouwkundige praktijk. ITstandaard richt zich niet enkel op bewoners met een lichamelijke beperking, het maakt projecten integraal toegankelijk voor o.a. ouderen, ouders met kinderen, etc. De ITstandaard 2023 kent de toevoeging voor Wonen. De categorieën Basis en Totaal vormen hierbij de vereisten voor een grondgebonden woning en woongebouw.

NEN 1814

De norm geeft een methode voor het bepalen van de toegankelijkheidsprestaties van buitenruimten, gebouwen en woningen. Het kent door de niveaus een onderverdeling in de scope waarop de maatregelen van toepassing zijn. Niveau 2 – Bruikbaar is gericht op zowel de bewoners en bezoekers van een woning en richt zich daarbij zowel op de eigen woning (minimale eisen) als ook de algemene gebouwdelen wanneer deze van toepassing zijn (zoals in een woongebouw). Niveau 2 – Bruikbaar laat zien dat een woning met kleine aanpassingen, zonder bouwkundige ingrepen, integraal toegankelijkheid is.

Aanvullende informatie

Geen

Under references you will find documents where you can find more information about the subject in question.

Referenties

- NEN 1814:2001 nl - Toegankelijkheid van buitenruimten, gebouwen en woningen
- Integrale Toegankelijkheid Standaard 2018. <https://www.pbtconsult.nl/itstandaard-2023/213/1280/>

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Asset

CATEGORIES	WEIGHINGS	AVAILABLE CREDITS	AVAILABLE EXEMPLARY PERFORMANCE
Management	0%	0	0
Health	17,5%	46	2
Energy	24%	70	4
Transport	8%	23	0
Water	9,5%	40	1
Resources	13%	21	4
Resilience	12%	17	2
Land Use and Ecology	9%	6	1
Pollution	7%	18	0
Total	100%	241	
Exemplary performance			14

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Health



SUMMARY

The aim of this category is to encourage a building to be healthy, safe, accessible and comfortable for all building users, including its immediate surroundings.

CONTEXT

The World Health Organization (WHO) defines health as a state of complete physical, mental and social well-being, and not just the absence of disease or physical infirmity. The WHO emphasizes that the right to the highest attainable standard of health applies to everyone, regardless of race, religion, political opinion, or social and economic status. This idea is also reflected in "good health and well-being", the third goal of the United Nations Sustainable Development Goals (SDGs).

On average, people spend more than 90% of their time in and around buildings, while the rest of their time is often spent traveling between different locations. This makes the built environment an important factor for the well-being and health of the users. There is growing evidence that the indoor climate of buildings – such as visual, thermal, acoustic and air comfort – has a major impact on both physical and mental health. Health problems that are often linked to indoor environments include lung problems, allergies, cardiovascular disease, but also psychological complaints such as stress and fatigue. Individuals in high-risk groups, such as young children, the elderly, the disabled, and the sick, may experience additional health problems due to an unhealthy environment. Some of these health risks can be serious or even life-threatening.

In addition, personnel costs make up about 90% of the total costs of a company. Employee well-being has a direct impact on their productivity, recruitment and retention strategies, and overall satisfaction. This makes the environment in which employees work, live, and relax critical to an organization's success. A healthy and well-designed work environment not only promotes the physical and mental health of employees, but also contributes to their performance and the success of the company as a whole.

Value of the issues

HEA 01	Daylighting	4 Credits +1 Exemplary Performance
Aim	To ensure asset users have access to good levels of daylight.	
Value	Provides connection to nature for better mood, supports circadian rhythm and reduces energy costs and environmental impact by reducing the need for electric lighting.	
HEA 02	Glarecontrol	4 Credits
Aim	To recognise and encourage features that control glare from sunlight in occupied spaces.	
Value	Prevents visual discomfort, eye fatigue and headaches, lowers the risk of overheating and provides privacy.	
HEA 03	Internal and external lighting levels	6 Credits
Aim	To ensure appropriate lighting is provided to enable asset users to perform visual tasks efficiently and accurately	
Value	Enables building users to perform tasks safely, efficiently and comfortably through good visual perception of the environment.	
HEA 04	Lighting control	4 Credits
Aim	To encourage the provision of lighting that allows asset users to have an appropriate level of control.	
Value	Enables building occupants to meet their individual needs based on their operations, increasing occupant satisfaction.	
HEA 05	Minimising flicker from lighting systems	4 Credits
Aim	To encourage the installation of lighting systems that minimise the impact of flicker on asset users.	
Value	Prevents visual distraction, fatigue and reduced performance. And reduces physiological effects such as headaches, eye strain and the risk of seizures.	
HEA 06	View out	3 Credits
Aim	To allow asset users the opportunity for relaxation afforded by a change of scenery and a change from a constant focus at workstations, by offering a view of the outside.	
Value	Provides connection to nature to improve the mood and productivity of building occupants.	
HEA 07	User comfort control	4 Credits
Aim	To recognise the provision of controls allowing asset users to optimise their comfort levels.	
Value	Allows building occupants to adjust comfort in the event of poor temperature or air quality, and reduces environmental impact and operational costs due to unnecessary heating or cooling.	
HEA 08	Ventilation system air intakes and exhausts	2 Credits
Aim	To ensure that the asset ventilation system minimises the entry of external sources of air pollution.	
Value	Reduces air pollution from external sources and supports the physical health of users.	

HEA 09	Carbon dioxide monitoring	4 Credits
Aim	To encourage the monitoring of internal conditions to ensure a healthy indoor environment is provided.	
Value	Ensures good air quality in the building and warns users of changes.	
HEA 10	Carbon monoxide monitoring	2 Credits
Aim	To protect asset users from harmful levels of carbon monoxide associated with the asset's combustion appliances and enclosed parking areas.	
Value	Ensures protection of building users from carbon monoxide and helps identify problems with combustion appliances or ventilation systems.	
HEA 11	Indoor and outdoor rest areas	3 Credits
Aim	To recognise and encourage the provision of rest areas for asset users.	
Value	Provides breakout areas that promote well-being and productivity, and encourages physical, mental and social activities.	
HEA 12	Accessibility	4 Credits +1 Exemplary Performance
Aim	Valuing and encouraging that the asset is accessible to all users.	
Value	Ensures secure and easy access to the asset for all users, regardless of their characteristics or abilities.	
HEA 13	Availability of drinking water	2 Credits
Aim	Ensuring the availability of fresh drinking water for building users.	
Value	Provides adequate hydration to promote well-being and prevents safety risks from dehydration.	

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Daylighting

To ensure asset users have access to good levels of daylight.

Part	Asset
Available Credits	: 4
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: X

Question

Is sufficient daylight access possible in occupied spaces?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, $\geq 10\%$ of the total area of the asset's external walls and roof is glazed.
3	C	Yes, $\geq 50\%$ of occupied space meets the minimum performance requirements.
4	D	Yes, $\geq 80\%$ of occupied space meets the minimum performance requirements.
4+ Exemplary Performance	E	Yes, all occupied space meets the minimum performance requirements.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The external walls and roof (see definitions) must consist of at least 10% glass.	B
2	For each relevant occupied space, the glazed area expressed as a percentage of the floor area meets or exceeds, a minimum of $\geq 10\%$. See the methodology to determine what percentage of the floor area of the occupied areas meets the requirements.	C, D and E
3	Glazed areas must let daylight pass directly into the asset and include roof lights. There are no any external obstructions (e.g. adjacent buildings or structures, trees or hedges, etc.) that will potentially limit the amount of daylight reaching the space.	C, D and E
4	To prevent deep occupied spaces from having little or no daylight on one side of the room, the following guideline must be adhered to: For each occupied space, check that no part of the occupied space is more than x meters on plan from the glazed area, where x is three times the height of the top of the glazed area above the floor level. For example, if the height of the windows is 3 meters, then the walls should be within 9 meters of the windows.	C, D and E
5	The following occupied spaces may be disregarded: <ul style="list-style-type: none"> • Media room. • Laboratory where research requires strictly regulated entry of daylight. • Environmental conditions such as continuous exclusion of natural light (e.g. laser laboratory, microscope room and climate chamber). • Spaces for art. • Sports area where natural daylight is undesirable due to the type of sport being practiced and, for example, in a wellness facilities. • One-person call booths. 	C, D and E

Daylighting

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> Other spaces where excluding or limiting natural daylight is a functional requirement (e.g. cinemas and theatres). 	

Specific notes

None.

Tables

None.

Methodology

Method of determining occupied spaces expressed as a percentage of the floor area that meet the criteria

In order to determine what percentage of the floor area meets the criteria, the distribution in floor area must be clear. This has to do with the fact that in this credit the requirements only apply to occupied areas, the other surface areas such as storage spaces, traffic areas and sanitary facilities must not be included in the point determination.

Because not all existing buildings have detailed measurement data, the methodology below offers an alternative to arrive at the percentage of the floor area that meets the criteria. Determine which situation below applies to the project:

Buildings with detailed measurement data

Buildings that have detailed measurement data (such as 3D modelling, daylight calculations, simulations, etc.) that have been drawn up during the design or construction process (and are still up to date) do not have to use the methodology below and can determine the percentage of the floor area of the occupied areas that meets the requirements on the basis of the measurement data.

Buildings with measurement data

Buildings that do not have detailed measurement data but have had a NEN 2057, NTA8800 or other measurement carried out showing the surface area of the occupied areas can skip steps 1 and 2 and can calculate directly with the floor area of the occupied areas.

Buildings without measurement data

Buildings for which no measurements have been carried out can follow steps 1 to 5 from the methodology to determine what percentage of the floor area meets the criteria on the basis of the available data.

Methodology

Step 1: Gross floor area (GFA)

Determine the Gross Floor Area (GFA) of the asset. If there are parking garages or spaces that can be excluded from the credit according to criteria 5, this surface must be removed from the GFA.

Step 2: Conversion factor

In order to obtain a representative picture of the occupied spaces, a correction factor must be applied to compensate for the non-occupied areas (such as circulation areas, sanitary facilities, etc.). It is assumed that on average 20% of the total surface area does not consist of residential areas.

Multiply the GFA by 0.8 to determine the area used for the calculation.

Step 3: Inventory of occupied spaces that do not comply

Conduct a site visit, use construction drawings or an alternative inventory method to determine which occupied spaces are expected to not meet the set criteria (2, 3 and 4).

Daylighting

Step 4: Analysis of the glass percentage

For the occupied spaces identified in step 3 that may not comply, a calculation must be made per occupied spaces to demonstrate that criteria 2 and 4 are met. If applicable, criteria 3 can be demonstrated with photos and an explanation.

Step 5: Calculation of the percentage of floor area of occupied spaces that meets requirements

For the occupied spaces that do not meet the criteria (2,3 and 4), the surface area must be added together. Based on this, it can be determined what percentage of the floor area of the occupied spaces has sufficient daylight based on the gross floor area as calculated in step 2.

Supplement for tinted or diffuse glass: for occupied spaces with tinted or diffusing glazing, it is necessary to apply a glass transmittance weighting to the glazed area to floor area percentage. For clear or low emissivity single, double or triple glazing, no weighting correction is required. For tinted or diffusing glazing, the glazing to floor area percentage is multiplied by $T/0.8$, where T is the light transmittance of the glazing (expressed as a decimal). If the glass transmittance is not known, the glazing to floor area percentage is multiplied by 0.25 for tinted glazing and by 0.60 for diffusing glazing.

Documentation:

By assuming that the occupied spaces are not expected to meet the requirements, the project does not have to calculate the surface area and glass percentage for all occupied spaces. It can often be determined on the basis of a tour/site visit or drawing whether a space is compliant. To demonstrate this, a number of (for example) photos must also be added to justify the situation of a occupied spaces that is compliant.

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1,2,3 and 4	Photographic evidence, for example, the building elevations, glazed areas in occupied space and any obstructions.
2 and 4	Documentation (such as measurements, drawings etc) specifying the floor area and glazed area in occupied spaces and if necessary calculations in accordance with the Methodology.

Definitions

Occupied space/ occupiable space

A room or space within the asset that is likely to be continuously occupied for 30 minutes or more per day by an asset user.

Building external walls

The physical separation between the indoor environment and the outdoor environment of the building. For this BREEAM-NL In-Use credit, the building envelope only applies to the facades and roof that fall within the demarcation of the certification.

One-person call booths

These rooms are designed for short-term use and, for example, do not have a fixed monitor and (ergonomic) office chair, which encourages people to stay there for a longer period than necessary.

Additional information

None.

References

None.

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Glarecontrol

To recognise and encourage features that control glare from sunlight in occupied spaces.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are features that control glare from sunlight provided in relevant occupied space?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	All windows in south-facing occupied spaces have glare control.
2	C	All windows in south and east facing occupied spaces have glare control.
3	D	All windows in south, east and west occupied spaces have glare control.
4	E	All windows in occupied spaces have glare control.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	<p>There is a risk of glare from sunlight where building users may be bothered by irradiating sun or bright light.</p> <p>This applies to:</p> <ul style="list-style-type: none"> Spaces with (computer) workstations, such as offices and reception desks. Spaces with screens such as meeting rooms. Spaces where users stay in one place for extended periods of time, such as classrooms, hospital wards, in-store cash registers, hotel rooms, and factory production lines. <p>The facilities must provide shade from the high summer sun and low winter sun. If applicable, there must also be provisions against glare for skylights.</p>	B, C, D and E
2	<p>The following situations meet the criteria:</p> <ul style="list-style-type: none"> There are no (roof) windows in the living areas. There is no risk of light nuisance from adjacent rooms (such as atria) in the occupied spaces. 	B, C, D and E
3	<p>Potentially compliant glare control features include:</p> <ul style="list-style-type: none"> Building-integrated measures, e.g. overhangs or fins. Occupant-controlled devices such as opaque Venetian or close weave fabric blinds. External shading or brise soleil such as drop screens, sliding screens, outdoor blinds. <p>The use of blackout curtains, tinted glazing or window films are not compliant glare control features as they do not provide sufficient control to optimise daylight into the space and are likely to cause asset users to rely more on artificial lighting.</p>	B, C, D and E

Specific notes

Glarecontrol

REQUIREMENT	CRITERIA
Hotel	Blackout curtains are sufficient in living areas with an accommodation function as a provision against light pollution, despite the fact that a certain degree of controllability of daylight entry is lacking.

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1,2 and 3	Photographic evidence of glare control features.

Definitions

Glare

An uncomfortable situation or situation in which building users experience reduced visibility, caused by light or glare.

Occupied space

A room or space within the asset that is likely to be continuously occupied for 30 minutes or more per day by an asset user.

Additional information

Solar shading guidance

The following reference sources provide guidance on commonly used glare control features and shading devices and may be used to help find the best solution(s) for an asset's situation:

- NEN-EN 14500: Sunshading and shutters – Thermal and visual comfort – Testing and calculation methods
- NEN-EN 14501: Sunshading and shutters – Thermal and visual comfort – Performance characteristics and classification
- BR 364 Solar shading of buildings (Second edition), BRE, 2018

References

None.

Internal and external lighting levels

To ensure appropriate lighting is provided to enable asset users to perform visual tasks efficiently and accurately.

Part	Asset
Available Credits	: 6
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question 1

Do internal lighting levels meet actual standards illuminance (lux) levels in occupied space?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, $\geq 50\%$ of occupied space meets best practice illuminance (lux) levels for internal lighting.
4	C	Yes, $\geq 80\%$ of occupied space meets best practice illuminance (lux) levels for internal lighting.

Question 2

Do external lighting levels meet actual standards illuminance (lux) levels?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
2	E	Yes, all the external lighting levels meets the required levels.

Criteria

#	CRITERIA	APPLICABLE ANSWER
FILTER		
1	If outdoor lighting is not present and is not required for safety and execution of tasks, the answer option can be filtered from the assessment.	D and E
CRITERIA FOR QUESTION 1		
2	To determine what percentage of the floor area of the occupied spaces meets the requirements, the calculation in the methodology must be used.	B and C
3	The lighting level is measured by a competent person and is in accordance with NEN-EN 12464-1 Light and lighting – Lighting of work places - Part 1: Indoor work places.	B and C
CRITERIA FOR QUESTION 2		
4	For the purposes of this assessment issue, the following standards are considered to contain best practice illuminance (lux) levels : <ul style="list-style-type: none"> NEN-EN 12464-2 Light and lighting – Lighting of work places - Part 2: Outdoor work places NPR 13201+A1:2018: Public lighting. 	E
5	External areas within the scope of the external lighting requirements include, but are not limited to, the following: <ul style="list-style-type: none"> Entrance of the building. Walkways exclusively for pedestrians Traffic areas for slowly moving vehicles (maximum 10 km/h). For example, bicycles, trucks and excavators. 	E

Internal and external lighting levels

#	CRITERIA	APPLICABLE ANSWER
	<ul style="list-style-type: none"> Regular vehicle traffic (maximum 40 km/h). Vehicle turning, loading and unloading points. Parking areas. 	

Specific notes

REQUIREMENT	CRITERIA
Museum	For the characteristic meeting functions of a museum, the guidelines for museum lighting of the NSVV Working Group on Museum Lighting and the Netherlands Institute for Cultural Heritage can be followed; "Lighting in Museums and Exhibition Spaces", 2008.
Sports	NEN-EN 12193: 2018 applies to sports lighting (inside and outside).

Tables

None.

Methodology

Method of determination of occupied spaces expressed as a percentage of the floor area that meet the criteria for indoor lighting

In order to determine what percentage of the floor area meets the criteria, the distribution in floor area must be clear. This has to do with the fact that in this credit the requirements only apply to occupied areas, the other surface areas such as storage spaces, traffic areas and sanitary facilities must not be included in the point determination.

Because not all existing buildings have detailed measurement data, the methodology below offers an alternative to arrive at the percentage of the floor area that meets the criteria. Determine which situation below applies to the project:

Buildings with detailed measurement data

Buildings that have detailed measurement data (such as 3D modelling, daylight calculations, simulations, etc.) that have been drawn up during the design or construction process (and are still up to date) do not have to use the methodology below and can determine the percentage of the floor area of the occupied areas that meets the requirements on the basis of the measurement data.

Buildings with measurement data

Buildings that do not have detailed measurement data but have had a NEN 2057, NTA8800 or other measurement carried out showing the surface area of the occupied areas can skip steps 1 and 2 and can calculate directly with the floor area of the occupied areas.

Buildings without measurement data

Buildings for which no measurements have been carried out can follow steps 1 to 5 from the methodology to determine what percentage of the floor area meets the criteria on the basis of the available data.

Internal and external lighting levels

Methodology

Step 1: Gross floor area (GFA)

Determine the Gross Floor Area (GFA) of the asset. If there are parking garages present, this surface must be removed from the BVO.

Step 2: Conversion factor

In order to obtain a representative picture of the occupied spaces, a correction factor must be applied to compensate for the non-occupied spaces (such as circulation areas, sanitary facilities, etc.). It is assumed that on average 20% of the total surface area does not consist of occupied spaces.

Multiply the GFA by 0.8 to determine the area used for the calculation.

Step 3: Light measurement

The lighting level is measured by a competent person (see additional information) to determine whether the lighting is in line with the standards stated in criteria 2.

Step 4: Calculation of the percentage of floor area of living spaces that meets the

For the occupied spaces that do not meet the criteria, the surface area must be added together. Based on this, it can be determined what percentage of the floor area of the occupied spaces that complies based on the gross floor area as calculated in step 2.

DIALUX calculation

If a DIALUX calculation or equivalent has been carried out, which shows that the standards mentioned in criteria 2 are met, this can be regarded as equivalent to a measurement. It must be demonstrated that the assumptions of the calculation correspond to the current situation of the asset.

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
2	Documentation, such as measurement data or calculations, that substantiates the percentage of occupied spaces (expressed in floor area) that meet the standards.
3 and 4	Documentation confirming the illuminance levels in occupied space meet the actual standards.
3 and 4	Documentation about the measurement instrument used and the relevant knowledge and experience of the person who carried out the measurement.

Definitions

Illuminance

The amount of light falling on a surface per unit area, measured in lux.

Occupied space

A room or space within the asset that is likely to be continuously occupied for 30 minutes or more per day by an asset user.

Competent person

Someone who has demonstrable experience in performing light measurements in internal and external spaces.

Additional information

None.

Internal and external lighting levels

References

None.

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Lighting control

To encourage the provision of lighting that allows asset users to have an appropriate level of control.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are there lighting controls in occupied spaces that allow control by asset users?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, in $\geq 50\%$ of the floor area of occupied spaces.
4	C	Yes, in $\geq 80\%$ of the floor area of occupied spaces.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	Credits are awarded based on the percentage of floor area of occupied spaces that meets the requirements. See the 'methodology' to determine this.	B and C
2	Light switches or controls for each occupied space or lighting zone must be able to be accessed and operated by the asset users occupying that space or zone. Controls must be located in the immediate vicinity of the zone or space they control.	B and C
3	Zoning of lighting controls is required for the follow occupied space as stated in the specific notes. The following internal areas are excluded from the lighting zone requirements: <ul style="list-style-type: none"> • Media and arts production spaces. • Sports facilities (exercise spaces only, including hydrotherapy and physiotherapy areas). • Areas with hazardous processes where switching off the lighting could be a safety risk. For occupied spaces that are not listed in the above criteria, the Assessor can exercise an element of judgement when determining whether what is specified is appropriate for the space, given its end use and the aim of the issue.	B and C
4	Small rooms or spaces that are less than 25m ² that do not require any subdivision of lighting zones or control will meet the zoning criteria by default.	B and C
5	If there are automatic controls such as daylight-dependent control and presence detection, users must be able to do these manually overrule in order to meet the purpose of the credit.	B and C

Lighting control

Specific notes

REQUIREMENT	CRITERIA
Office	<ul style="list-style-type: none"> In offices, a maximum zone of 4 workplaces applies. Workplaces next to facade openings form a different zone than workplaces that are located further away from facade openings. Office gardens: a maximum zone of 40m² applies
Retail / Shopping	Separate zone division for shop window, showroom, counter and if applicable a desk workplace for before and after shopping hours.
Educational	<p>Manual lighting controls are easy for the teacher/presenter to operate, both during teaching and when entering and leaving the room. In auditoriums, classrooms, lecture halls and hearing rooms, the presentation area, the circulation area and the audience area can be operated separately in the zone.</p> <p>The controls specified will depend on the size and use of the room, but in an auditorium with an upward-sloping seating area and a formal lectern (demonstration and/or presentation area), the lighting controls will generally be as follows:</p> <ul style="list-style-type: none"> Maximum normal lighting (for entry/exit, cleaning) Lighting of the presentation room and lighting of the public area reduced to low intensity, for use of a projector, but with sufficient light so that the audience can take notes All lights off, use projector and visual demonstrations and performances Separate desk lighting
Industrial	Laboratories: zones in laboratories and practical rooms have a maximum size of 52 m ² .
Hotel	Zoning according to corridor, bathroom, sleeping area, workplace per hotel room.
Meeting function	<ul style="list-style-type: none"> In library areas, the book racks, reading corners and the counter are zoned separately. Meeting rooms are separately zoned. Group areas in childcare and waiting areas are separately zoned into seating and activity zones. In the dining room, restaurant, cafe, the serving area (kitchen), seating (bar) and dining area are separately zoned. In conference rooms and conference rooms, the presentation area and the audience area can be operated separately in the zone. Other living areas: a maximum area of 60 m² applies as a zone.
Healthcare	Lounge areas and waiting areas in hospitals: seating and walkways form separate zones that can be operated by staff. Spaces next to windows, atriums and other building spaces each form their own zone.
Sports function	zoning according to usage function (changing room, bathroom, training room, sauna rooms, treatment rooms).

Tables

None.

Methodology

Method of determining living areas expressed as a percentage of the floor area that meet the criteria

In order to determine what percentage of the floor area meets the criteria, the distribution in floor area must be clear. This has to do with the fact that in this credit the requirements only apply to living areas, the other surface areas such as storage spaces, traffic areas and sanitary facilities must not be included in the point determination.

Lighting control

Because not all existing buildings have detailed measurement data, the methodology below offers an alternative to arrive at the percentage of the floor area that meets the criteria. Determine which situation below applies to the project:

Buildings with detailed measurement data

Buildings that have detailed measurement data (such as 3D modelling, daylight calculations, simulations, etc.) that have been drawn up during the design or construction process (and are still up to date) do not have to use the methodology below and can determine the percentage of the floor area of the living areas that meets the requirements on the basis of the measurement data.

Buildings with measurement data

Buildings that do not have detailed measurement data but have had a NEN 2057, NTA8800 or other measurement carried out showing the surface area of the living areas can skip steps 1 and 2 and can calculate directly with the floor area of the living areas.

Buildings without measurement data

Buildings for which no measurements have been carried out can follow steps 1 to 5 from the methodology to determine what percentage of the floor area meets the criteria on the basis of the available data.

Methodology

Step 1: Gross floor area (GFA)

Determine the Gross Floor Area (GFA) of the asset. If there are parking garages or spaces that can be excluded from the credit according to criterion 3, this area must be removed from the BVO.

Step 2: Conversion factor

In order to obtain a representative picture of the occupied spaces, a correction factor must be applied to compensate for the non-occupied spaces (such as circulation areas, sanitary facilities, etc.). It is assumed that on average 20% of the total surface area does not consist of occupied spaces.

Multiply the GFA by 0.8 to determine the area used for the calculation.

Step 3: Inventory of occupied spaces that do not comply

Conduct a site visit of the building, use construction drawings, lighting plans or an alternative inventory method to determine which occupied spaces do not meet the set criteria.

Step 4: Calculation of the percentage of floor area of occupied spaces that meets requirements

For the occupied spaces that do not meet the criteria, the surface area must be added together. Based on this, it can be determined what percentage of the floor area of the occupied spaces is sufficient based on the gross floor area as calculated in step 2.

Documentation:

It can be determined on the basis of a site visit, drawing or lighting plan whether a space is compliant. To demonstrate this, a number of (for example) photos must also be added to justify the situation of a occupied spaces that is compliant.

Lighting control

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1	Documentation, such as measurement data, lighting plans or calculations, that substantiates the percentage of occupied spaces (expressed in floor area) that meet the standards.
2, 3 and 4	Photographic evidence of the lighting control in the occupied spaces.
2, 3, 4 and 5	Lighting plans, floor plans, datasheet or any other form of documentation to substantiate the zoning of representative parts.

Definitions

Occupied space

A room or space within the asset that is likely to be continuously occupied for 30 minutes or more per day by an asset user.

Additional information

None.

References

None.

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Minimising flicker from lighting systems

To encourage the installation of lighting systems that minimise the impact of flicker on asset users.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Do the asset's lighting installations have features that minimise or prevent flicker?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, $\geq 25\%$ of lighting installations have features that minimise or prevent flicker.
2	C	Yes, $\geq 50\%$ of lighting installations have features that minimise or prevent flicker.
3	D	Yes, $\geq 75\%$ of lighting installations have features that minimise or prevent flicker.
4	E	Yes, all lighting installations have features that minimise or prevent flicker.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	The number of credits awarded should be based on the proportion of lighting installations with features that minimise or prevent flicker compared to the total number of lighting installations.	B, C, D and E
2	<p>One or more of the lighting techniques below have been applied in the asset. The following lighting techniques do not cause flicker and thus meet the purpose of the credit:</p> <ul style="list-style-type: none"> Fluorescent and gas discharge lighting where the light is controlled by electronic high frequency control gear. LED lighting without dimming. LED lighting with dimming where dimming occurs through controlling the current. Temperature heaters (e.g. halogen lamps). Equivalent lighting techniques. <p>Where Digital Addressable Lighting Interface (DALI) or similar systems are used to dim LED lighting, evidence must be provided to demonstrate that the LED products do not flicker.</p>	B, C, D and E

Specific notes

None.

Tables

None.

Minimising flicker from lighting systems

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1	If necessary, calculation of the percentage of lighting techniques that meet the criteria.
1 and 2	Photographic evidence or videos of the lighting.
1 and 2	Documentation such as technical specifications of the lighting techniques and dimming techniques used.

Definitions

High frequency control gear

Device connected between the supply and one or more discharge lamps which serves mainly to limit the current of the lamp(s) to the required value. Control gear may also include means for transforming the supply voltage, correcting the power factor and, either alone or in combination with a starting device, provide the necessary conditions for starting the lamp.

Flicker

Impression of unsteadiness of visual sensation induced by a light stimulus whose luminance or spectral distribution fluctuates with time.

Stroboscopic effect (SVM)

The stroboscopic effect of lighting is more difficult to detect than flicker. That is why a method has been developed to make this measurable: SVM (Stroboscopic Visibility Measure). This method makes it possible to quantify the visibility of the stroboscopic effect in common lighting.

Additional information

Dimming techniques

The criteria for flicker and strobe effect in dimming techniques for LED lighting are formulated in NEMA 77-2017 in terms of the measures Pst LM (flicker severity) and SVM (stroboscopic visibility measure).

Dimming techniques for LED lighting using PWM, leading edge and trailing edge are accepted if the LED systems meet the criteria for flicker \leq PstLM 1.0 and stroboscopic effect SVM $0.4 \leq$ in accordance with the provisions in NEMA 77-2017. This applies to normal and dimmed operating conditions, taking into account the possible influence of voltage fluctuations on the power grid.

References

None.

View out

To allow asset users the opportunity for relaxation afforded by a change of scenery and a change from a constant focus at workstations, by offering a view of the outside.

Part	Asset
Available Credits	: 3
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Do occupied spaces with workplaces have an unobstructed view of the outside?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, $\geq 50\%$ of the floor area of the occupied spaces provides an adequate view out.
2	C	Yes, $\geq 75\%$ of the floor area of the occupied spaces provides an adequate view out.
3	D	Yes, $\geq 95\%$ of the floor area of the occupied spaces provides an adequate view out.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Credits are awarded based on the percentage of relevant spaces that contain a compliant view out (see Methodology).	B, C and D
2	The view from windows or façade openings must meet the following requirements: <ol style="list-style-type: none"> Relevant spaces should be within 8m horizontal distance from a window or permanent opening providing a view out. The area of the window or opening must be at least 20% of the surrounding wall area. The view out must be a view of a landscape or buildings (rather than just the sky) at seated eye level (1.2 – 1.3m). Unless they are workplaces where standard work is done standing up. A view of only sky/sky dome is not sufficient. View through an intermediate room is not sufficient, because there is a real chance that the view will be obstructed by bulkheads, cupboards, etc. A view into an internal courtyard or atrium will comply provided the distance from the opening to the back wall of the courtyard or atrium is at least 10m. 	B, C and D
3	Relevant spaces requiring a view out include: <ul style="list-style-type: none"> Spaces with fixed workstations or desks that are used by regular asset users (e.g. members of staff) for 30 minutes or more per day. Spaces where close work is performed or visual aids are used by regular asset users (e.g. members of staff) for 30 minutes or more per day. Spaces where asset users stay for a longer period of time, such as hotel rooms and nursing wards in a hospital. 	B, C and D
4	Spaces that do not require a view out include: <ul style="list-style-type: none"> Nurse bases where they are located centrally in a ward or patient area in order to enable patient observation. Courts and interview rooms where compliance is not possible due to security or privacy criteria. Clinical areas where the control of environmental or operational conditions prevents such spaces from providing a view out. 	B, C and D

View out

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> Conference rooms, meeting rooms, auditoriums, sports halls, cinemas, etc. Where exclusion or limitation of natural light is a functional requirement of the space, e.g. laboratories, media spaces, etc. Isolated workstations for intermittent, short-term work, e.g. within a server room or an one-person call booth/cell. 	

Specific notes

REQUIREMENT	CRITERIA
Supportive housing (healthcare function) and Educational Halls of residence (accommodation function)	<p>The following relevant rooms must be within 5m of a wall which has a window or permanent opening providing an adequate view out:</p> <ul style="list-style-type: none"> Living rooms in self-contained flats Communal lounges. Bedsits in sheltered housing. <p>The window or opening must be $\geq 20\%$ of the surrounding wall area.</p>
Healthcare buildings	Patient-occupied spaces, e.g. wards and dayrooms, with inpatient areas must meet the minimum room depth and window area in criteria 2, PLUS the distance between the wall with the window or opening and the nearest external solid object (e.g. building, screen, wall or fence) is $\geq 10\text{m}$.
Retail	Workplaces within a shop function are sufficient if at least a percentage of 50% of the facade is open, so that the view to the outside or to a passage can be guaranteed.

Tables

None.

Methodology

Method of determining living areas expressed as a percentage of the floor area that meet the criteria

In order to determine what percentage of the floor area meets the criteria, the distribution in floor area must be clear. This has to do with the fact that in this credit the requirements only apply to occupied spaces, the other surface areas such as storage spaces, traffic areas and sanitary facilities must not be included in the point determination.

Because not all existing buildings have detailed measurement data, the methodology below offers an alternative to get the percentage of the floor area that meets the criteria. Determine which situation below applies to the project:

Buildings with detailed measurement data

Buildings that have detailed measurement data (such as 3D modelling, daylight calculations, simulations, etc.) that have been drawn up during the design or construction process (and are still up to date) do not have to use the methodology below and can determine the percentage of the floor area of the occupied spaces that meets the requirements on the basis of the measurement data.

Buildings with measurement data

Buildings that do not have detailed measurement data but have had a NEN 2057, NTA8800 or other measurement carried out showing the surface area of the occupied spaces can skip steps 1 and 2 and can calculate directly with the floor area of the occupied spaces.

View out

Buildings without measurement data

Buildings for which no measurements have been carried out can follow steps 1 to 5 from the methodology to determine what percentage of the floor area meets the criteria on the basis of the available data.

MethodologyStep 1: Gross floor area (GFA)

Determine the Gross Floor Area (GFA) of the asset. If there are parking garages or spaces that can be excluded from the credit according to criterion 5, this surface must be removed from the GFA.

Step 2: Conversion factor

In order to get a representative picture of the surface area of the occupied spaces, a correction factor must be applied to compensate for the non-occupied spaces (such as traffic areas, sanitary facilities, etc.). It is assumed that on average 20% of the total surface area does not consist of occupied spaces.

Multiply the floor area as calculated in step 1 by 0.8 to determine the area used for the calculation.

Step 3: Inventory of accommodation areas that do not meet the requirements

Carry out a tour of the building, use construction drawings or an alternative method of inventory to determine which accommodation areas are not expected to meet the set criteria.

Step 4: Analysis criteria 2

For the accommodation areas identified in step 3 that may not meet the requirements, a calculation must be made for each accommodation to demonstrate that criteria 2 are met. If applicable, criterion 2 can be demonstrated with photos and an explanation.

Step 5: Calculation of the percentage of floor area of living spaces that meets the

For the occupied spaces that do not meet the criteria, the surface area must be added together. Based on this, it can be determined what percentage of the floor area of the occupied spaces has a sufficient view of the outside based on the floor area as calculated in step 2.

Documentation:

By starting from the occupied spaces that are not expected to be sufficient, the project does not have to make a calculation of the surface area and glass percentage of all occupied spaces. Often it can be determined whether a room is sufficient on the basis of a tour, drawing or photo. For the spaces where it is unclear whether the criteria are met, a calculation must be provided.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'Burden of proof' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Documentation, such as measurement data, floor plans or calculations, that substantiates the percentage of living spaces (expressed in floor area) that meet the criteria.
2, 3 and 4	Photos of the windows/façade opening with a view and workplaces.

Definitions

Occupied space

A room or space within the asset that is likely to be continuously occupied for 30 minutes or more per day by an asset user.

View out

One-person phone booths

These rooms are designed for short-term use and do not have, for example, a fixed monitor and (ergonomic) office chair that encourages you to stay there for a longer period than necessary.

Additional information

None.

References

None.

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User comfort control

To recognise the provision of controls allowing asset users to optimise their comfort levels.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Can asset users influence the temperature and ventilation in occupied spaces?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	A	No.
2	B	Yes, at least one compliant form of temperature control.
2	C	Yes, at least one compliant form of ventilation control.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	<p>The ventilation and temperature control in the occupied areas is present and individual influence is possible, see also the 'Specific notes'.</p> <p>Control elements must be located in or near the respective area and are easily accessible to building users.</p>	B and C
2	<p>Individual influence is not required in occupied spaces where it is not desirable for individual building users to be able to influence the temperature and ventilation.</p> <p>Such as, but not limited to:</p> <ul style="list-style-type: none"> • Atria and entrance halls. • Cinemas and theaters. • Lecture halls, auditoriums, conference rooms and classrooms. • Shops and restaurants. • Sports halls. • Exhibition spaces in museums. • Laboratories. • Warehouses and distribution halls. <p>For occupied spaces that is not mentioned in the criteria, the Assessor must assess whether the specifications are also applicable to the occupied spaces in question, taking into account the purpose of the credit.</p>	B and C
3	Portable equipment, e.g. electric desk fans or fan heaters, do not comply with the criteria.	B and C
4	<p>Compliant forms of temperature control include, but are not limited to:</p> <ul style="list-style-type: none"> • Room thermostats. • Thermostat radiator valves (TRVs). • Operable windows, doors and roof lights. • Fan coil units with user control. 	B

User comfort control

#	CRITERIA	APPLICABLE ANSWER
	<ul style="list-style-type: none"> Building management system (BMS), where individual users can influence the temperature of a room to a limited extent (for example, by linking the BMS to the workplace via a website, tablet or other means of communication). <p>Where openable windows, doors or roof lights are provided, these can only be used as a compliant form of control for either temperature or ventilation, not both. To achieve both sets of credits, a different form of temperature or ventilation control must also be provided.</p>	
5	<p>Compliant forms of ventilation control include, but are not limited to:</p> <ul style="list-style-type: none"> Openable windows, doors and roof lights. Trickle ventilators. Ventilation fans with user control (including fan coil units with ventilation control) Building management system (BMS), in which users can have limited influence on the ventilation of a room (for example, by linking the BMS to the workplace via a website, tablet or other means of communication). <p>Where openable windows, doors or roof lights are provided, these can only be used as a compliant form of control for either temperature or ventilation, not both. To achieve both sets of credits, a different form of temperature or ventilation control must also be provided.</p>	C

Specific notes

REQUIREMENT	CRITERIA
Office function	<ul style="list-style-type: none"> Service is available in each individual enclosed office space. Controls are present in office spaces divided by logical unit.
Educational function	<ul style="list-style-type: none"> Service is present in every single room where lessons are given.
Hotel/accommodation function	<ul style="list-style-type: none"> Service is available in each individual room with accommodation function (per hotel room).
Meeting function	<ul style="list-style-type: none"> Meeting room controls are present in every single room. Childcare and waiting room service is available in every single room. For other types of meeting functions, operation must be present in each individual room.

Tables

None.

Methodology

None.

User comfort control

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1, 2, 4 and 5	Photographic evidence of ventilation and temperature control.

Definitions

Occupied space

A room or space within the asset that is likely to be continuously occupied for 30 minutes or more per day by an asset user.

Additional information

None.

References

None.

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Ventilation system air intakes and exhausts

To ensure that the asset ventilation system minimises the entry of external sources of air pollution.

Part	Asset
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are ventilation system air intakes and exhausts located to minimise the entry of air pollutants into the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	<p><u>Assets with mechanical air supply</u></p> <p>The asset's air intakes are positioned at least 10m horizontal distance from sources of external pollution, including the location of air exhausts from the asset and other buildings. Exhausts or other pollutant sources are not to be discharged into enclosed external spaces, such as courtyards, in which intakes are also located.</p> <p>OR</p> <p>The supply air dilution factor is in accordance with one of the following standards:</p> <ul style="list-style-type: none"> • 0.01 for ventilation, determined with NEN 8087 • 0.01 0075 for the discharge of flue gas determined with NEN 2757-2 	B
2	<p><u>Assets with natural ventilation</u></p> <p>Background ventilators, openable windows, skylights and doors are positioned at least 10m horizontal distance from sources of external pollution, including the location of air exhausts from other buildings. Exhausts or other pollutant sources are not to be discharged into enclosed external spaces, such as courtyards, in which intakes are also located.</p>	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

Ventilation system air intakes and exhausts

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1 and 2	Floor plans, photographs or other documentation indicating the location of the air supply and exhaust points, external sources of pollution and the distances between them.
1 and 2	If applicable, documentation/information on the dilution factor being applied.

Definitions

Sources of external pollution

These include but are not limited to the following:

- Highways and the main access roads associated with the asset
- Car parks, delivery and vehicle pick-up, drop-off or waiting bays
- Other building-related emissions, including from building services exhausts, industrial or agricultural processes, and external smoking areas.

Service and access roads with restricted and infrequent access, e.g. roads used only for waste collection, are unlikely to represent a significant source of external pollution. These roads can therefore be excluded from assessment.

Additional information

None.

References

None.

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Carbon dioxide monitoring

To encourage the monitoring of internal conditions to ensure a healthy indoor environment is provided.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are sensors installed in the asset that monitor the levels of carbon dioxide in indoor air?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, in occupied spaces subject to large and unpredictable or variable occupancy patterns.
4	C	Yes, in all occupied spaces.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	<p><u>Assets with mechanical ventilation</u></p> <p>In mechanically ventilated spaces, the carbon dioxide sensors are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space.</p> <p>OR</p> <p>The sensors visibly or audibly alert the asset owner or manager or users of the space when the carbon dioxide level exceeds the recommended set point (see Table HEA 9.1).</p>	B and C
2	<p><u>Assets with natural ventilation</u></p> <p>In naturally ventilated areas, the carbon dioxide sensors should visibly or audibly alert the asset owner or manager or users of the space when carbon dioxide levels exceed the recommended set point.</p> <p>OR</p> <p>The sensors are linked to controls, with the ability to adjust the quantity of fresh air, e.g. automatically open windows or roof vents.</p>	B and C
3	<p>Sensors must:</p> <ol style="list-style-type: none"> Be installed, tested, calibrated and maintained in accordance with the manufacturer's instructions. Should be placed to provide representative readings of the conditions within each space. Should be wall-mounted and at a height above floor level that corresponds to an average seated or standing head height for the main activity performed within the space. 	B and C

Specific notes

None.

Carbon dioxide monitoring

Tables

Set points for sensors

Table HEA9.1 provides guidelines for the CO₂ concentration to which the sensors must be set, based on the 'program of requirements for Healthy Offices'. This program of requirements provides tools to guarantee a healthy, comfortable and productivity-enhancing indoor climate. However, set points should not exceed 850 ppm and it is recommended that projects aim to achieve the Category II requirements as a minimum.

Table HEA 9.1

CATEGORY	EXPLANATION	MAXIMUM DESIRED INDOOR CARBON DIOXIDE CONCENTRATION
I	For occupants with special needs, e.g. children, elderly, persons with disabilities	300 PPM above ambient concentration
II	The normal level used for design and operation	450 PPM above ambient concentration
III	Will still provide an acceptable environment, but some risk of reduced performance of the occupants	750 PPM above ambient concentration
IV	Should only be used for a short time of the year or in spaces with very short time of occupancy	>850 ppm above ambient concentration

Note: The carbon dioxide emission is 20 liters per hour per person; and the assumed average outdoor concentration of carbon dioxide is 400 PPM.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1, 2 and 3	Photographic evidence of the installed sensors.
1, 2 and 3	Documentation, policies, or procedures about the maintenance of the installed systems.

Definitions

Areas with a large and unpredictable occupancy

The following are examples of these types of spaces:

- Auditoria/ aula's
- Gyms
- Retail stores or malls
- Cinemas
- Conference rooms/halls

Occupied space

A room or space within the asset that is likely to be continuously occupied for 30 minutes or more per day by an asset user.

Carbon dioxide monitoring

For the purpose of this issue, the definition excludes the following:

- Atria or concourses.
- Entrance halls or reception areas.
- Ancillary space, e.g. circulation areas, storerooms and plant rooms.

Additional information

None.

References

None.

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Carbon monoxide monitoring

To protect asset users from harmful levels of carbon monoxide associated with the asset's combustion appliances and enclosed parking areas.

Part	Asset
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Are carbon monoxide detection and alarm systems installed in the asset in spaces that contain combustion appliances and in enclosed parking areas?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	A	No.
1	B	Yes, in all spaces containing combustion appliances.
1	C	Yes, in all enclosed parking areas.

Criteria

#	CRITERIA	APPLICABLE ANSWER
FILTER		
1	Where there are no combustion appliances present, the answer option can be filtered out of the assessment.	B
2	Where there are no enclosed parking areas present, the answer option can be filtered out of the assessment.	C
CRITERIA FOR QUESTION		
3	The carbon monoxide detection system shall consist of a carbon monoxide detector in all rooms where a combustion appliance is present and a carbon monoxide detector in all rooms used as sleeping accommodation through which flue gases from a combustion appliance pass.	B
4	Carbon monoxide detector/alarm systems must be permanently installed. They may be self-contained detector and alarm units powered by a battery designed to operate for the working life of the detector or they may be connected to the asset's electricity supply.	B and C
5	Carbon monoxide detection systems must be installed and maintained in accordance with the manufacturer's instructions.	B and C
6	The carbon monoxide detection system must warn building users of acute abnormal carbon monoxide concentrations. This allows users to react before exposing them to harmful concentrations. The detectors have a built-in siren or are connected to a central notification panel. The detector should also include an alert device to alert asset users when the detector's lifespan ends. If the detector is connected to the power supply, the detector must be equipped with a fault function.	B and C

Specific notes

None.

Tables

Carbon monoxide monitoring

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1 and 2	Confirmation/documentation that there is no combustion equipment in the asset and/or that there is no closed parking garage.
3, 4, 5 and 6	Photos of installed systems.
3, 4, 5 and 6	Documentation, policies or procedures regarding the maintenance of the installed systems.

Definitions

Carbon monoxide (CO)

Carbon monoxide is a colourless, odourless, and tasteless gas. Low levels of carbon monoxide gas can be present in the atmosphere; however, it is highly toxic and dangerous to humans and animals in higher quantities. The gas is produced in high levels from appliances where incomplete combustion of a carbon-based fuel occurs. Incomplete combustion could occur in appliance installations that are defective, lack proper maintenance or have inadequate provision for combustion air.

Enclosed parking garage

Enclosed parking provides several advantages primarily focused on protection and security. An enclosed parking garage is not open to the outside air, or only to a limited extent. As a result, ventilation depends on a ventilation system instead of natural ventilation.

Additional information

None.

References

None.

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Indoor and outdoor rest areas

To recognise and encourage the provision of rest areas for asset users.

Part	Asset
Available Credits	: 3
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are indoor or outdoor rest areas provided for asset users?

CREDITS	ANSWER	SELECT ALL ANSWERS THAT APPLY
0	A	No.
1	B	Yes, there are indoor seated rest areas.
1	C	Yes, there are facilities to prepare food and drinks.
1	D	Yes, there are outdoor rest areas with seating.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	<p>The indoor rest areas must:</p> <ul style="list-style-type: none"> a) Be of sufficient size for the number of building users, there must be seats available for more than 10% of the building users. b) Be accessible to all regular asset users (e.g. members of staff), including those with disabilities. c) Be available with unrestricted access during the asset's operational hours and not be used for other purposes, e.g. as a meeting room. 	B and D
2	<p>Food and beverage preparation facilities must have at least:</p> <ul style="list-style-type: none"> a) Refrigerator b) Microwave c) Sink <p>Facilities must be located in close proximity to seats.</p>	C
3	<p>The outdoor rest areas must:</p> <ul style="list-style-type: none"> a) Users must have free and unrestricted access during the asset's operational hours. b) There must be seats available. c) Be an outdoor landscaped area with a view of the sky, e.g. garden, balcony or terrace. d) Have a degree of shelter from the wind or rain or sun. e) Be located at least 10 metres away from sources of noise or air pollution, e.g. building installations, car parks, busy roads and delivery areas. 	D
4	<p>If the outdoor rest areas are not located on the property of the asset, it must:</p> <ul style="list-style-type: none"> a) Be available and free and unrestricted access during the asset's operational hours. b) Be accessible via a safe pedestrian route. c) Be within 250 meters of the main entrance of the asset. 	D

Indoor and outdoor rest areas

Specific notes

REQUIREMENT	CRITERIA
Retail function	For buildings where the building users consist mainly of visitors/customers, there must also be relaxation areas that can be used by visitors/customers. If both employees/staff and visitors/customers can use the facilities, this is also sufficient. This can be facilitated both indoors and outdoors.
Hotel/accommodation function	
Meeting function (museums and theatres)	Facilities to prepare food and drinks only need to be facilitated for employees/staff.
Educational function	
Healthcare function (hospitals)	

Tables

None.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1, 2, 3 and 4	Photographic evidence of the rest areas and available facilities.
4	Distance and safe pedestrian route to rest areas outside the plot.

Definitions

Safe pedestrian route

These include, but are not limited to, pavements and safe crossing points or, where provided, dedicated pedestrian crossing points.

Additional information

Rest areas

Examples of rest spots include (but are not limited to):

- Lounge areas.
- Meditation/relaxation room.
- Dining areas.
- Canteen facilities with seating.

References

None.

Accessibility

Valuing and encouraging that the asset is accessible to all users.

Part	Asset
Available Credits	: 4
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: X

Question

Have measures been applied in the building that allow its use, regardless of the age, capacities or limitations of building users?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, from the 'limited standard accessibility features' at least one feature per section is executed.
2	C	Yes, from the 'limited standard accessibility features' at least three feature per section is executed.
4	D	Yes, from the 'limited standard accessibility features' at least three feature per section is executed and from the 'advanced accessibility features' at least one feature per section is executed.
4 + 1 Exemplary Performance	E	Yes, the asset has a recognized accessibility certificate.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	The 'limited standard accessibility features' are shown in checklist Hea 12a and the 'advanced accessibility features' are shown in checklist Hea 12b.	B, C and D
2	Exemplary performance can be achieved if a valid ITS quality mark, NLKT Platinum or equivalent is present.	E

Specific notes

None.

Tables

Checklist HEA 12a standard accessibility features

CATEGORIES	STANDARD MEASURES
1. Access to the asset	<ul style="list-style-type: none"> a) Step-free external access (i.e. level, gentle slope or ramp) from the site boundary to the main entrance(s) or alternative accessible entrance of the asset. b) Handrails to external stepped and ramped access routes to the main entrance(s) or alternative accessible entrance of the asset. c) Entrance doors that are accessible to all users, particularly persons who use wheelchairs and those with limited physical dexterity, and are wide enough when open to allow unrestricted passage for a variety of users, e.g. those in wheelchairs, people carrying luggage, people with assistance pets, and parents with

Accessibility

CATEGORIES	STANDARD MEASURES
	<p>pushchairs and small children.</p> <p>d) Where car parking is provided for the asset, designated parking spaces for persons with disabilities are as close as possible to the main entrance(s) of the asset.</p> <p>e) Where car parking is provided for the asset and asset users include parents with young children, designated parking spaces for motorists accompanied by a child in a perambulator (pram) or pushchair (baby buggy).</p>
2. Horizontal and vertical circulation	<p>a) Corridors and passageways that are wide enough to allow all persons to pass through unimpeded or turn in a wheelchair.</p> <p>b) Internal doors that are easy to operate and wide enough to allow free passage for all persons, including those in wheelchairs.</p> <p>c) Handrails for internal stairs, steps and ramps.</p> <p>d) Accessible lift(s) or vertical and inclined lifting platforms that reach all accessible levels of the asset.</p> <p>e) Accessible horizontal and vertical emergency evacuation routes (e.g. in the event of fire) and facilities (e.g. evacuation chairs) or a strategy and plan for assisted evacuation.</p>
3. Use of asset's facilities	<p>a) Power-operated entrance door(s) (e.g. via push pad or motion sensor).</p> <p>b) Controls and switches (e.g. door handles and locks, taps, activation devices, electric outlets and switches, etc.) that are easy to understand and operate, visible and at a suitable height.</p> <p>c) Where drinking water outlets are provided for asset users, outlets are accessible to persons with disabilities including those who use wheelchairs (a minimum of one per floor for regularly occupied areas).</p> <p>d) Where the asset contains audience and spectator facilities, e.g. lecture and conference facilities, entertainment facilities (e.g. theatres, cinemas, etc.) and sports facilities, accessible space and seating for persons who use wheelchairs, those with mobility and sensory impairment and their companions.</p> <p>e) Where sleeping accommodation is provided (e.g. hotels), a proportion of the accommodation is designed for use by persons who use wheelchairs.</p>
4. Sanitary accommodation	<p>a) Toilet(s) with an assistance alarm accessible by those who use wheelchairs (MIVA-toilets).</p> <p>b) Where asset users include parents or carers with young children, baby changing facilities accessible for parents or carers regardless of their gender.</p> <p>c) Where showers, bathrooms or changing rooms are provided for asset users, accessible versions to accommodate persons who use wheelchairs, persons with limited mobility, etc.</p> <p>d) In the MIVA toilets, the facilities are geared to the use by people with a (physical) disability (such as support brackets, controls for toilet and tap, etc.).</p>

Checklist HEA 12b extensive measures

CATEGORIES	COMPREHENSIVE MEASURES
1. Orientation and wayfinding	<p>a) Well-planned layouts that clearly identify key elements such as entrances, reception areas, sanitary facilities, etc.</p> <p>b) Good lighting conditions with additional illumination at decision points such as access routes, entrances, staircases, lifts, etc.</p> <p>c) Clear information and signage that is legible and easily understood, including availability in different languages where appropriate to the asset's location.</p> <p>d) Use of visual contrast and colour to facilitate orientation and navigation, to provide warnings about potential hazards, and to facilitate reading of information and signs.</p> <p>e) Provision of tactile information, e.g. embossed signage, Braille signage, tactile walking surface indicators (TWSI), tactile maps, models and plans, changes in floor surface, changes in level, tapping rails.</p> <p>f) Audible communication and sounds, e.g. talking signs, announcement systems, audio descriptive way-finding information, changes in walking surface.</p> <p>g) Use of scents or smells to provide additional orientation cues.</p>
2. Assistive technologies	<p>a) Hearing enhancement system(s) (e.g. induction loop) at service or reception counters and in rooms and spaces used for meetings, lectures, classes, performances, spectator sport or films.</p> <p>b) Audible information systems.</p> <p>c) Visual alarm systems.</p> <p>d) Voice or touch screen operated controls.</p>

Accessibility

CATEGORIES	COMPREHENSIVE MEASURES
3. Inclusive spaces	<ul style="list-style-type: none"> a) All-gender and/or family sanitary accommodation. b) A Changing Places (CP) facility. c) Resting places available at regular intervals along external and internal circulation routes. d) Quiet, wellness, prayer or meditation room(s). e) Lactation room(s). f) Assistance animal relief (toilet) area(s). g) Accessible and inclusive fitness spaces and equipment.

Methodology

None.

Evidence

CRITERIA	EVIDENCE REQUIREMENTS
-	The evidence below is not exhaustive, please also refer to the 'BREEAM evidential requirements' section in the scope of the Guidance for appropriate evidence types which can be used to demonstrate compliance.
1	Photographic evidence of applied features.
2	Recognized accessibility certificate.

Definitions

Accessibility

Provision of buildings, parts of buildings, or outdoor built environments for people, regardless of disability, age or gender, to be able to gain access to them, into them, to use them and exit from them.

Changing place facility

A room with a WC, hoist, basin, adult-sized changing bench and optional shower, for use by people with complex and multiple impairments who require the help of up to two assistants.

Inclusive design/ Inclusive design

Approach to the design of the environment, including buildings and their surrounding spaces, and managed and natural landscapes, to ensure that they can be accessed and used by everyone.

Universal Design

Design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialised design. Universal Design does not exclude the need of assistive devices for particular groups or persons with disabilities where relevant. Terms such as "Universal Design", "accessible design", "Design for All", "barrier-free design", "inclusive design" and "transgenerational design" are often used interchangeably with the same meaning.

Usability

Extent to which a product, a service and the built environment can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.

Wayfinding

Means of ensuring that someone can find their way, avoid obstacles, and know when they have reached their destination.

Additional information

Principles of Universal Design

The Principles of Universal Design were developed in 1997 by a working group of architects, product designers, engineers and environmental design researchers at the North Carolina State University, with the purpose "to guide a wide range of disciplines including environments, products and communications". The seven principles "may be applied to evaluate existing designs, guide the design process and educate both designers and consumers about the characteristics of more usable products and environments".

The seven principles are:

- Principle 1: Uquitable Use – The design is useful and marketable to people with diverse abilities.
- Principle 2: Flexibility in Use – The design accommodates a wide range of individual preferences and abilities.
- Principle 3: Simple and Intuitive Use – Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
- Principle 4: Perceptible Information – The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- Principle 5: Tolerance for error – The design minimises hazards and the adverse consequences of accidental or unintended actions.
- Principle 6: Low Physical Effort – The design can be used efficiently and comfortably and with a minimum of fatigue.
- Principle 7: Size and Space for Approach and Use – Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

BREEAM-NL recognized inclusive design quality marks

A DGBC-approved quality mark for inclusive buildings. Trustmark administrators who think that their quality mark should also fit in the list can contact DGBC.

ITS total: The ITS standard includes three types of certifications. Basic, Total and Plus. At least an ITS Total is required for this credit. This includes all rooms and traffic areas in the object with the exception of technical rooms (central heating, ventilation rooms), professional kitchen rooms, specific laboratories and rooms where special requirements are imposed for safety reasons. The traffic routes to the primary functions and areas outside the object (on the site belonging to the object) are also part of this category.

NLKT platinum: The Dutch Quality Mark for Accessibility (NLKT) offers building owners and managers the tools to make their buildings accessible to everyone, step by step and within the limits possible. A location with the platinum Accessibility Quality Mark is completely independent and equally accessible to everyone, regardless of disability, chronic illness, body size or body size.

References

- Integrale Toegankelijke Standaard (ITS).
- Het Nederlandse Keurmerk voor Toegankelijkheid (NLKT).

Availability of drinking water

Ensuring the availability of fresh drinking water for building users.

Part	Asset
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Is drinking water available to building users?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, there are drinking water supplies that are not connected to the drinking water network.
2	C	Yes, all drinking water supplies are connected to the drinking water network.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	If the drinking water supplies are a combination of facilities that are connected to the drinking water network and those that are not, 1 credit can be awarded.	B
2	Drinking water supplies must: <ol style="list-style-type: none"> Be sufficiently present in number to provide for all regular building users (e.g. staff). There is at least 1 drinking water supply per floor with living areas. It is at the discretion of the Assessor whether this is sufficient. Be free to use for all regular building users. Be accessible to all regular building users, including people with disabilities. Be hygienic. Suitable for filling water bottles. 	B and C
3	Drinking water supplies in accordance with the criteria are, for example: <ul style="list-style-type: none"> Faucets in kitchens Water coolers Drinking water fountains <p>This issue cannot be met with only taps in the washrooms.</p>	B and C

Specific notes

REQUIREMENT	CRITERIA
Accommodation function	The criteria are only applicable to common areas and areas where staff work. Guest bedrooms do not need to be included in the review for this credit.
Retail function	Buildings where the building users mainly consist of visitors/customers, such as: <ul style="list-style-type: none"> Shopping centres Educational institutions Hospitals
Healthcare function	
Educational function	Then there must also be drinking water facilities that can be used by visitors/customers. If both employees/staff and visitors/customers can use the facilities, this is also sufficient.

REQUIREMENT	CRITERIA
Meeting function	For museums and theatres, drinking water facilities must be available for employees/staff in accordance with the criteria.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'Burden of proof' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 3	Photos of drinking water facilities.
1, 2 and 3	Maps/siteplans with the locations of the drinking water supplies marked.

Definitions

Accommodation

A space intended for the stay of people for at least a continuous period of 30 minutes per day.

Additional information

None.

References

None.

Energy



SUMMARY

This category recognizes building installations that contribute to lower energy consumption and CO2 emissions over the life of the building. The credits in this category assess the energy efficiency of the building, the efficiency of the installations, and the capacity of installed renewable energy generation systems. It also encourages the installation of energy monitoring and management systems to support efficient energy use and prevent unnecessary consumption.

CONTEXT

Climate change is one of the biggest global challenges and is already causing higher temperatures, more flooding and extreme weather events. The increased concentration of greenhouse gases such as carbon dioxide and methane, mainly due to human activities, is the main cause. Since the Industrial Revolution, greenhouse gas emissions have increased by about 45%, mainly due to the burning of fossil fuels, agriculture, deforestation and industrial processes. The construction and real estate sector is responsible for 39% of energy-related CO2 emissions, most of which come from the use phase of buildings.

Climate change mainly affects vulnerable, poor communities, leading to poorer health, higher mortality rates and greater risks from extreme weather events. The Paris Agreement aims to limit global warming to a maximum of 2°C this century, preferably to 1.5°C. The 2018 IPCC report emphasized the urgency of limiting the temperature increase to 1.5°C, which requires a 45% reduction in CO2 emissions by 2030 and achieving net-zero CO2 emissions by 2050.

The UN has included affordable and clean energy as part of the Sustainable Development Goals, with the aim of doubling energy efficiency and increasing the share of renewable energy. Reducing energy consumption in buildings and promoting renewable energy is crucial to combating climate change and can contribute to reducing energy poverty and creating a healthy living environment, especially for vulnerable populations.

Value of the Issues

ENE 01	Energy performance of the building	48 Credits
Aim	Stimulating and valuing insight into the energy performance of the building, and measures to minimize building-related energy consumption.	
Value	Identifies underperforming assets relative to the benchmark and promotes rapid improvement action. Drives energy performance improvements and simulates more efficient building envelopes and installations. Increases energy efficiency, lowers operational costs and reduces CO ₂ emissions.	
ENE 04	Air permeability measurement and thermographic survey	4 Credits
Aim	Understanding the airtightness of the asset and the manner in which the thermal insulation is installed and encouraging improvements to reduce heat loss and save energy.	
Value	Provides insight into weak points with high heat loss, reduces energy consumption and CO ₂ emissions, and improves comfort through less drafts.	
ENE 10	Demand side management (DSM)	4 Exemplary Performances
Aim	Reducing Carbon emissions from the electricity grid by matching the demand for electricity with the supply of renewable electricity.	
Value	It promotes lower CO ₂ emissions from the electricity grid, provides greater stability and reduces electricity costs, as the marginal cost of renewable energy is lower than that of fossil fuels.	
ENE 11	Installed controls	4 Credits
Aim	Reducing operational energy consumption and carbon emissions by installing appropriate control facilities to reduce unnecessary energy consumption.	
Value	It prevents unnecessary energy consumption, improves energy efficiency during the use phase of the asset, reduces energy costs and reduces CO ₂ emissions.	
ENE 15	Monitoring of energy consumption	4 Credits
Aim	Reducing operational energy consumption through effective management and monitoring of the energy use of various building-related installations and systems.	
Value	Increases awareness of energy consumption, identifies and monitors energy users and changing patterns, so that maintenance work can be scheduled in a timely manner. Encourages the prevention of unnecessary energy consumption and provides detailed information for setting realistic energy improvement goals.	
ENE 16	Monitoring of rentable spaces	4 Credits
Aim	Reducing operational energy consumption through the effective management and monitoring of energy consumption.	
Value	Increases awareness of energy use in rentable spaces. Encourages the prevention of unnecessary energy consumption and provides detailed information for setting realistic improvement goals.	
ENE 17	Outdoor lighting and lighting parking lots	4 Credits
Aim	Reducing operational energy consumption, and associated CO ₂ emissions, through energy-efficient outdoor lighting.	
Value	Identifies the energy efficiency of outdoor lighting and encourages improvement measures. Increases energy efficiency, lowers costs and reduces CO ₂ emissions from outdoor lighting.	
ENE 18	Energy-efficient elevators, escalators and moving walks	2 Credits
Aim	Reducing operational energy consumption, and associated CO ₂ emissions, through energy-efficient elevators, escalators and moving walkways.	

ENE 18	Energy-efficient elevators, escalators and moving walks	2 Credits
Value	Identifies the energy efficiency of elevators, escalators and moving walks and drives improvement measures. Increases energy efficiency, lowers costs and reduces CO2 emissions from these systems.	

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Energy performance of the building

Stimulating and valuing insight into the energy performance of the building, and measures to minimize building-related energy consumption.

Part	Asset
Available Credits	: 48
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: Excellent
<i>Minimum 24 credits</i>	

Question

What is the energy performance of the asset, according to a valid energy label?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION											
		Basic method EI	Detail method E/E	NTA 8800									
				Office	Accommodation/Hotel	Shop/retail	Education	Sport	Cell	Meeting (without kdv*)	Meeting (with kdv*)	Health without bed	Health with bed
0	A	Not Available											
48	B	0,30	40	50	60	50	35	60	50	55	45	90	
47	C	0,37	48	60	72	60	42	72	60	66	54	108	
46	D	0,44	56	70	84	70	49	84	70	77	63	126	
45	E	0,51	64	80	96	80	56	96	80	88	72	144	
44	F	0,58	72	90	108	90	63	108	90	99	81	162	
43	G	0,65	80	100	120	100	70	120	100	110	90	180	
42	H	0,72	88	110	132	110	77	132	110	121	99	198	
41	I	0,79	96	120	144	120	84	144	120	132	108	216	
40	J	0,86	104	130	156	130	91	156	130	143	117	234	
39	K	0,93	112	140	168	140	98	168	140	154	126	252	
38	L	1,00	120	150	180	150	105	180	150	165	135	270	
37	M	1,03	128	160	192	160	112	192	160	176	144	288	
36	N	1,06	136	170	204	170	119	204	170	187	153	306	
35	Oh	1,09	144	180	216	180	126	216	180	198	162	324	
34	P	1,12	152	190	228	190	133	228	190	209	171	342	
33	Q	1,15	160	200	240	200	140	240	200	220	180	360	
32	R	1,22	167	210	255	212	145	260	210	235	190	383	
31	S	1,28	173	220	270	223	150	280	220	250	200	407	
30	T	1,05	1,35	180	230	285	235	155	300	230	265	210	430
29	Y	1,08		187	238	295	243	160	310	238	273	217	443

Energy performance of the building

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION											
		Basic method EI	Detail method E/E	NTA 8800									
				Office	Accommodation/Hotel	Shop/retail	Education	Sport	Cell	Meeting (without kdv*)	Meeting (with kdv*)	Health without bed	Health with bed
28	V	1,12		193	247	305	252	165	320	247	282	223	457
27	W	1,15		200	255	315	260	170	330	255	290	230	470
26	X	1,19		206	263	325	269	176	340	263	300	238	485
25	Y	1,23		213	270	335	278	183	350	270	310	245	500
24	Z	1,26		219	278	345	286	189	360	278	320	253	515
23	AA	1,3		225	285	355	295	195	370	285	330	260	530
18	AB	1,45		250	320	395	330	215	415	320	365	295	595
12	AC	1,6		275	355	435	360	240	455	355	405	325	655

*kdv: Daycare

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The energy performance of the asset is derived from an Energy Label not older than 10 years	A to AC
2	The energy label has been issued by a company certified for the NL-EPBD quality mark.	A to AC
3	The calculation of the energy label is done according to one of the following methods: <ul style="list-style-type: none"> The NTA 8800; The detail method in accordance with BRL 9500-00 and BRL 9500-06; The basic method in accordance with BRL 9500-00 and BRL 9500-03. 	A to AC
4	In order to be able to allocate credits, the minimum legal obligations in the field of the energy label must be met. Such as the energy label C obligation for offices as of January 1, 2023.	A to AC

Specific notes

REQUIREMENT	CRITERIA
Multiple functions (mixed-use)	For a building that contains several separate uses, an energy label of the entire building is sufficient if that building has a communal heating system.
Common areas	For buildings where only the common areas, such as a passage in a shopping centre, are certified, if there is no energy label for the entire building, a fictitious energy label must be used for these spaces based on an average of the energy labels of the entire building divided by the weighted surface area. Please note that common areas can only be certified if the assessment also includes occupied space(s).
Shop/retail function	For shopping centres, the energy label for the entire shopping centre can be used. If a single store is certified, the energy label of that store is used.
Industry function	There is currently no method for determining the energy label for industrial functions. For industrial functions that cover more than 10% of the surface area of the total building, the "Asset Energy

Energy performance of the building

REQUIREMENT	CRITERIA
	Calculator" must be used. Industrial functions that cover less than 10% of the surface area of the total building can be excluded from the calculation.

Tables

None.

Methodology

Energy performance calculation according to NTA 8800

The energy performance calculation is drawn up in accordance with the NTA 8800. This determines the building-related energy consumption of the building. Outcomes from this calculation are various indicators. To calculate the number of credits for this issue, the Primary fossil energy consumption (EwePTot) is taken into account.

The primary fossil energy indicator (EwePTot) is the sum of the annual primary energy consumption for heating, cooling, hot water preparation, fans, lighting and humidification. Energy generated by, for example, solar panels or other renewable energy sources is deducted from this.

Energy label according to basic method

Before the introduction of the NTA 8800, this methodology could be used to calculate the energy performance of buildings. Energy labels from before 2021 may still have been drawn up using the basic method.

In the basic method, the energy label is determined on the basis of the calculation of the Energy Index, in accordance with BRL 9500-00 'General part' and BRL 9500-03 'Energy label, existing utility buildings'.

Energy label according to detail method

Before the introduction of the NTA 8800, this methodology could be used to calculate the energy performance of buildings. Energy labels from before 2021 can still be drawn up using the detailed method.

In particular, a more detailed method is available for highly energy-efficient non-residential buildings to arrive at an energy label, in accordance with BRL 9500-00 General part and BRL 9500-06 Energy label, non-residential buildings, detailed method. This is a method to assess energy-efficient buildings, but also to demonstrate that performance with evidence. The energy label is determined on the basis of the coefficient of E_p ; to/ E_p ; admin according to NEN 7120 or Qpres; to/Qpres; according to NEN 2916 (for building plans from before 2012).

Determination of the number of points ENE 01 for an industrial function

If the asset consists of several functions, one part of which calculates in accordance with the Asset Energy Calculator and another part based on the energy label methodology, the weighted average number of credits must be determined based on the GFA. The expert substantiates the calculation of the weighted average in the justification and selects the corresponding answer option for ENE 01 in the assessment tool. When entering the weighted average number of credits below ENE 01, the answer option is chosen, where it is not allowed to round up.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3 and 4	Copy of the energy label, including deregistration number.
1, 2, 3 and 4	If the "Asset Energy Calculator" is to be used, documentation of the outcome of the Asset Energy Calculator is provided.

Energy performance of the building

Definitions

None.

Additional information

EP-Online

Buildings for which a valid energy label has been issued can be found on the website www.ep-online.nl. This website lists all buildings in the Netherlands that have been deregistered for the energy label, including the Energy Index. For buildings with the old methodology, the Energy Index is also included. For buildings labelled with the NTA 8800, the energy requirement of the building is stated (BENG 1), the primary energy requirement (BENG 2) and the percentage of renewable energy generated (BENG 3).

The data available on EP-Online are insufficient to serve as evidence.

Energy label C obligation offices

Since 1 January 2023, an office building must have at least an energy label C, which means a primary fossil energy consumption of a maximum of 225 kWh/m² per year. This legal obligation does not apply to the following offices;

- The usable area of the office functions (excluding ancillary functions) <50% is of the total usable area of the building.
- The usable area of the office functions and ancillary functions in the building is <100 m².
- Monuments as referred to in the Heritage Act or designated monuments in a provincial or municipal bylaw.
- Office building that is used for a maximum of 2 years.
- Office building that is expropriated or purchased under the Expropriation Act.
- Office building that does not use energy to regulate the indoor climate.
- The measures required to achieve energy label C have a payback period of more than 10 years.

Asset Energy Calculator

The Asset Energy Calculator is a calculation tool that makes it possible for buildings for which an energy label cannot be drawn up to gain insight into the energy performance of the building. The calculation tool determines how many BREEAM-NL points can be awarded to a project. The calculation tool may only be used for the user functions as described in the 'use function specific criteria'. The Asset Energy Calculator is shown in the assessment tool at ENE 01 and can be found on the BREEAM-NL website under 'downloads'. For this purpose, the expert can use the button "Calculate points in calculation model", which is placed to the left of the button for adding evidence. If in doubt, please contact DGBC in advance, via helpdesk@dgbc.nl, to ensure that the project meets the requirements for the use of the Asset Energy Calculator.

References

- NTA 8800 – Energy performance – determination method as of 1 January 2021
- BRL 9500-00, BRL 9500-03, BRL 9500-06 – certification of advisory organizations
- NEN 2916 – Energy performance of non-residential buildings – determination method
- NEN 7120 – Energy performance of buildings – determination method

Air permeability measurement and thermographic research

Understanding the airtightness of the asset and the manner in which the thermal insulation is installed and encouraging improvements to reduce heat loss and save energy.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

What is the results of the air permeability measurement or thermographic examination of the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No air permeability measurement or thermographic survey has been performed in the last 5 years.
0	B	An air permeability measurement was carried out with the result: > 15 m ³ /h per m ² of peeling surface at 50 Pascal.
1	C	An air permeability measurement was carried out with the result: > 10 to < 15 m ³ /h per m ² of peeling surface at 50 Pascal OR A thermographic examination has been carried out and any defects have been repaired.
2	D	An air permeability measurement was carried out with the result: > 5 to < 10 m ³ /h per m ² of peeling surface at 50 Pascal.
3	E	An air permeability measurement was carried out with the result: > 2.5 to < 5 m ³ /h per m ² of peeling surface at 50 Pascal.
4	F	An air permeability measurement was carried out with the result: < 2.5 m ³ /h per m ² of peeling surface at 50 Pascal.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The air permeability measurement or thermographic survey was carried out no longer than 5 years ago, and in any case after completion of the building and after any changes made to the structure or building envelope.	A, B, C, D, E and F
2	The air permeability measurement or thermographic examination has been performed by a competent person	B, C, D, E and F
3	The air permeability measurement must comply with NEN-EN 13829 or NEN-EN-ISO 9972 with a pressure difference of 50 Pascal.	B, C, D, E and F
4	The thermographic examination must comply with NEN-EN 13187 or NEN-EN-ISO 6781-1.	C
5	The defects present are apparent from the advice of the person carrying out the thermographic examination.	C

Air permeability measurement and thermographic research

Specific notes

REQUIREMENT	CRITERIA
Industry function	The air permeability measurement and thermographic survey are also part of the "BIU International – Asset Energy Calculator", which must be applied for the industrial function in order to obtain credits for ENE 01. If research has been carried out, then the same values must be used for ENE 01 in the "BIU International – Asset Energy Calculator" and ENE 04.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 3, 4 and 5	A report with the results of the airtightness measurement or thermographic survey.
2	Confirmation of competence levels for persons performing testing.
3, 4	Photographic evidence, a report and/or new measurement showing that the defects resulting from the thermographic investigation have been repaired (if applicable).

Definitions

Competent person for air permeability examination

A competent person is someone with relevant knowledge and experience if he/she:

Has a recognized qualification in the field of air permeability measurements and measures;

OR

Has relevant experience in the field of air permeability measurements of comparable buildings in the last 5 years.

The expertise of the person must be sufficient to guarantee that the measurement, the collection of the data as well as the interpretation of the measurements and the prescription of the measures are at a high level.

Competent person for thermographic examination

A competent person is a person who has relevant experience in the field of thermographic research of similar buildings, in the last 5 years.

Additional information

Conversion factor

The unit $\text{m}^3/\text{h}\cdot\text{m}^2$ (pressure difference per hour per square meter of the shell) is in line with the international standard of BREEAM In-Use. In the Netherlands, the unit $\text{dm}^3/\text{s}\cdot\text{m}^2$ is common. The conversion factor from $\text{dm}^3/\text{s}\cdot\text{m}^2$ to $\text{m}^3/\text{h}\cdot\text{m}^2$ is 3.6.

Air permeability measurement and thermographic research

References

- EN 13187 Thermal properties of buildings – Qualitative detection of thermal irregularities in the building envelope – Infrared method.
- BS EN 13829 - Thermal properties of buildings - determination of the air permeability of buildings - Overpressure method.
- ISO 9972:2015 - Thermal properties of buildings - Determination of the air permeability of buildings - Overpressure method.

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Demand side management (DSM)

Reducing Carbon emissions from the electricity grid by matching the demand for electricity with the supply of renewable electricity.

Part	Asset
Available Credits	: 0
Exemplary performance	: 4
Contains filter	: X
Minimum standard	: X

Question

What facilities are available for matching the supply and demand of electricity in the asset?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	There are no facilities available.
1 Exemplary Performance	B	The generation of local energy can be coordinated with the demand for energy.
1 Exemplary Performance	C	The asset is equipped with a system that matches the supply and demand of electricity.
1 Exemplary Performance	D	The asset has facilities for the storage of electricity.
1 Exemplary Performance	E	The charging points for electric transport or other charging points are suitable for balancing the electricity grid (bidirectional).

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Local generation concerns energy that has been generated on the plot/asset of the assessment.	B
2	Existing installations are based on a system with Demand Side Management (DSM). This system regulates that the consumer's demand for electricity is adjusted to the supply of electricity generated.	C
3	Facilities for the storage of electricity are available, so that the asset can be supplied with energy from the energy storage for at least 24 hours.	D
4	All charging points for electric transport are bidirectional. This means that the charging points are suitable for charging and feeding in electricity, where they are connected to a system with grid balancing and the DSM, if present.	E

Specific notes

None.

Tables

None.

Methodology

None.

Matching supply and demand of electricity

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3 and 4	Photos of the available facilities.
1, 2, 3 and 4	Specifications of the facilities available.

Definitions

Charging points

Building-related charging points, such as charging stations for electric vehicles, batteries or accumulators (like home batteries), can make a significant contribution to balancing electricity supply and demand.

Electricity supply and demand matching systems (energy demand management)

Energy demand management refers to measures to adjust consumer demand for electricity to the supply of electricity generated. By changing consumption patterns, the total (national) energy consumption and therefore the electricity demand decreases, while the same consumption needs are met. This is more commonly known as 'Demand Side Management'. This includes (but is not limited to):

- Increase in time-controlled installations and electrical appliances.
- Grid balancing via rechargeable electric vehicles.
- Energy demand management systems and platforms.
- Applications of electricity storage (battery, accumulator).

Grid balancing

Using this capability to ensure that electricity input to the grid match the electricity demand. This results in a reduction in carbon emissions compared to the conventional situation where a peak in demand leads to an increase in the production of fossil fuel power plants.

Switching on and off climate installations

This type of operation limits the number of operating hours of the installations. This includes entering settings, based on a predetermined timetable including pre-set phases.

Additional information

None.

References

None.

Installed controls

Reducing operational energy consumption and carbon emissions by installing appropriate control facilities to reduce unnecessary energy consumption.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

1. What type of control device is available to regulate the temperature at room level or per zone?
2. Can the power or performance of the heating and cooling supply be modulated?
3. Is it prevented that rooms are heated and cooled at the same time?
4. Can the air supply be controlled at room level?
5. Is the inlet temperature regulated?
6. Is the humidity controlled?

QUESTION	SELECT A SINGLE ANSWER OPTION PER QUESTION	SUB-CREDITS TO BE AWARDED	AVAILABLE SUBCREDITS
1	The asset has no heating and cooling.	Filter	0
	There are control facilities for temperature control, where the control facilities communicate with each other via a building monitoring or management system.	3	3
	There are control facilities with temperature control, with a room thermostat or a digital facility, but no link to the building monitoring or management system.	2	
	No.	0	
2	The asset has no heating and cooling.	Filter	0
	There is temperature control based on indoor temperature.	3	3
	There is temperature control based on outside temperature.	2	
	There is no temperature control.	0	
3	The asset has no heating and cooling.	Filter	0
	There is complete protection that prevents cooling and heating at the same time.	3	3
	There is partial protection that prevents cooling and heating at the same time.	2	
	There is no protection against cooling and heating at the same time.	0	
4	There is no mechanical ventilation or heating or cooling by air distribution.	Filter	0
	There is demand or presence controlled air supply at room level.	3	3
	There is time-controlled air supply at room level.	2	
	The asset has no control on air supply at room level.	0	
5	There is no heating or cooling by air distribution.	Filter	0

Installed controls

QUESTION	SELECT A SINGLE ANSWER OPTION PER QUESTION	SUB-CREDITS TO BE AWARDED	AVAILABLE SUBCREDITS
	The inlet temperature is controlled based on the desired room and measured return temperature.	3	3
	The inlet temperature is regulated based on the measured outside temperature.	2	
	There is a fixed setting of the supply air temperature.	1	
	No regulation of the temperature of the air supply.	0	
6	There is no humidification in the asset.	Filter	0
	Control at room level, air exhaust point or air supply point.	3	3
	Limited supply of air humidity.	2	
	There is no control on air humidity.	0	

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 2		
1	The temperature control is based on room temperature or outside temperature, whereby it is possible to adjust the output of the heating and cooling installation (boiler, heat pump, air conditioning, etc.) accordingly.	-
CRITERIA FOR QUESTION 4		
2	In the case of demand- or presence-controlled air supply, the system regulates the air supply based on the current needs of the room, such as occupancy or air quality. With time-controlled air supply, the ventilation is set to specific times, regardless of the actual presence of people in the room.	-

Specific notes

None.

Tables

None.

Methodology

Credits Allocation

The number of credits is based on the percentage of the number of sub-credits obtained (max. 18 sub-credits) compared to the total number of available sub-credits (see table below). To calculate the number of credits, the calculation tool must be entered in the assessment tool.

Table ENE11.1: Allocation of credits

PERCENTAGE OF SUB-CREDITS OBTAINED COMPARED TO AVAILABLE CREDITS	CREDITS
≥ 20%	1
≥ 40%	2
≥ 60%	3
≥ 80%	4

Installed controls

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
All questions	Photos of the existing facilities.
All questions	Documentation of installed facilities.

Definitions

Full protection that prevents cooling and heating at the same time ('interlock control')

With interlock control, there is a fully integrated system in which the operation of different devices or systems is connected. This means that the operation of one system depends on the status of another system. In a heating and cooling system, an interlock can cause the heating to automatically turn off when the air conditioning is on, to prevent both systems from operating simultaneously and wasting energy.

Partial interlock control

With partial interlock control, there are some links between systems, but these are not fully integrated. The system has certain conditions under which the operation of systems is partly dependent on each other. In a system, the heater can continue to operate even when the air conditioning is on, but with a limitation on power or capacity to prevent excessive energy consumption.

Control facilities

Systems and techniques used to manage and control the temperature in a building or space. This includes various methods to ensure that the desired temperature is maintained.

Temperature control based on room temperature

The control is based on the temperature within the room itself. Thermostats measure the temperature in the room and adjust the heating or cooling system to maintain the desired indoor temperature.

Temperature control based on outside temperature

The control is based on the temperature outside the building. Thermostats measure the outdoor temperature and adjust the heating or cooling to achieve a certain indoor temperature, often with a preset relationship between indoor and outdoor temperature.

Humidification

Humidification in buildings is the process of adding moisture to the air to keep the relative humidity at a comfortable and healthy level. This is important, especially in environments where heating systems dry out the air. The optimal humidity is usually between 40% and 60%. There are different types of humidification techniques, examples of which are evaporators, nebulizers, ultrasonic and central humidifiers.

Additional information

None.

References

None.

Monitoring of energy consumption

Reducing operational energy consumption through effective management and monitoring of the energy use of various building-related installations and systems.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

What percentage of the significant energy use groups are submetered?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There is no submetering or submetering for <25% of energy use groups.
1	B	There is submetering for ≥25% of energy use groups.
2	C	There is submetering for ≥50% of the energy use groups.
3	D	There is submetering for ≥75% of energy use groups.
4	E	There is submetering for ≥90% of the energy use groups.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The submeters are digitally 'readable'.	B, C, D and E
2	The submeters measure the energy consumption of a percentage of the user groups present in the asset, see methodology for an explanation of the determination of the percentage of energy consumption groups that are equipped with a submeter.	B, C, D and E

Specific notes

None.

Tables

None.

Methodology

Energy use groups for submetering

To determine what percentage of the energy use groups are submetered, it must first be determined which building-related energy use groups are present (see list of energy use groups below). Based on this inventory, it can be made clear what percentage of this is equipped with a submeter.

Energy usage groups:

- Heating
- Cooling
- Hot tap water
- Mechanical ventilation

Monitoring of energy consumption

- Fans, space heater distribution
- Fans for distributing room cooling
- Pumps for heating
- Pumps for cooling
- Pumps for hot water
- Goods refrigeration for commercial purposes
- Interior lighting
- Control systems and telecommunications
- Internal transport (elevators and escalators)
- Outdoor lighting
- Other significant energy use systems – if applicable to the specific building function – where, based on the energy performance calculation, the energy consumption of the relevant use group exceeds 5% of the total building-related energy consumption.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photos or documentation of the submeters (a sample will suffice).
2	Overview of the energy use groups with a submeter and documentation/measurement data on the percentage of the annual building-related energy consumption that is measured by this.

Definitions

Sub-metering

Sub-meters are subordinate to the main meter and are installed to measure the use of a specific plant or equipment, or of specific physical areas. Think of individual buildings, floors in a multi-storey building, rentable spaces or functional spaces. The output of the submeter is a pulse or other universal communication protocol.

Digitally readable

Meters are digitally readable if the meter reading information does not need to be read manually but is processed and transmitted in the form of electronic signals.

Additional information

None.

References

None.

Monitoring of tenanted spaces

Reducing operational energy consumption through the effective management and monitoring of energy consumption.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Is the energy consumption of tenanted spaces submetered?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There is no measurement.
2	B	A submeter is available for $\geq 50\%$ of the lettable spaces.
4	C	A submeter is available for 100% of the lettable spaces.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The submeters are digitally 'readable'.	B and C
2	The energy meters must measure the energy supplies of the rentable spaces. If the building has one tenant/user, there must be a submeter per floor (or logical unit).	B and C

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photos or documentation of the submeters (a sample will suffice).
2	Overview and calculation of the percentage of rentable spaces/floors/units with a sub-meter.

Definitions

Sub-metering

Monitoring of rentable spaces

Sub-meters are subordinate to the main meter. They are installed to measure the use of a specific installation, specific equipment, or specific physical areas. Think of individual buildings, floors in a multi-storey building, rentable spaces or functional spaces. The output of the submeter is a pulse or other universal communication protocol.

Digitally readable

Meters are digitally readable if the meter reading information does not need to be read manually but is processed and transmitted in the form of electronic signals.

Additional information

None.

References

None.

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Outdoor lighting and lighting parking lots

Reducing operational energy consumption, and associated CO₂ emissions, through energy-efficient outdoor lighting.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question 1

What type of outdoor lighting is installed?

POINTS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	The outdoor lighting is not energy efficient and is not equipped with an energy-saving control.
1	B	There is energy-efficient outdoor lighting or the outdoor lighting is equipped with energy-saving control.
2	C	There is energy-efficient outdoor lighting and the outdoor lighting is equipped with energy-saving control.

Question 2

What type of lighting is installed at the parking lots?

POINTS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	The lighting of parking spaces is not energy-efficient and is not equipped with energy-saving control.
1	E	There is energy-efficient lighting at parking lots or the lighting at parking lots is equipped with an energy-saving control.
2	F	There is energy-efficient lighting at parking spaces and the lighting at parking spaces is equipped with an energy-saving control.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If outdoor lighting is not required for safety, the answer options can be filtered out of the assessment.	A, B and C
2	If there are no parking spaces owned/managed by the building owner/manager and no parking spaces are rented by the building owner/manager, the answer options can be filtered from the assessment.	D, E and F
CRITERIA FOR QUESTIONS 1 AND 2		
3	Outdoor lighting and parking lot lighting is energy-efficient if the average light output is at least 70 lumens per watt. OR All lighting is equipped with the following types of lamps: <ul style="list-style-type: none"> • LED • TL5 • Sodium • Different type of lamp with a light output of at least 70 lumens per Watt. 	A, B, C, D, E and F

Outdoor lighting and lighting parking lots

#	CRITERIA	APPLICABLE ON ANSWER
4	An energy-saving control includes automatic switching on and off, preventing lights from being on during the day. OR The control includes presence detection in areas with irregular (pedestrian/vehicle) traffic. The presence detection must be appropriate for the type of lamp, as regular switching on and off of the lamp will reduce the life of some lamps. Other forms of presence detection are allowed, if the lighting is automatically switched off when no one is in the area. OR For outdoor lighting that is not equipped with presence detection, timers can be used. The timer should automatically switch off the lights after a set curfew. Except in situations where the lights have to be left on all night.	A, B, C, D, E and F
5	Parking lot lighting is energy-efficient if it is equipped with a timer, motion sensor or a dimming function (if possible).	E and F

Specific notes

None.

Tables

None.

Methodology

Temporary lighting, decorative lighting and floodlights

Decorative lighting and floodlights are part of this issue. Temporary lighting such as lighting for maintenance work can be excluded.

Emergency lighting

Emergency lighting, including lighting to ensure safety during normal business operations, is part of this issue. The emergency lighting must be energy-efficient, but it is not mandatory to apply an energy-efficient control to the emergency lighting. Lighting that is only activated in the case of an emergency can be excluded.

Lighting parking spaces

Car park lights on open terrain, open air, and covered car parks must be considered under this issue.

Average Initial Luminous Efficacy of Outdoor Lighting

The individual luminous fluxes of all luminaires within the construction zone are summed (in lumens), then divided by the total circuit Watts for all the luminaires. LED lamps are typically integral to the luminaire (LED luminaires). As such, the manufacturers' literature will encompass both lamp and luminaire as a whole.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3	Documentation of the type of luminaires.
4 and 5	Documentation/specifications of the energy-saving control.
3, 4 and 5	Photos of the lighting or energy-saving control.

Outdoor lighting and lighting parking lots

Definitions

Areas with irregular pedestrian traffic

An area where pedestrians come to or are present less than two-thirds of the time during the period in which the lights would be on without presence detection.

Automatic on and off

Automatic switching on and off with a timer or daylight sensor prevents lights from being on during daylight hours (a manual control of the lights that allows the lights to be forcibly switched on, for example in emergency situations, is acceptable).

Daylight sensor

A type of sensor that detects daylight and turns lights on at sunset and off at dawn.

Outdoor lighting

Building lighting and advertising lighting, entrance/exit lighting, canopy lighting, lighting of paths, roads, parking lots, and other outdoor areas belonging to the plot of the building.

Presence detection

A sensor that turns on the lighting when it detects presence and switches off after a pre-set time when no presence is detected. An example is presence detection, where lighting is turned on by pressing a switch or similar control, but where the lighting switches off automatically. Another example is a secure space key protection, where a card system or a keypad is used to enter a space.

Time switch

A switch with a built-in clock that switches the lighting on and off at programmed times.

Additional information

None.

References

None.

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Energy-efficient elevators, escalators and moving walks

Reducing operational energy consumption, and associated CO₂ emissions, through energy-efficient elevators, escalators and moving walkways.

Part	Asset
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Are the elevators, escalators and moving walks in the building energy-efficient?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
1	B	All elevators are energy efficient.
1	C	All escalators and moving walks are energy efficient.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no elevators available, the answer option can be filtered out of the assessment.	B
2	If there are no escalators and moving walkways, the answer option can be filtered out of the assessment.	C
CRITERIA FOR QUESTION		
3	An elevator is energy-efficient if all of the following are met: a) The measurement was carried out by an independent body. b) The measurement was carried out no longer than 5 years ago. c) The measured energy consumption has resulted in at least an energy label C, where the measurement was carried out on the basis of NEN-EN ISO 25745-2 or VDI 4707-1.	B
4	Escalators and moving walks are energy efficient if all of the following are met: a) The measurement was carried out by an independent body. b) The measurement was carried out no longer than 5 years ago. c) The measured energy consumption has resulted in at least energy label C, where the measurement was carried out on the basis of NEN-EN-ISO 25745-3. d) There is a standby system in place, where the escalator/moving walk automatically switches off and comes to a stop if it is not used for an extended period of time ('auto start') OR escalators and moving walks that are used frequently during the day run at low speed ('slow speed').	C
5	If there are several lifts, escalators or moving walks of the same type and year of construction, a sample of the systems is sufficient for the measurement. For the elevator, at least the elevator with the shortest floor distance must be included in the sample of the measurement.	B and C
6	For lifts, escalators and moving walks that are less than 5 years old, a calculation by the producer/manufacturer of the expected energy label can be seen as an equivalent measurement.	B and C

Specific notes

None.

Energy-efficient elevators, escalators and moving walks

Tables

None.

Methodology

Excluded system types

The following conveyor systems can be disregarded, if these are the only lifts present in the asset then the filter for elevators can be turned on:

- Cable installations, including cable cars, for public or private passenger transport.
- Elevators that are specially designed and built for military purposes or maintaining order.
- Stage lifting equipment.
- Lifts that are built into feed materials.
- Rack railways.
- Construction hoists.
- Wheelchair lifts and stairlifts.
- Historic elevators, such as elevators installed before 1970, which are largely still in their original condition.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3, 4, 5 and 6	An overview with the location of the lifts, escalators and moving walkways.
3, 4, 5 and 6	Documentation/photos of the type of elevator, escalator and moving walkways.
3	The measured energy consumption of the lifts in accordance with NEN-EN-ISO 25745-2 or VDI 4707-1.
4	The measured energy consumption of the escalators and moving walks in accordance with NEN-EN-ISO 25745-3 and documentation of the existing 'auto start' or 'slow speed' system.
3 and 4	Documentation on the independence of the organization performs the measurement.
6	Documentation from the producer/manufacturer with the calculation of the expected energy label.

Definitions

Elevator:

A transport system that moves with a cage along fixed conductors inclined by more than 15 degrees (relative to the horizontal plane), which is intended to transport:

- People
- Persons and goods
- Only goods if the cage is accessible. That is, a person can enter it without difficulty, and the system is equipped with controls. These must be in the cage or within reach of the person sitting in the lift.
- Elevators that follow a fixed route and have a lift speed of greater than 0.15 m/s that do not move past leaders are also part of the credit (such as scissor elevators).

Escalator

A diagonal transport system, consisting of a staircase with steps that slide up or down.

Moving Walkway

Conveyor systems with horizontally or diagonally moving surface on which people can stand or walk.

Additional information

None.

References

None.

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Transport



SUMMARY

This category promotes the availability of easily accessible local facilities and sustainable means of transport. This encourages alternative modes of transport that reduce car use, leading to fewer congestions and lower emissions. In addition, promoting physical activities, such as cycling, has a positive effect on people's well-being.

CONTEXT

Cities around the world are actively looking for ways to improve quality of life, air quality and mobility in urban environments. Goal 11 of the United Nations Sustainable Development Goals (SDGs) focuses on creating inclusive, safe, resilient and sustainable cities and communities. It highlights the importance of cycling, walking, and using public transportation to improve air quality in cities. One of its goals is to provide access to safe, affordable and sustainable transport systems for all, with a focus on improved road safety, including the expansion of public transport by 2030.

An important point of attention is to reduce private car use. Alternative modes of transport, such as cycling, can help to reduce transport-related emissions and reduce congestion. Scientific studies have clearly shown that there is a strong link between air quality and people's health. Every year, 4.2 million premature deaths worldwide are attributed to polluted outdoor air. Reducing air pollution can reduce the risk of diseases such as stroke, heart disease, lung cancer, and respiratory problems. Air pollution also has harmful effects on flora, fauna, biodiversity and crop yields.

Value of the issues

TRA 01	Alternative modes of transport	9 Credits
Aim	Making use of alternative public, private and active transport options by facilitating sustainable means of transport that suit the location.	
Value	Encourages bicycle use and reduces dependence on private cars. Promotes the availability of charging stations for electric cars and reduces dependence on petrol and diesel cars.	

TRA 02	Proximity to public transport	8 Credits
Aim	To ensure the availability of suitable public transport for residents, reducing transport-related emissions and congestion.	
Value	Encourages sustainable transport and movement. Increases awareness of alternative means of transport and makes them more accessible.	

TRA 03	Proximity to amenities	4 Credits
Aim	Ensuring easily accessible basic facilities for residents near the asset, reducing the transport-related impact.	
Value	Ensures proximity to basic amenities to reduce short journeys. This helps to reduce emissions and negative environmental impact of building users, improves local air quality and reduces traffic congestion.	

TRA 04	Traffic safety cyclists and pedestrians	2 Credits
Aim	Encouraging safe footpaths and cycle paths on the site and in the surrounding, improving the safety and well-being of building users.	
Value	Ensuring safe access to the plot and the building and encouraging activities that can have the physical, mental and social benefits for building users.	

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Alternative modes of transport

Making maximum use of alternative public, private and active transport options by facilitating sustainable transport measures that suit the location.

Part	Asset
Available Credits	: 9
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question 1

What cycle facilities are available?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There are no facilities available.
2	B	The minimum number of cycle storage is available.
3	C	The minimum number of cycle storage is available and there are two cycle facilities.
4	D	The minimum number of cycle storage is available and there are three or more cycle facilities available.

Question 2

How many charging points for electric cars are there?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	E	There are no charging points available.
1	F	The minimum number of charging points for electric cars is available.
2	G	There is twice the minimum number of charging points for electric cars.

Question 3

Which subsystems for transport are available?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	H	There are no facilities available.
1	I	There is a shared bicycle system.
2	J	The minimum number of parking spaces for car sharing is available.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no parking spaces owned/managed by the building owner/manager and no parking spaces are rented by the building owner/manager, the answer options can be filtered from the assessment.	E, F, G and J
CRITERIA FOR QUESTION 1		
2	The number of cycle storage is based on the use-specific criteria from Table TRA 01.1, looking at the main function of the building.	B

Alternative modes of transport

#	CRITERIA	APPLICABLE ON ANSWER
	If the number of parking spaces required does not amount to a whole number, then rounding up must be done.	
3	<p>Cycle storage must meet the following requirements: It is possible to attach the rear wheel or the frame and front wheel of a bicycle to a fixed object (such as a wall or a buried bicycle staple) with an external lock. OR The parking spaces are covered and only accessible through a locked gate or door.</p> <p>In addition, for both situations, the parking spaces:</p> <ol style="list-style-type: none"> Have enough space between parking spaces and obstacles, so that users can easily maneuver the cycle. Is illuminated The parking facility must be clearly visible from the building or the main entrance and, if the parking facility is located inside the building, be signposted. Are largely located within 100 meters of the main entrance. 	B
4	<p>If there are multiple buildings on the same site or area, the cycle storage in this issue may be rated based on the individual building or on the bike parking spaces in the area. So (existing) shared and/or public cycle storage can be used. The following conditions must be met:</p> <ol style="list-style-type: none"> It has been demonstrated that there are sufficient cycle storage for all building users in the area, who use the shared bicycle parking spaces. This has been determined on the basis of the use function specific criteria from Table TRA 01.1. In addition, the total distance that cyclists have to travel to gain access to the nearest cycle storage facility, associated facilities and building entrance may not exceed 500m from start to finish. If this alternative is followed, the requirement for 3d will lapse. 	B
5	<p>Cycle facilities for employees/staff are:</p> <ol style="list-style-type: none"> Changing rooms. Storage space for clothes, bike helmets, etc. These can be lockers, but may also be another form of storage space, as long as it is in a locked area or the locker can be locked and is only intended for employees/staff. For at least 20% (with a minimum of two) of the minimum number of parking spaces. The number of showers is at least 5% of the minimum number of parking spaces with a minimum of one. Any building with 4 or more showers will do, regardless of the number of parking spaces. A designated place for drying wet clothes with adequate heating and ventilation. Designated place to charge employees' electric bicycles. If the charging points for the bicycles are located in the building, facilities must be available to ensure fire safety in the space. At a minimum, fire detectors must be present in the room and instructions must be available on how building users can safely use the charging points. If applicable, the advice of the fire brigade can also be followed. 	C and D
6	If more than the minimum number of cycle storage is realized, it is not mandatory to facilitate more than the minimum number of showers, storage and changing rooms.	C and D
CRITERIA FOR QUESTION 2		
7	<p>The number of charging points for electric cars is minimal:</p> <ol style="list-style-type: none"> 5% of the total car parking spaces up to 200 spaces and 3% of the total car parking spaces from 201 to 400 spaces and 2% of the remaining total car parking spaces from 400 spaces. <p>If the number of required charging points does not amount to a whole number, then rounding up must be done. Electric charging points are equipped with a charging capacity of at least 7kW.</p>	F and G
8	Double the number of charging points for electric cars (compared to the minimum from criterion 7) is present.	G

Alternative modes of transport

#	CRITERIA	APPLICABLE ON ANSWER
	If 50 charging points or more have been realized, regardless of the number of parking spaces, this criterion is met.	
CRITERIA FOR QUESTION 3		
9	The bike-sharing system must meet the following requirements: a) The system is managed by the own organization or through a public/private organization. b) The shared bicycles must be accessible to building users. c) The parking space for the shared bicycles is available within 50 meters of the building. d) The location for picking up and returning the shared bicycles is easily recognizable.	I
10	The asset is equipped with car-sharing facilities to facilitate and encourage building users to join car-sharing. The following must be implemented: a) The number of parking spaces for car sharing is at least 5% of the total number of parking spaces, with a minimum of one. b) Separate parking spaces are designated for car sharing. c) Parking spaces are designated at locations near the (main) entrance of the building (this may not affect the location of assigned disabled parking spaces (gpa) or parent and child parking spaces). d) Promotional and/or information material has been developed to draw people's attention to the presence of the car-sharing system.	J

Specific notes

Table TRA 01.1: Requirements for the number of bicycle parking spaces per use function

REQUIREMENT FOR A FUNCTION OF USE	CRITERIA
Office and industrial function	10% of the total staff up to 500 staff; And 7% of the total staff from 501 to 1000 employees; And 5% of the remaining number of staff of the organization with more than 1000 employees. <u>Additional for the industry function:</u> If the distance to 'highly urbanised areas' (see definitions) is more than 15 kilometres as the crow flies, measured from the municipal boundary, the minimum number of required cycle storage spaces as calculated above may be halved. For example, if 50 cycle storage spaces are required according to the above requirements, but the plot is further than 15 km from a highly urban area, only 25 cycle storage spaces need to be present to achieve the point.
Education function	At least 20% of the equivalent of full-time (FTE) employees; And The minimum number of parking spaces per pupil/student belonging to the school type must be present: <ul style="list-style-type: none"> • Primary school: at least 4 cycle storage spaces per 10 pupils. • Secondary education: at least 7 cycle storage spaces per 10 pupils. • University and vocational education: at least 7 cycle storage spaces per 10 students. • Nursery: at least 1 cycle storage spaces per 10 children.
Retail, accommodation/hotel, sports, healthcare and meeting functions	At least 10% of the equivalent of full-time employees. And 5% of the total number of car parking spaces for visitors (excluding disabled parking spaces), with a minimum of 10 cycle storage spaces. Assets that provide at least 50 cycle storage spaces for

Alternative modes of transport

REQUIREMENT FOR A FUNCTION OF USE	CRITERIA
	visitors (regardless of the number of parking spaces) meet the requirements. And The cycle storage spaces for employees and visitors may be realized together, but may not be added together to arrive at the requirement.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3, 4, 5, 6, 7, 8, 9 and 10	Photos of (if applicable): <ul style="list-style-type: none"> • Bicycle rack/storage; • Showers; • Storage space and/or lockers; • Changing rooms; • Drying rooms; • Facility for shared bike system; • Charging points for electric bicycles; • Electric car charging points; • Facility for car sharing.
2, 3, 4, 5 and 6	Calculation of the number of parking spaces and bicycle facilities required (storage space and shower facilities). If applicable: a map showing the distance as the crow flies between the asset and the nearest urban area.
3, 4, 9 and 10	Map of the site/building showing the location and the number (if applicable) of bicycle parking spaces, shared bicycles, electric charging points and car-sharing facilities indicated with the distance to the main entrance.
7 and 8	Calculation of the percentage of electric charging points.
10	Calculation of the percentage of car sharing.
10	Marketing/promotional materials of the car-sharing shared with building users.

Definitions

Room or facility for drying wet clothes

A room or facility where building users can hang out their wet clothes to dry during the day. Heating and ventilation must be in place to prevent mold and moisture problems.

Main entrance

The main entrance of the building is the entrance that is in direct contact with the arrivals hall, reception, traffic routes, elevators and stairs. This entrance is available to building users, visitors, staff and the facility manager/building manager. The entrance to the site is not the main entrance (unless the entrance to the site is also the entrance to the building, for example in the case of buildings adjacent to a public road).

Shared bike system

Alternative modes of transport

In a bike-sharing system, bicycles are made available for shared use by people. The shared bike is mainly used at the final destination for post-transport or an intermediate ride. The central concept of bike-sharing systems is free or can be rented for a reasonable amount for a short period of time, encourages cycling and reduces short trips within the city with cars. This reduces traffic congestion, noise pollution and air pollution. Think of a shared bicycle system in the building or sharing concept such as Donkey, Lime, Tier, OV-fietsen, etc.

Urban area

The classification of municipalities by urbanity is based by Statistics Netherlands on the density of addresses in the area of the municipality. First of all, for each address within a municipality, the address density of an area with a radius of 1 km around this address has been determined. The environmental address density of a municipality is the average value for all addresses within that municipality. The five urbanity classes are based on class boundaries of 2500, 1500, 1000 and 500 addresses per km².

The following classes are distinguished:

- Very highly urban (environmental address density of 2500 or more, code 1);
- Highly urban (environmental address density of 1500 to 2500, code 2);
- Moderately urban (environmental address density from 1000 to 1500, code 3);
- Little urban (environmental address density of 500 to 1000, code 4);
- Non-urban (environmental address density of less than 500, code 5).

Additional information

None.

References

Urbanity according to Statistics Netherlands, based on the municipality's density of environmental addresses.

- Figures 2024 <https://opendata.cbs.nl/#/CBS/nl/dataset/85755NED/table?dl=455E9> (use the most recent CBS figures).

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Proximity to public transport

To ensure the availability of suitable public transport for residents, reducing transport-related emissions and congestion.

Part	Asset
Available Credits	: 8
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Is the asset within walking distance of a public transport node which operate a frequent service?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	There is a public transport connection more than 1 kilometer away from the building, with a frequency of every 30 minutes during rush hours.
2	C	There is a public transport connection more than 1 kilometer away from the building, with a frequency of every 15 minutes during rush hours.
3	D	There is a public transport connection within 1 kilometer of the building, with a frequency of every 30 minutes during rush hours.
4	E	A shuttle bus is available.
4	F	There is a public transport connection within 500 meters of the building, with a frequency of every 30 minutes during rush hours.
6	G	There is a public transport connection within 1 kilometer of the building, with a frequency of every 15 minutes during rush hours.
8	H	There is a public transport connection within 500 meters of the building, with a frequency of every 15 minutes during rush hours.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The distance should be measured via a safe walking route and not in a straight line.	B, C, D, F, G and H
2	Public transport services that run from multiple stops within the range of the building, for example two separate stops served by one service, may only be carried once. Different public transport services from one or more stops within the range of the building must be taken separately.	B, C, D, F, G and H
3	At the beginning and end of the working day, a shuttle bus runs to a public transport hub or city center. A door-to-door service will also suffice.	E

Specific notes

None.

Tables

None.

Methodology

Proximity to public transport

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	A map showing the distance and route to the public transport connection(s).
1	Photos of the public transport network and safe walking route(s).
2	A timetable of the relevant public transport connection(s).
3	Substantiation of the shuttle bus, the times it runs and the route that the shuttle bus takes.

Definitions

Public transport hub

A hub of one or more types of mobility (bus, tram, metro, train) that connects to a city centre, a local and regional public transport network or basic facilities (such as a doctor's office or a school).

Shuttle

The option of a shuttle bus is available for any asset type (e.g. schools, offices, shops, factories, prison, etc.) with a fixed timetable.

Peak hours

The times at which a building user travels to and from the building (07:30–09:30 and 17:00 – 19:00).

Safe walking routes

A safe walking route is a walking route via footpaths that are separated from other traffic, with safe crossing options. Lines on the road are not seen as safe.

Additional information

None.

References

None.

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Proximity to amenities

Ensuring easily accessible basic facilities for the building users near the asset, reducing the transport-related impact.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Is the asset within walking distance of amenities?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Two amenities are within 1 kilometer of the asset.
2	C	Two amenities are within 500 meters of the asset.
2	D	Four amenities are within 1 kilometer of the asset.
4	E	Four amenities are within 500 meters of the asset.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The basic facilities are open during working hours of the building users.	B, C, D and E
2	The walking distance must be measured via a safe walking route and not in a straight line. A safe walking route runs via footpaths that are separated from other traffic, has safe crossings and is accessible to all pedestrians.	B, C, D and E
3	<p>The amenities are in several of the categories below:</p> <ul style="list-style-type: none"> a) Food supply: food shops, supermarket, market, butcher, bakery, greengrocer, etc.; b) Health care: pharmacies, GP surgery, hospital, etc. (with the exception of private clinics); c) Education: crèche, primary school, secondary school, etc.; d) Services: ATM, bank, postal services, parcel point, hairdressers, etc.; e) Dining options: restaurants, lunchroom, etc.; f) Commercial: social services, leisure centres, community centres, social centres, etc. g) Sports and exercise: gym, swimming pool, etc. <p>Please note that each category of basic services can only be counted once towards the number of basic services. For example, if there is only a supermarket and a butcher, they both fall into the category of food supply and count as one basic facility. In that case, another basic facility from one of the other categories must be present in order to earn credits.</p>	B, C, D and E

Proximity to amenities

Specific notes

REQUIREMENT FOR A FUNCTION OF USE	CRITERIA
Industry function	<p>If a building with an industrial function receives deliveries of which at least 5% of the total supplies are demonstrably international, the following facilities can also count as basic facilities:</p> <ul style="list-style-type: none"> • If the following facilities are present in the asset: a toilet, shower and changing room that the drivers can use. For this to count as a basic provision, all three facilities must be present. In addition, all facilities must be open at times when deliveries take place (this can also be at night, for example). • If there is within a radius of 5 kilometers where the trucks can park at night. <p>The above can count together as two basic services (they can also be listed separately as one facility) and, if possible, be combined with the basic facilities from criterion 3. The maximum number of credits that can be obtained for this issue remains 4.</p>

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 3	<p>If the basic facilities are not in the asset, the following must be demonstrated:</p> <ul style="list-style-type: none"> • A map of the route and distance to the basic facilities available. • Photos/screenshots of the basic facilities available and the safe walking routes from the asset to the basic facilities.
1, 2 and 3	<p>If the basic facilities are in the asset, the following must be demonstrated:</p> <ul style="list-style-type: none"> • Floor plans of the asset showing the location of basic facilities. • Photos/screenshots of the basic facilities available and the safe walking routes.

Definitions

Working hours of building users

When the majority of building users (more than 80% of the asset) are inside the building. For example: if the majority of building users arrive between 08:00-10:00 and leave between 17:00-19:00, then the basic facilities must be open at some point between 08:00-19:00.

Safe walking routes

A safe walking route is a walking route via footpaths that are separated from other traffic, with safe crossing options. Lines on the road are not seen as safe.

Additional information

None.

Proximity to amenities

References

None.

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Traffic safety cyclists and pedestrians

Encouraging safe footpaths and cycle paths on the site and in the surrounding, improving the safety and well-being of building users.

Part	Asset
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are supplier entrances and routes on the site separated from parking spaces and separated from footpaths and cycle paths?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, the supplier routes on the plot are separated from parking lots, footpaths and bike paths, but the access routes are not separated.
2	C	Yes, the supplier routes on the plot are separated from parking lots, footpaths and bike paths, and the access routes are also separated.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	If the entrances to the building lead directly to a public road, without crossing footpaths and/or cycle paths on the plot, the points can be awarded automatically.	C
2	If the asset only accepts small vans on the plot (incl. cars or vans up to a length of 6 meters), no larger trucks are required and deliveries are not daily, points can still be awarded if the following points are met: <ol style="list-style-type: none"> For vans, a special parking space must be designated that is separate from the regular parking spaces. The vans and/or cars may then use the same entrance and route. These entry, parking and turning areas for vans are designed for easy manoeuvring, given the type of van using the plot. This avoids the need for repeated manoeuvring. 	C
3	For regular cars, which cannot be classified as suppliers, access to the plot and routes on the plot must not be separated from access and routes for cyclists and pedestrians.	B and C
4	There must be a safe walking and cycling route through a physical separation that separates bicycle and pedestrian paths from freight traffic (just lines on the road are not sufficient). Think of placing an elevation, poles or concrete blocks between the bicycle and pedestrian path and the motorway.	B and C
5	If there are manoeuvring zones in the building that are also used by pedestrians and cyclists, there must be separate routes in accordance with the criteria.	B and C

Specific notes

None.

Traffic safety cyclists and pedestrians

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3, 4 and 5	A layout drawing of the outdoor area that clearly shows the delivery areas and routes and that they are separated from footpaths and cycle paths.
1, 2, 3, 4 and 5	Photos of the delivery areas and routes and the safe footpaths and cycle paths.

Definitions

Safe walking route

A safe walking route is a walking route via footpaths that are separated from other traffic, with safe crossing options. Lines on the road are not seen as safe.

Safe cycle route

A safe cycle route ensures unhindered, safe, fast and comfortable cycling. The cycle paths are separated from other traffic and safe crossing options are available. Lines on the road are not seen as safe.

Additional information

None.

References

None.

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Water



SUMMARY

This category promotes sustainable drinking water use during the use phase of the asset and the associated outdoor spaces. Minimizing water loss due to leaks is also part of this, so that drinking water consumption is reduced throughout the life of the asset.

CONTEXT

Water efficiency is a key focus within the United Nations Sustainable Development Goals (SDGs). Goal 6, "clean water and sanitation", states that by 2030 we must increase the efficiency of water use in all sectors and ensure the sustainable extraction and supply of freshwater, in order to remedy water scarcity and significantly reduce the number of people affected by it.

Increasing population density and high water consumption is causing water shortages worldwide, which are expected to worsen further in the coming years. The demand for water will increase by 55% between 2000 and 2050. In addition, the energy required for the extraction, purification, supply, heating, cooling and disposal of water (and wastewater) contributes to climate change and deteriorated air quality. Using water more efficiently is therefore essential to meet future demand while combating climate change.

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Value of the Issues

WAT 01	Water monitoring	6 Credits + 1 Exemplary Performance
Aim	Reducing water consumption in buildings, by effectively monitoring and managing water consumption.	
Value	Increasing awareness about water use in the building. Identifying and monitoring high water consumption and changes in usage patterns, to optimize management and maintenance and prevent unnecessary water consumption.	
WAT 02	Water efficient equipment: toilets	4 Credits
Aim	Reduce water consumption by encouraging water-efficient toilets.	
Value	Improving water efficiency and reducing the costs associated with water use. By reducing water consumption, water reservoirs are preserved for times of scarcity. Innovation and the development of water-saving sanitary facilities are also stimulated.	
WAT 03	Water efficient equipment: urinals	4 Credits
Aim	Reduce water consumption by encouraging water-efficient urinals.	
Value	See value at credit WAT 02.	
WAT 04	Water efficient equipment: washbasin taps	4 Credits
Aim	Reducing water consumption by encouraging water-efficient taps.	
Value	See value at credit WAT 02.	
WAT 05	Water efficient equipment: showers	4 Credits
Aim	Reducing water consumption by encouraging water-efficient showers.	
Value	See value at credit WAT 02.	
WAT 06	Water efficient equipment: white goods	4 p Credits
Aim	Reducing water consumption by encouraging water-efficient white goods.	
Value	See value at credit WAT 02.	
WAT 07	Leak detection system	4 Credits
Aim	Reduce water consumption in buildings by minimizing waste from water leaks.	
Value	Combating drinking water waste due to water leaks. Minimizing damage, costs, and disruptions due to leaks. It also reduces water consumption and associated costs.	
WAT 08	Insolation valves	2 Credits
Aim	Limiting the impact of water leaks in spaces that are not occupied and would otherwise go unnoticed.	
Value	See value at credit WAT 07.	
WAT 09	Stop valves	4 Credits
Aim	Limiting unnecessary water consumption due to defects and during maintenance.	
Value	See value at credit WAT 07.	

WHAT 10	Reducing utility-supplied water consumption	4 Credits
Purpose of credit	Limiting drinking water use by facilitating alternative sources.	
Value	Reducing greenhouse gas emissions, pollution and the cost of drinking water supply. By reducing water use, water reservoirs are preserved for times of scarcity.	

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Water monitoring

Reducing water consumption in buildings, by effectively monitoring and managing water consumption.

Part	Asset
Available Credits	: 6
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: Good
<i>Minimum 2 points</i>	

Question

To what level is water consumption measured?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION THE EXEMPLARY PERFORMANCE CAN BE SELECTED SEPARATELY
0	A	Water consumption is not measured.
2	B	The water consumption of the entire site is measured.
4	C	Water consumption is measured at building level.
6	D	Water consumption is measured per tenant, ensuring that installations or parts of buildings that account for more than 10% of the total water consumption are submetered.
Exemplary Performance	E	All water meters are connected to a working monitoring or building management system.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	All water meters must be accessible and readable (digitally or analogue).	B, C and D
2	If water consumption is measured at the plot level, all water consumed on the plot is measured, including (if any): <ul style="list-style-type: none"> Supply via main water supply Groundwater Use of rainwater Use of greywater 	B
3	The water meter at building level must meter the water consumption of the entire building and not just the consumption of the common areas.	C
4	The sub-meter requirements may not apply in the following situations, where sub-metering is shown to be unbeneficial: <ul style="list-style-type: none"> When a building has only one or two small water consumers (for example, an office with sanitary facilities and a small kitchen). When a building has two water consumers, one of which is much larger, so the consumption of the smaller source is unlikely to be visible. 	D
5	The submeter can be part of an installation.	D
6	If answer option D is achieved, answer option E can only be achieved. In addition, all water meters must be digitally readable and connected to a monitoring system or building management system for monitoring water use.	E

Specific notes

None.

Water monitoring

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3, 4, 5 and 6	Floor plans showing the location of the water meters.
1, 2 and 6	Photos of the installed water meters.
1	Confirmation (e.g. documentation, photo, video, etc.) that meters are working.
6	Screenshots or photos of the monitoring/building management system (BMS) to confirm that the water meter is connected to the system.

Definitions

Greywater

Slightly contaminated water from household activities (such as dishwasher, washing machine, sink, shower, company water).

Rainwater

Rainwater or meltwater from ice, snow and hail that is captured and reused.

Additional information

Accessible water meter

A water meter must be accessible to be read, if this is not read digitally via, for example, a smart meter. A water meter is accessible if the water meter can be read without having to make adjustments to the building.

References

None.

Water efficient equipment: toilets

Reduce water consumption by encouraging water-efficient toilets.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

What percentage of toilets are water-efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There are toilets available with an effective flushing volume of > 6 liters per flush.
1	B	All toilets have an effective flush volume of ≤ 6 liters per flush.
2	C	≥ 75% of toilets have an effective flush volume of ≤ 4.5 litres per flush and the rest have an effective flush volume of ≤ 6 litres per flush.
3	D	All toilets have an effective flush volume of ≤ 4.5 liters per flush.
4	E	≥ 50% of toilets have an effective flush volume of ≤ 3 litres per flush and the rest have an effective flush volume of ≤ 4.5 litres per flush.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The effective flush volume of a toilet with flush selection must be calculated using the calculation in the methodology.	A, B, C, D and E

Specific notes

None.

Tables

None.

Methodology

Effective flush volume of a flush selector head toilet

The effective flush volume of a toilet with flush selector knob is the average of full flush and reduced flush. It is assumed that one full flush takes place on three reduced flushes.

The effective flush volume should be calculated as follows, using a toilet with a 6/4 litre flush selector as an example:

$$EFV = \frac{(6l * 1) + (4l * 3)}{4} = 4.5 L$$

Water efficient equipment: toilets

On-site monitoring

A representative number of toilets must be checked on site.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	If available, the product specifications of the manufacturer or supplier of the installed toilets.
1	Photos of the installed toilets; a representative sample is sufficient.
1	Inventory of the location and number of toilets using a map or a similar inventory.
1	If applicable, a calculation according to the methodology for the effective flush volume of the toilets.

Definitions

Effective Flush Volume (EFV)

Effective flush volume is the volume of water needed to clear the toilet and transport any contents far enough to avoid blocking the drain. The effective flush volume of a single flush toilet is the volume of water used for one flush.

Additional information

None.

References

None.

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Water efficient equipment: urinals

Reducing water consumption by encouraging water-efficient urinals.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Are the urinals in the asset water-efficient urinals or waterless?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	All urinals have a flush volume of ≤ 3 liters.
2	C	All urinals have a flush volume of ≤ 1 litre.
4	D	All urinals are waterless.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no urinals in the asset, the issue can be filtered out of the assessment.	A, B, C and D
CRITERIA FOR QUESTION		
2	If there are several types of urinals with different flush volumes, the average flush volume of all urinals applies.	B and C
3	The following should be determined: <ul style="list-style-type: none"> Urinals: flush volume in litres for one flush. Urinals with automatic flush: the flushing frequency/per hour and the capacity of the sink in litres. 	B and C
4	If urinal gutters are present, the calculation in the methodology must show whether the criteria have been met.	B and C

Specific notes

None.

Tables

None.

Water efficient equipment: urinals

Methodology

Urinal gutter

For the calculation of the flush volume, every 600 mm counts as one urinal.

For example, for a channel with a length of 1800 mm and a flush volume of 9 litres, the following calculation applies:

$$\frac{600 \text{ mm}}{1800 \text{ mm}} * 9l = 3l \text{ per } 600 \text{ mm}$$

In this example, the urinal meets the criteria and answers B are met.

On-site monitoring

A representative number of urinals must be checked on site.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3 and 4	If available, the product specifications of the manufacturer or supplier of the installed urinals.
2, 3 and 4	Photos of the installed urinals; a representative sample is sufficient.
2, 3 and 4	Inventory of the location and the number of urinals using a floor plan or a similar inventory.
2, 3 and 4	If applicable, a calculation according to the method for the effective flush volume of the urinal gutters.

Definitions

None.

Additional information

None.

References

None.

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Water efficient equipment: taps

Reducing water consumption by encouraging water-efficient taps.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

What percentage of taps are water-efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There are taps with a flow volume of > 6 litres per minute.
1	B	All taps have a flow volume of ≤6 liters per minute.
2	C	50% taps have a flow volume of ≤4 liters per minute and the rest have a flow volume of ≤6 liters per minute.
3	D	All taps have a flow volume of ≤4 liters per minute.
4	E	All taps have a flow volume of ≤4 litres per minute and are automatically operated.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>Only faucets that are specifically used for taps are applicable.</p> <p>The requirements do not apply to:</p> <ul style="list-style-type: none"> • Cleaning facilities in medical rooms. • Faucets for cleaning sinks • Kitchen and outdoor taps • Taps of baths • Refill valves in technical installations and technical rooms • Other applications where water-saving taps are inappropriate for medical or health-related reasons, such as the taps at a MIVA toilet. 	A, B, C, D and E
2	Basin faucets are controlled with an automatic motion sensor. Basin taps that have a fixed flow time (e.g. taps with a push button with automatic stop) do not meet the criteria.	E

Specific notes

None.

Tables

None.

Water efficient equipment: taps

Methodology

On-site monitoring

A representative number of taps must be checked on site.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	If available, the product specifications of the manufacturer or supplier of the installed taps.
1 and 2	Photos of the installed wash taps: a representative sample will suffice.
1 and 2	Inventory of the location and number of taps using a floor plan or similar inventory.

Definitions

None.

Additional information

Reduce flow volume

To reduce the flow volume of cranes, a perlator can be used, among other things.

References

None.

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Water efficient equipment: showers

Reducing water consumption by encouraging water-efficient showers.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

What is the percentage of showers is water-efficient?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	0% to <25% is water-efficient.
1	B	≥ 25% to <50% is water-efficient.
2	C	≥ 50% to <75% is water-efficient.
3	D	≥ 75% to <100% is water-efficient.
4	E	100% is water-efficient.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no showers in the asset, the issue can be filtered out of the assessment.	A, B, C, D and E
CRITERIA FOR QUESTION		
2	A shower is water-efficient if the flow volume is equal to or less than 6 liters per minute.	A, B, C, D and E
3	If showers are part of the bicycle facilities in TRA 01 'Alternative transport', the showers must also be assessed for this credit.	A, B, C, D and E
4	This issue does not apply to assets where water-saving showers are inappropriate for medical or health-related reasons. In this case, the filter that applies to the credit may be used.	A, B, C, D and E

Specific notes

None.

Tables

None.

Methodology

On-site monitoring

A representative number of showers must be checked on site.

Evidence

Water-saving sanitary facilities: showers

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	If available, the product specifications of the manufacturer or supplier of the installed showers.
2 and 3	Photos of the installed showers: a representative sample is sufficient.
2 and 3	Inventory of the location and number of showers using a map or a similar inventory.

Definitions

None.

Additional information

None.

References

None.

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Water efficient equipment: appliances

Reducing water consumption by encouraging water-efficient appliances.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

What percentage of dishwashers and washing machines are water-efficient ?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	< 5%.
1	B	≥ 5% to < 25%.
2	C	≥ 25% to < 50%.
3	D	≥ 50% to < 75%.
4	E	≥ 75%.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no dishwashers and washing machines in the ownership or management of the building owner or manager, the issue can be filtered out of the assessment.	A, B, C, D and E
CRITERIA FOR QUESTION		
2	To obtain points, the basic water consumption of the installed equipment must be equal to or lower than the numbers shown in table WAT06.1.	A, B, C, D and E
3	Dishwashers and washing machines installed by the manager or building owner must also be included in the assessment.	A, B, C, D and E

Specific notes

None.

Tables

Table WAT06.1: Basic numbers for white goods

WHITE GOODS	BASIC NUMBERS
Dishwasher for commercial use	5 liters per rack
Dishwasher for domestic use	0.9 litres per couvert*
Washing machine for commercial use	7.5 litres per wash
Washing machine for domestic use	40 liters per wash

*Water consumption per place setting is calculated by dividing the water consumption (per cycle, based on the eco program) by the capacity of the number of standard place settings for the eco program.

Water efficient equipment: appliances

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	Photos of the installed white goods.
2 and 3	Product specifications of the manufacturer or supplier of the installed white goods.
2 and 3	Inventory of the location and the white goods present using a map or a similar inventory.

Definitions

None.

Additional information

None.

References

- EPREL - European Product Register for Energy Labelling:
<https://eprel.ec.europa.eu/screen/product/dishwashers2019/1986139>

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Leak detection system

Reduce water consumption in buildings by minimizing waste from water leaks.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Does the asset have an automated leak detection system?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
4	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	A leak detection system should have the ability to automatically detect the presence of a water leak throughout the water supply within a building. It does not necessarily require a system that directly detects water leakage along part or the whole length of the water supply system e.g. a system that detects higher than normal flow rates at meters and/or sub-meters would be compliant. The system can be flow based or sensor based.	B
2	The leak detection system must: <ol style="list-style-type: none"> Be able to recognize different normal patterns in flow rates and filter and identify occurring leaks from them. Are activated when the flow volume through the water meter or data logger is higher than the set maximum flow volume for a certain period of time. Detect leaks for all the pipework for which the manager is responsible. 	B
3	The system does not have to shut off the water supply when the alarm activated.	B
4	Where there is a water supply company meter at the site/building boundary, it may be necessary to install a separate flow meter (or alternative measurement system) just after the water supply company meter to detect leaks. However, if the water supply company agrees to some form of leak detection being installed on their meter, this would also be acceptable.	B
5	In order to be compliant, emergency systems such as fire hydrants and sprinklers need also to be covered by a leak detection system.	B

Specific notes

None.

Tables

None.

Leak detection system

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3, 4 and 5	Photos of the installed leak detection system.
1, 2, 3, 4 and 5	Manufacturer or supplier specifications of the installed leak detection system.

Definitions

None.

Additional information

None.

References

None.

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Leak prevention

Limiting the impact of water leaks in spaces that are not occupied and would otherwise go unnoticed.

Part	Asset
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are sanitary facilities equipped with a system that shuts off the water supply if the rooms are not occupied?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Types of flow control equipment that can be applied are: <ul style="list-style-type: none"> • A time controller: an automatic timer to switch off the water supply after a preset interval. • A programmed time controller: an automatic timer to turn the water supply on or off at preset times. • A volume control: an automatic control device to turn off the water supply once the maximum preset volume is reached. • An occupancy detector: based on the detection of occupancy or movement in a room, the water supply is switched on and when no one is present, the water supply is switched off. • A central control unit: a special computer-based control unit of a general water control system, which uses some or all of the types of controls listed above. 	B
2	Shut-off of the water supply is not required for each individual shower or toilet. It is agreed if the water supply is cut off for each block with sanitary facilities.	B
3	Programmable time controllers that can shut off the water supply are sufficient for facilities where constant use is expected during opening hours.	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

Leak prevention

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2 and 3	Photos of the installed systems.
1,2 and 3	Product specifications of the manufacturer or supplier of the installed system.
1,2 and 3	A map or installation diagram of the areas that will be closed off.

Definitions

None.

Additional information

None.

References

None.

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Isolation valves

Limiting unnecessary water consumption due to defects and during maintenance.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Do all water using fixtures and appliances have isolation valves fitted?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	< 25%.
1	B	≥ 25 to < 50%.
2	C	≥ 50 to < 75%.
3	D	≥ 75 to < 100%.
4	E	100%.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Isolation valves must be shown to be installed at water-using plumbing or equipment in the asset. Examples of water-using equipment and plumbing include: <ul style="list-style-type: none"> Basin taps Showers Toilets Washing machines Dishwashers 	A, B, C, D and E
2	If at least one isolation valve has been applied in an area/block where water-using plumbing and equipment is installed, it meets criterion 1.	A, B, C, D and E
3	The isolation valves must be easily accessible.	A, B, C, D and E
4	The isolation valves must be able to be operated automatically or manually.	A, B, C, D and E

Specific notes

None.

Tables

None.

Methodology

None.

Isolation valves

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3 and 4	Photos of installed isolation valves to demonstrate presence and accessibility
1, 2, 3 and 4	Product specifications of the manufacturer or supplier if it is not visually possible to determine that a isolation valve is present.

Definitions

Isolation valve

A stop valve is any valve in the water line that prevents the flow of water to a specific device or area.

Additional information

None.

References

None.

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Reducing utility-supplied water consumption

Limiting drinking water use by facilitating alternative sources

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Does the asset harvest and reuse greywater and/or rainwater?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
2	B	Yes, the collected grey and/or rainwater is used for outdoor use.
2	C	Yes, the collected grey and/or rainwater is used for sanitary or indoor use.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there is a legal objection to the use of grey and/or rainwater in the asset, the answer option can be filtered out of the assessment.	C
CRITERIA FOR QUESTION		
2	Applications of grey and/or rainwater are, for example, (but not limited to): <ul style="list-style-type: none"> • Irrigation green areas (outside and/or inside) • Toilet flushes • Washing textiles • Water for business or production processes 	B and C

Specific notes

None.

Tables

None.

Methodology

None.

Limiting water use of public drinking water network

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation of legal objection for the use of grey and/or rainwater in the asset.
2	Photos of facilities for grey and/or rainwater.
2	Product specifications from the manufacturer or supplier of the facility.

Definitions

Greywater

Slightly contaminated water from household activities (such as dishwasher, washing machine, sink, shower, company water).

Rainwater

Rainwater or meltwater from ice, snow and hail that is captured and reused.

Additional information

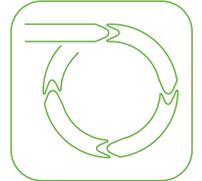
None.

References

None.

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Resources



SUMMARY

This category promotes the responsible and circular use of materials in the building, with the aim of improving value and sustainability performance, both during the use phase and at the end of its life cycle. This is achieved by gaining insight into the condition and value of the building, which contributes to maintaining and strengthening the building value and the optimal (re)use of building materials. In addition, the circular use of residual flows during the use phase is encouraged.

CONTEXT

The use phase has a significant share in the amount of materials used during the life cycle of the asset. In addition, many materials are released that reach the end of the life cycle. Many important materials are non-renewable and are becoming scarcer, more expensive and riskier to extract. In addition, the extraction and production of mainly raw materials leads to social and ecological degradation. One of the United Nations' 'sustainable development goals' includes 'responsible consumption and production' (SDG12). The goal is to achieve sustainable management and efficient use of natural resources. By 2030, waste streams must be significantly reduced through prevention, reduction, recycling and reuse. It is essential that the real estate industry does everything it can to highlight these challenges by:

1. Use existing buildings for as long as possible.
2. Maintain or increase the value of materials.
3. Facilitate the reuse or recycling of raw materials in existing buildings.
4. Enable users to maximize the reuse or recycling of waste.
5. Minimize the overall use of materials.
6. Choosing reused or recycled materials instead of primary materials.
7. Using raw materials that cause less harm to society and the environment.

Value of the issue

RSC 01	Condition survey	7 Credits
Aim	To encourage asset owners to understand the physical condition of their property, to plan scheduled maintenance, repair or refurbishment activities and avoid higher impact and more costly works later. To achieve or exceed the expected life of the asset.	
Value	Provides visibility into the building's health and safety performance, reducing risk to occupants. Identifies work required for repair, refurbishment and renovation. Reduces lifecycle costs by addressing issues early, before they become more extensive and costly. Reduces the risk of premature obsolescence due to neglect and extends the life of the building, making the most of the value of invested raw materials.	

RSC 02	Reuse and recycling facilities	6 Credits + 1 Exemplary Performance
Aim	Facilitating the reuse, repurposing or recycling of waste by making facilities available.	
Value	Helps meet regulatory and organizational recycling targets while reducing the environmental impact and processing costs of waste. Provides facilities to separate waste at the source and provides suitable storage locations for reuse and recycling. Supports circular principles and avoids unnecessary replacements by providing storage space for replacement products.	

RSC 03	Resources inventory	4 Credits + 2 Exemplary Performance
Aim	Promoting insight into the materials used in the building and stimulating high-quality reuse, while preventing or limiting the use of new materials.	
Value	Reduces waste and costs in future renovations, refurbishments and dismantling. Increases the lifespan of materials and products and encourages the application of circular economy principles throughout the life of the building. Identifies materials and products, making the building act as a 'materials bank'.	

RSC 04	Future adaptability	4 Credits + 1 Exemplary Performance
Aim	Valuing and encouraging buildings built with a certain degree of flexibility and adaptability, for possible changes in future use.	
Value	Reduces waste and costs in future renovations, refurbishments and demolitions. Improves the reusability and recyclability of materials, increases the lifespan of products and promotes circular economy principles. This reduces costs and inconvenience from future modifications and reduces the associated waste.	

Condition survey

To encourage asset owners to understand the physical condition of their property, to plan scheduled maintenance, repair or refurbishment activities and avoid higher impact and more costly works later. To achieve or exceed the expected life of the asset.

Part	Asset
Available Credits	: 7
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

Has a condition survey been carried out in the past 5 years?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No condition survey was carried out.
1	B	A condition survey was carried out by the manager of the building.
2	C	A condition survey has been carried out by the manager of the building, in accordance with the procedure of a third party or a standard.
3	D	A condition survey has been carried out by an external organisation, in accordance with the procedure of a third party or a standard.

Question 2

Has work been conducted to rectify any defects identified?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	E	No work has been carried out to remedy identified defects and there is no maintenance plan.
1	F	No work has been carried out to remedy identified defects, but a maintenance plan has been drawn up that includes when the defects will be addressed.
2	G	All major flaws have been fixed.
3	H	All major defects have been remedied and the maintenance plan stipulates when the minor defects will be addressed.
4	I	All identified major and minor defects have been rectified or the building is in excellent condition and no defects have been found.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	In a condition survey, the technical condition of the asset is assessed. This includes the main building elements, components, structural parts (both inside and outside) and installations. This includes at least the following components: a) Condition of the architectural elements. b) Condition of the technical installation elements. c) Condition of the finishing elements.	B, C and D
2	If the asset is less than five years old and the installations, control systems and structural envelope have been commissioned upon completion, this is equivalent to a condition assessment. The commissioning meets the following requirements: a) A commissioning manager is appointed to plan, execute and monitor the pre-commissioning, commissioning and testing activities. This also includes recommissioning work.	B, C and D

Condition survey

#	CRITERIA	APPLICABLE ON ANSWER
	b) Commissioning is carried out in accordance with ISSO 107 or equivalent. c) A thermographic inspection in accordance with ENE 04 has been carried out, which shows that the thermal insulation has been installed correctly and that no thermal irregularities have been detected. d) An air permeability measurement in accordance with ENE 04 has been carried out, which shows that the building meets the design specifications with regard to airtightness.	
3	The condition survey was carried out by an expert person. A knowledgeable person is someone who is trained and qualified to perform condition measurements. In addition, it has carried out at least two condition assessments of a comparable asset or made a significant contribution in the past five years. The following examples can be considered an expert person: <ul style="list-style-type: none"> • Building manager. • Structural engineer. • Architects. • Building inspectors. • Members of institutions or associations that have followed training in the field of due diligence and/or condition assessments. • Is registered as a NEN 2767 inspector or with Commissioning Nederland or has an equivalent recognition. 	B and C
4	The condition survey has been drawn up in accordance with NEN 2767 or equivalent and is not older than 5 years.	C and D
5	The condition survey was carried out by a recognised person who is registered with DBCA as an NEN 2767 inspector or has an equivalent recognition. This person works for an external organization.	D
CRITERIA FOR QUESTION 2		
6	Answer options F to I can only be achieved if answer options B, C or D are met.	F, G, H and I
7	The defects are categorized based on the condition from minor to major defects to determine the priority for carrying out work. Categories: No defects – condition 1 Minor defects – condition 2 to 3 Major defects – condition 4 to 6 See the additional information for an explanation of the condition categories.	F, G, H and I
8	The condition survey includes recommendations for maintenance, repair, replacement or renovation. Measures to remedy identified minor and/or major deficiencies have been implemented or are scheduled to be remedied.	F, G, H and I

Specific notes

None.

Tables

None.

Condition survey

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 4, 7 and 8	Documentation of the condition survey and/or commissioning carried out.
3 and 5	The name of the employee and organization (of the independent third party if applicable) that performed the condition survey. And information that demonstrates the knowledge and experience of the person who carried out the measurement.
7 and 8	Documentation/photos showing that measures have been taken to remedy identified defects, or that measures have been planned to remedy the defects in, for example, an MJOP.

Definitions

A third party

A person or organization that is recognized as independent of the parties involved. For this credit, the third party is independent of the organization that manages, owns or uses the asset.

Commissioning Manager

An independent expert person responsible for planning, executing and monitoring the commissioning activities. The person is independent of the installation consultant and the executive installation company. The person has demonstrable experience as a commissioning manager. Persons who are included in the Register of Approved Commission Agents at the DBCA with this qualification in any case meet this qualification.

Additional information

Condition categories

The condition categories have been drawn up based on NEN 2767. Where:

Condition 1 (Excellent):

- The part is in new condition.
- There are no visible defects or aging
- Maintenance is not required.

Condition 2 (Good):

- The part shows slight signs of aging or minimal use.
- Minor defects may be present, but they do not affect functionality.
- Preventative maintenance may be necessary to maintain its good condition.

Condition 3 (Fair):

- The part shows clear signs of aging or moderate use.
- Some defects are present and can potentially cause problems in the short term.
- Regular maintenance is necessary to prevent further deterioration.

Condition 4 (Moderate):

- The part shows significant signs of aging and/or use.
- Multiple flaws are present that affect functionality.
- Repairs are necessary to ensure functionality and safety.

Condition survey

Condition 5 (Poor):

- The part shows severe signs of aging and/or heavy use.
- Many flaws are present that seriously hinder functionality.
- Extensive repairs or replacement are necessary.

Condition 6 (Very bad):

- The part is very outdated and has very serious defects.
- Functionality is no longer guaranteed, and there is a dangerous situation.
- Replacement or very extensive renovation is urgently needed.

References

- NEN 2767-1 Condition survey – Methodology.
- NEN 2767-2 Condition measurement of building and installation parts - Defect lists.

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Reuse and recycling facilities

Facilitating the reuse, repurposing or recycling of waste by making facilities available.

Part	Asset
Available Credits	: 6
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: Outstanding
<i>At least 2 points (answer B or C)</i>	

Question 1

Has it been investigated which waste streams are generated during the management and use of the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, for managing the asset
3	C	Yes, for managing and using of the asset.

Question 2

Are there facilities available to collect, store and dispose of the identified waste streams separately?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION THE EXEMPLARY PERFORMANCE CAN BE SELECTED SEPARATELY
0	D	No.
3	E	Yes, there are facilities available to collect, store and dispose of the identified waste streams separately.
Exemplary Performance	F	A reusable product storage space is available on-site or locally for sorting reusable materials.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	To determine which waste streams are relevant for the asset to be collected, it must be identified which waste streams are generated. These waste streams must be in line with the guideline used by the government (see methodology).	B and C
CRITERIA FOR QUESTION 2		
2	Answer option B or C must be achieved in order to earn points for answer option E.	E
3	The facilities for waste collection comply with the following: <ol style="list-style-type: none"> Meets the requirements of 'Facility size' (see methodology). Is accessible and easily accessible for relevant building users and facility management for the separate collection of waste and for the separate disposal of waste. Is illuminated and ventilated for safe use. Is positioned in such a way or has measures been taken so that building users and the immediate environment experience as little nuisance as possible (e.g. from odour and noise). Is equipped with a water tap, near places where organic waste is stored or composted. 	E
4	The containers of waste separation and waste storage:	E

Reuse and recycling facilities

#	CRITERIA	APPLICABLE ON ANSWER
	a) Align with the waste streams identified in answer options B and C. b) Are grouped together. c) Are designed for the waste stream for which they are intended and are lockable, non-absorbent and leak-proof to prevent contaminated waste from leaking. d) Are clearly labelled so that users know which waste stream belongs to which container.	
5	To earn credits, the waste processors must collect the collected waste streams separately.	E
6	Answer options B or C and D must be achieved in order to earn points from answer option F.	F
7	The storage space for reusable materials: a) Must be separate from the regular waste separation area. b) Is dry, sealed and safe. c) Has sufficient size to store the expected amount of reusable materials. If data is available on the amount of reusable materials, this should be used to estimate the size of the space.	F

Specific notes

REQUIREMENT	CRITERIA
Store function	If the tenants of the asset consist of small companies, various municipalities are allowed to use municipal waste collection for a fee. This requires a permit, commitment from the municipality or subscription with the municipality as evidence.

Tables

None.

Methodology

Inventory of waste streams

In order to determine which waste streams are released in the use phase of the asset, the following guideline must be adhered to:

1. **Waste inventory:** There are several ways in which a waste inventory can be made. For example, it can be registered which waste streams are released in the asset by looking at the business processes that take place. It is also possible to use waste data from the past three years to determine which waste streams apply (see also RSC 06). In addition, an inventory can also be made of which waste streams are generated at the users/tenants of the asset.
2. **Laws and regulations:** Check the (local) laws and regulations for the waste streams that companies are required to collect separately if the flows are released during the use phase / during the business processes of the asset. For example, it must be in line with the national waste management plan (LAP) (in 2025, the LAP will be replaced by the circular materials plan).

The national waste management plan prescribes that the following streams, among others, must be collected separately if present:

- Paper and cardboard: This includes newspapers, magazines, and cardboard packaging.
- Glass: Bottles and jars made of glass.
- Organic: Leftovers of food and food items.
- Plastic, metal and beverage containers (PMD): These are packaging made of plastic, cans and drink cartons
- Textiles: Clothing and other textiles.
- Bulky waste: Larger items such as furniture and appliances.
- Batteries and accumulators: These must be collected separately because of harmful substances.
- Electronic waste: Electronic equipment and appliances.
- Clean construction and demolition waste: Materials such as wood, concrete, and stone that come from construction projects.

Reuse and recycling facilities

In addition, the National Waste Management Plan (LAP3) prescribes that quantities of industrial waste must be separated from a certain weight, see the national waste management plan.

Size of waste containers

The size and number of containers for separated waste are based on:

1. Expected amount of waste:
 - In available waste data from the past three years (see RSC 06).
 - Without data, estimate the quantity based on the building type and processes. Involve the building users in these estimates.
2. Local Waste Collectors: Consider the availability of local waste collectors for collection and recycling of the expected waste.
3. Combined collection: If waste streams are collected together, the waste collector must demonstrate that these streams are then separated.
4. Manager information: Collect data on the waste generated by the building manager or building users.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation (e.g. waste reports, waste processor invoices, survey results, etc.) on identified waste streams.
3 and 4	Photos of the waste collection facility in question and the waste containers.
5	Documentation on waste streams that are collected and documentation demonstrating that the waste processor collects the waste streams separately.
7	Photos of the relevant space for the storage of reusable materials and documentation substantiating that the space is sufficiently large.

Definitions

Facility accessibility

The facility can be seen accessible if the space is within 20 meters of an entrance to the asset. Depending on the size of the asset, restrictions or agreements with the tenants/manager, the facilities may not be within 20 meters of an entrance. If that is the case, it must be assessed whether the facility is 'accessible' to the relevant building user, facility management and for waste disposal.

Combined recyclable waste

Combined recyclable waste is the collection of multiple materials that can be recycled in one waste facility. Examples of recyclable materials that are often combined are glass, cardboard and paper, plastic, metals and drink cartons (PMD).

Reusable materials/products

Leftover, spare parts or removed products from the asset that could potentially be reused during future maintenance, replacement, repair, fit-out or refurbishment work on the asset. Materials/products that may be difficult to obtain in the future are considered as a minimum, such as products with a specific design, which are part of a specific design or system whose production may be discontinued (e.g. carpet tiles, ceiling tiles, luminaires, climate installation components).

Waste compactor or baler

A machine designed to compress waste streams to improve storage and transport efficiency.

National Waste Management Plan 3 (LAP)

The national waste management plan (LAP) outlines the framework for waste and circular economy in the Netherlands. The policy framework describes waste activities such as waste separation, collection, recycling, incineration, landfill and cross-border transport.

Reuse and recycling facilities

In addition, other topics are also discussed, such as circular economy, the distinction between waste and non-waste, substances of very high concern and the granting of permits and supervision.

Circular materials plan

The circular materials plan (CMP) will apply from 2025 and is the successor to the national waste management plan 3 (LAP). The plan provides a framework for the use of raw materials, the handling of waste and the granting of permits.

Additional information

None.

References

- <https://lap3.nl>.
- <https://circulairmaterialenplan.nl>.

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Resources inventory

Promoting insight into the materials used in the building and stimulating high-quality reuse, while preventing or limiting the use of new materials.

Part	Asset
Available Credits	: 4
Exemplary performance	: 2
Contains filter	: X
Minimum standard	: X

Question

Has a resources inventory been completed in the past 5 years?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION THE EXEMPLARY PERFORMANCE F CAN BE SELECTED SEPARATELY
0	A	No.
2	B	Yes, an inventory has been made for the 'structure'.
3	C	Yes, an inventory has been made for the 'structure' and 'skin'.
4	D	Yes, an inventory has been made for the 'structure', 'skin' and 'services'.
4 + 1 Exemplary performance	E	Yes, an inventory has been made for the 'structure', 'skin', 'installations' and 'space plan/stuff'.
1 Exemplary performance	F	There is insight into the detachability, value and end of life cycle of the asset.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The resources inventory has been drawn up by an expert person who has knowledge of architectural elements and is able to draw up a building inventory. The following examples can be considered an expert person: <ul style="list-style-type: none"> • Building manager. • Structural engineer. • Architects. • Building inspectors. • Members of institutions or associations that have followed training in the field of due diligence and/or condition assessments. • Is registered as a NEN 2767 inspector or with Commissioning Nederland or has an equivalent recognition. 	B, C, D and E
2	The inventory is digital and adaptable for updating, possible changes or expansions. In addition, the data must be translatable into an 'open' format, preferably csv (if this is not the case).	B, C, D and E
3	Someone has been made responsible for the management of the resources inventory. To ensure that the resources inventory is up to date.	B, C, D and E
4	The resources inventory is built up in different layers of the building in accordance with the concept of 'Shearing layers', also known as Layers of Fire (see additional information). For existing buildings, it may not be feasible to provide insight into all the materials used, but it must be made plausible that the inventory is representative and provides valuable information.	B, C, D and E
5	The resources inventory contains:	B, C, D and E

Resources inventory

#	CRITERIA	APPLICABLE ON ANSWER
	Material/product description: with product trade name, type designation, most important function(s), and explanation of how the material/product is constructed NL/SfB classification up to and including layer 3 If the material/product complies with CAT1 in the environmental database, this must be stated.	
6	Exemplary performance for answer option F requires understanding of the following topics: <ol style="list-style-type: none"> Detachability of the products and elements. Please note: <ul style="list-style-type: none"> Type of connection (dry, wet, sealed, glued, etc.). Accessibility of the connection. Shape inclusion. Crossings. Guiding valuation of the current and/or future financial (residual) value, ideally divided into the various layers of a building (Shearing layers). Guide to maintaining value through planned maintenance, repair, replacement (of composite components) and refurbishment. Dismantling plan: Manual for maintaining the value during disassembly or at the end of the life cycle (depending on the estimated remaining life of the raw material and the estimated remaining life of the asset). Guidance for maximizing the financial return, or preventing costs, by taking advantage of opportunities for reuse or recycling during the dismantling work. 	F

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation about the person or organization that made the resources inventory.
2, 3, 4 and 5	Documentation of the resources inventory.
6	Documentation on detachability, disassembly plan and other guidance

Definitions

Resources inventory

A resources inventory contains detailed information about the materials used in the building. This inventory makes it possible to recognise, preserve and use the values of the materials in the building.

Principles from the circular economy

Resources inventory

Relevant principles for the construction and real estate sector, derived from the theory of the circular economy. The following resources contain examples of principles that may be applied:

- Framework for circular existing buildings.
- British Standards Institution (2017) BS 8001:2017 Framework for implementing the principles of the circular economy in organisations – Guide
- Ellen MacArthur Foundation (2017) Introduction to the circular ecology – Circular economy booklet.
- Ellen MacArthur Foundation [online] What is a circular economy?
- SPP Regions (2017) Circular Procurement – Best Practice Report.
- UKGBC (2019) Circular economy guidance for construction clients: How to practically apply circular economy principles at the project brief stage.

Additional information

Relationship between the resources inventory and the condition survey

As soon as a condition assessment is available for the building, the condition assessment can support the preparation of the resources inventory.

Shearing layers/Layers of Brand

Shearing layer or the Layers of Brand (developed by Stewart Brand in 1994) identifies different building layers in a building, each layer having a different function. It can be noted that the life cycle of products in these different building layers is different. The floors are from the outside in:

- Site – plot
- Structure
- Skin – façade
- Services – installations
- Space plan – built-in/spatial layout
- Stuff – loose furnishings and furniture

References

- NL/SFB classification.
- Determination method for the environmental performance of buildings
<https://milieudatabase.nl/milieuprestatie/bepalingsmethode/?cn-reloaded=1.nl>.
- Shearing layers: How Buildings Learn: what happens after they're built, by Stewart Brand 1994.
- Adaptive capacity building method: <https://www.dgbc.nl/publicaties/methode-adaptief-vermogen-gebouwen-59>.

Future adaptability

Valuing and encouraging buildings built with a certain degree of flexibility and adaptability, for possible changes in future use.

Part	Asset
Available Credits	: 4
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: X

Question

Can the building be adapted to changing demand, for example due to future changes in use and functionality?

CREDITS	ANSWER	SELECT ONE ANSWER OPTION THE EXEMPLARY PERFORMANCE CAN BE SELECTED SEPARATELY
0	A	No.
4	B	Yes.
Exemplary Performance	C	Yes, and a building-specific study has been carried out focused on the functional adaptability of the building, and this has been translated into a building flexibility strategy.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The building has been designed with a certain degree of flexibility, allowing for a change in its future use. Table RSC04.1 provides examples of design measures for future adaptability. The flexibility includes at least three of the following customizability: <ol style="list-style-type: none"> Partitions that can be easily moved. A flexible design of the internal vertical load-bearing structure with a regular column layout and few or no load-bearing walls. Easily removable or adaptable installations, when building parts are vacant or are used more intensively. An example is reducing or expanding the number of lighting fixtures. Building floor plans, circulation areas and floor heights suitable for future modifications. Include detachability. Other draft measures deemed appropriate by the Assessor. 	B
2	Answer option C can only be selected if credits have been earned for answer option B.	C
3	The study and strategy for the functional adaptability of the building should include: <ol style="list-style-type: none"> Feasibility: The likelihood that the building will contain multiple building functions, space layout, and tenants over the expected life cycle of the building, e.g., related to the design of the building's structure. Accessibility: Design aspects that facilitate the replacement of all major installations over the life of the building, e.g. electrical components in floors and walls that can be removed without affecting the structure of the building. Accessibility also includes access to local services, such as local power supply, data infrastructure, etc. Versatility: The degree of adaptability of the indoor environment to accommodate changes in operations. Climate controllability: The ability to make the ventilation of the building meet the future needs of building users and climate scenarios. Convertibility: The degree of adaptability of the physical interior space and building envelope to accommodate changes in use. Expansion capacity: The ability to extend the building horizontally or vertically. 	C

Future adaptability

#	CRITERIA	APPLICABLE ON ANSWER
	g) Renovation: The possibility of large-scale renovations, including replacement of the façade.	

Specific notes

None.

Tables

Table RSC04.1: Examples of design measures for future adaptability.

PART	ACCESSIBILITY	SPATIAL ADAPTABILITY	EXPANSION CAPABILITY
Construction and building envelope: Exterior walls; Wall coverings; Ground floor and first floor; Roof.	Use of products or systems that can be easily replaced.	Location of fixed columns and walls within the building envelope.	Ability to add extensions or changes to increase building capacity.
Central and local installations: Mechanical and electrical; Piping; Stairs and elevators; Fire safety.	Inclusion of facility management requirements and building design feedback to respond to future operational needs.		Ability to enable the capacity of infrastructure for future expansion and adaptation.
Permanent establishment: Finishes; Floor; Interior walls; Compounds.	The use of products or systems that can be easily replaced.	Division into standardized grids. The use of composite finishes to allow for replacement. The use of standard dimensions.	Identifying or recognizing possible future functional needs. Efficient lack of space in the event of an increase in occupancy rate.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photographic evidence of (internal) design measures that allow for flexibility deemed appropriate by the Assessor.
1 and 3	Documentation that shows that the asset has been designed with a certain degree of flexibility and adaptability.
3	Documentation of the study on the functional adaptability and the building flexibility strategy.

Definitions

No.

Future adaptability

Additional information

No.

References

No.

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Resilience



SUMMARY

This category focuses on the protection of the asset, including against the effects of climate change. These include physical risks, such as flooding and the possible contamination of run-off water, but also damage to materials, physical safety, and social risks and opportunities. A proactive approach is encouraged to mitigate these risks, seize opportunities to strengthen the resilience of the asset and environment, and ensure a rapid recovery. In addition to risk management, the focus is also on disaster preparedness and response, as well as the factors that contribute to the broader resilience of both the asset and its immediate environment.

CONTEXT

The risk of flooding is a major concern, especially since many buildings are located in locations with an increased risk of flooding, which is increasing every year. Goal 11 of the United Nations Sustainable Development Goals (SDGs) focuses on promoting sustainable, safe and resilient cities. In the event of flooding, the consequences are far-reaching, with a major impact on business continuity. Cleaning, repairing and preparing buildings for reopening is time and cost intensive. The first step in managing flood risks is to gain insight into the specific risk to a building.

In addition, the runoff of rainwater can have serious consequences for water quality, public health and the local economy. However, controlling this run-off water offers opportunities for the asset and the environment, such as the reuse of rainwater, the construction of resilient infrastructure, the restoration of urban waterways and the introduction of more greenery to increase the quality of life. In addition to flooding, other natural disasters can also pose a threat to the asset and building users. Understanding the risks associated with such events helps develop strategies to protect both the users and the value of the asset.

The durability of the building itself also plays a role. Exposed parts of the building can suffer damage due to aging or wear and tear, leading to unnecessary use of materials and waste. This can be reduced by identifying, phasing out, and taking protection measures in place at risk.

Finally, safety is crucial for the well-being of building users. Fear of crime can affect the sense of security, affecting health and productivity. The presence of an alarm system contributes to the safety and comfort of users, and strengthens the overall resilience to such risks.

Value of the issues

RSL 01	Climate risk assessment	6 Credits + 1 Exemplary Performance
Aim	Encourage that the climate risk is made transparent and, where necessary, mitigating measures are taken.	
Value	Encourages a better understanding of the climate risks to the asset. And encourages the implementation of appropriate mitigation measures, so that both the asset and the building users are protected.	
RSL 02	Measures to reduce run-off rainwater	3 Credits + 1 Exemplary Performance
Aim	Preventing, reducing and slowing the discharge of precipitation into public sewers and waterways, thereby reducing the risk of local flooding, pollution and other environmental damage.	
Value	Reduces the risk of flooding downstream and prevents problems with standing water on the plot.	
RSL 04	Durable and resilient features	4 Credits
Aim	Minimizing the frequency of building components by maximizing the protection of materials..	
Value	It prevents damage to building components, reduces maintenance costs and time, while preserving the value of the building and strengthening the safety of occupants.	
RSL 05	Alarm system	4 Credits
Aim	Ensuring that the asset has an appropriate monitoring system in place to prevent damage to the asset and the assets in the asset.	
Value	Protects owners and building users from permanent losses.	

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Climate risk assessment

Encourage that the climate risk is made transparent and, where necessary, mitigating measures are taken.

Part	Asset
Available Credits	: 6
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: Very Good
<i>Minimum 2 credits</i>	

Question

Has a climate risk assessment been carried out?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, for the area score.
3	C	Yes, for the area score and there is a plan to make for determine the building score.
5	D	Yes, for the area score and building score.
6	E	Yes, for the area score and building score. And an adaptation plan has been made.
6 + 1 Exemplary performance	F	Yes for the area score and building score. And an adaptation plan has been made and measures from the adaptation plan have been implemented.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	<p>The Framework for Climate Adaptive Buildings (FCAB) or a similar methodology was used to make the climate risk analysis. See 'methodology' for the implementation of the environment and building score and the preparation of an adaptation plan.</p> <p>If a similar methodology is used, it must:</p> <ol style="list-style-type: none"> Treating the same physical climate risks. In a similar way, they can be classified from 'Very high' to 'Very low'. Using data that is equivalent, newer or made on the basis of more negative climate projections than the data in FCAB. Meet all other relevant criteria in this issue. 	B, C, D, E and F
2	The implementation of the building score is included in a strategy/planning that sets out the period within which the building score will be implemented. Even if the building is part of a portfolio, it must be clear when the building score for the asset is drawn up.	C
3	<p>If there is a 'Very High' or 'High' risk for one or more physical climate risks, an adaptation plan must be drawn up for this. The necessary physical and/or non-physical measures from the plan must be implemented within 5 years.</p> <p>If the asset has a risk lower than 'Very High' or 'High' for all physical climate risks (based on the environmental and building score), then the credits for answer option E can be achieved without drawing up an adaptation plan.</p>	E
4	The measures from the adaptation plan must have been implemented.	F
5	<p>The adaptation solutions applied in the adaptation plan:</p> <ol style="list-style-type: none"> Do not have an unfavorable effect on the environment in terms of people, nature and other buildings. 	E and F

Climate risk assessment

#	CRITERIA	APPLICABLE ANSWER
	b) Prefer to use nature-based solutions, including blue or green infrastructure. c) Align with local, sectoral, regional or national adaptation plans and strategies. d) Are monitored and measured against pre-defined objectives; In the event that a target is not met, corrective measures are considered.	
6	The adaptation plan has been drawn up by a competent person with sufficient knowledge and experience who is able to: a) Determine the potential of climate risks in the area of asset. b) Recognize and interpret various data sources from, for example, online maps. c) Determine the expected impact on the environment, the plot and the building. d) Identify appropriate mitigation measures.	E and F

Specific notes

None.

Tables

None.

Methodology

Framework for Climate Adaptive Buildings

With a comprehensive alliance of financial institutions, knowledge institutes, consultants and governments, a Framework for Climate Adaptive Buildings (FCAB) has been developed. The framework consists of three parts containing an open, unambiguous approach to identifying physical climate risks for existing buildings with different building functions such as residential, office, healthcare and logistics. Four themes have been chosen as the biggest risks for the Netherlands: heat, drought, flooding and flooding.

The approach is based on three steps:

1. Estimating the climate effects on a building's surroundings (area score)
2. Determining the building-specific vulnerability (building score)
3. Defining area and building measures (adaptation plan/measures)

Based on the area score (part 1) and building score (part 2) together, a climate risk score for the building can then be determined. It then turns to defining area & building measures that can help to counter or eliminate the identified risks (part 3).

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	The climate risk assessment provides a justification on the determination of the climate risk scores.
2	Documentation on strategy/planning on the building score to be executed.
3, 4, 5 and 6	Adaptation plan with justification of planned and/or applied physical or non-physical measures.
6	Documentation demonstrating that the author of the adaptation plan has the required knowledge and experience.

Definitions

Nature based solutions

Climate risk assessment

Nature-based solutions are defined as 'solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions'. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services.

Climate-Related Physical Risks:

The physical risks of climate change are risks resulting from events, such as extreme weather (hurricanes, floods, extreme heat), as well as longer-term shifts in climate patterns. Physical risks from climate change can be either acute, such as increased severity of extreme weather events, or chronic such as sea level rise or chronic heat waves.

Additional information

None.

References

- European Commission report: https://ec.europa.eu/environment/nature/ecosystems/strategy/index_en.htm.
- Framework for climate adaptive buildings: <https://www.dgbc.nl/publicaties/framework-climate-adaptive-buildings-63>.

Possible input for Adaptation Plan:

- FCAB part 3
- Minimum PoR from the Covenant for Climate Adaptive Construction in South Holland (2018).
- Sustainable Living Environment Register.
- Toolbox Climate-proof city.
- Platform of Green-Blue Grids.
- European Commission report on blue and green infrastructure, available for download at: https://ec.europa.eu/environment/nature/ecosystems/strategy/index_en.htm.
- The EPRA report EU Taxonomy Alignment in Listed Real Estate (pages 17 and 22).
- EU-level Best Practice Guidance.

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Measures to reduce run-off rainwater

Preventing, reducing and slowing the discharge of precipitation into public sewers and waterways, thereby reducing the risk of local flooding, pollution and other environmental damage.

Part	Asset
Available Credits	: 3
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: X

Question

Can the site temporarily buffer or infiltrate rainwater to minimise the discharge of rainwater from the site?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, the rainwater drains are disconnected from the mixed (wastewater) sewer system and discharge directly into a separate (municipal) or natural watercourse. OR The first 11 mm of rainwater is temporarily buffered on the plot or infiltrates into the soil on site.
3	C	Yes, the first 22 mm of rainwater is temporarily buffered on the plot or infiltrates into the soil on site.
3 +1 Exemplary Performance	D	Yes, the first 35 mm of rainwater is temporarily buffered on the plot and is gradually drained.

Criteria

#	CRITERIA	APPLICABLE ANSWER
1	The rainwater drainage must be disconnected from mixed sewer systems and discharge into a (municipal) watercourse for separate drainage of rainwater or discharge into natural watercourses.	B
2	In order to buffer the rainwater on the plot, retention facilities must be in place (see additional information for examples of retention facilities). If facilities are shared, it must be demonstrated that this has sufficient capacity for the Asset being assessed, for example with a calculation or approval for discharge from the municipality or the water manager.	B and C
3	To determine how much rainwater can be temporarily buffered on the plot, the calculation tool can be used (see methodology).	B, C and D
4	The retention facilities must be present on site and may be equipped with an overflow to the existing sewer system for rainwater that exceeds the required storage capacity.	D
5	In order to achieve the EP, the retention facility with the buffered rainwater must gradually drain. Gradually emptying means that the supply will be empty in about 24 hours and will then be available again for a new peak shower. Depending on the requirements of the water manager in a region, a different objective may apply.	D

Specific notes

None.

Measures to reduce run-off rainwater

Tables

None.

Methodology

The calculation tool is a valuable tool when it is unclear how much rainwater can be temporarily buffered on a plot. The tool calculates the total retention capacity of the plot based on the specific structure and the corresponding retention capacity of the materials used. The retention capacity varies depending on the plot structure: for example, grass has a higher retention capacity than clinker paving. When using green roofs or other retention facilities, the retention capacity is often known in advance. For roofing, paving, and landscaping, retention values are typically available through online sources. The calculation tool can be found on <https://www.breeam.nl/support/downloads> and the help page on the online guideline.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photos or documentation about the disconnection of the rainwater drainage.
2 and 4	Photos or documentation of retention facilities.
3	Documentation of the results of the calculation tool.
4	Documentation of infiltration facilities (e.g. drainage plan).

Definitions

Green roof

A green roof is a roof that is partially or completely covered with vegetation and soil or another nutrient medium, situated above a waterproof membrane.

A distinction is made between an extensive and intensive vegetation roof:

- An intensive vegetation roof: A roof garden with a construction height of more than 15 cm thick. The vegetation is characterized by the presence of shrubs and trees, possibly in combination with lawn and/or ground covers. This vegetation requires intensive maintenance and, depending on the planting used, is also a form of irrigation. In addition, an intensive vegetation roof places greater demands on the supporting structure.
- Extensive vegetation roof: A collective name for sedum, moss, grass and herb roofs. The thickness of the green roof structure is a maximum of 15 cm and the height of the vegetation is a maximum of 50 cm. This vegetation usually requires a minimum of maintenance, does not need to be irrigated and places less heavy demands on the supporting structure.

Blue roof

A roof structure designed to store rainwater. This can be an open water surface, storage in or under a porous medium or a modular surface or storage under a raised terrace or cover.

Measures to reduce run-off rainwater

Additional information

Water retention facilities

A retention facility is a facility in which run-off rainwater from paved surfaces can be temporarily buffered, so that the water can then be gradually discharged into a (rainwater) sewer system or surface water, or infiltrated into the soil.

There are several possible solutions. In general, local buffering and reuse of rainwater is the first preference because it can directly solve local problems such as desiccation and prevent pollution of sewers and natural waterways. Examples of local solutions are:

- Storage ponds.
- Wadis.
- Reed beds.
- Sustainable Urban Drainage Systems (SuDS).
- Permeable pavement: in areas where local geological and hydrological conditions allow it, for example, paved surfaces on a permeable underlayment on a sand or gravel bed to store the water and allow it to penetrate the soil. For less permeable soils, the gravel layer may be deeper and may transfer the water to an infiltration facility, although this may not be possible in some areas.
- Runoff water from roofs is collected as part of a rainwater harvesting system for reuse.
- Drainage water from roofs is fed into an infiltration facility or other storage facility such as tanks, ponds, wadis, etc.
- Green roofs (retention capacity determined in accordance with NTA 8292).
- Blue-green roofs (green roofs with water retention facilities) or roofs with absorption mats.

Water and soil control, combinations of measures

Natural soil and water systems in our subsurface, and the relationship between them, will be decisive in spatial developments (cf. the Environment and Planning Act). The prevention of water damage as a result of larger precipitation amounts, the prevention of dehydration and salinization of the soil and the prevention of pollution (achieving a negligible soil risk) must therefore be considered in conjunction. The risk of water damage is reduced by temporarily retaining (buffering) rainwater on or near the plot. The use of the retention capacity of a green roof, collection in infiltration facilities and retention basins and soil facilities such as wadis can be well combined and may be added up when it comes to capacity. Infiltration into the local soil contributes to the prevention of desiccation in the longer term. In addition to physical measures such as infiltration crates, this can take place on unpaved terrain or through semi-open pavement.

70 mm/hour amount of precipitation

A shower with 70 mm of water falling per hour. This shower lasts one hour. The 70 mm shower is considered a future scenario for the possibility that it will occur once every 100 years. This means that a precipitation amount of 70 mm falls in one hour annually in several places in the Netherlands, but on average at a specific location each time. So it is not a 'major event' that hardly ever takes place, but already occurs several times a year somewhere in the Netherlands.

In addition, it can be said that a retention facility that corresponds to a peak downpour of 70 mm offers the most future-oriented solution and is best suited to the climate scenarios of KNMI and Stowa, among others. However, it is not always necessary or possible to have the entire future peak rainfall resolved on private property or by private initiative. Moreover, peak showers do not always last an hour. Therefore, from the purpose of the Credit, it is well substantiated that lower requirements are chosen (approx. 10%, 30% and 50% of 70 mm) because this already reduces the challenges of the water manager and contributes to combating desiccation.

References

None.

Durable and resilient features

Minimize the frequent replacement of building components by maximizing the protection of materials.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Are measures taken to protect exposed building parts and site layout from damage?

CREDITS	ANSWER	SELECT ALL THE ANSWERS THAT APPLY
0	A	No.
1	B	Yes, the building has protection against the effects of heavy pedestrian traffic at all main entrances, public areas and passageways (corridors, lifts, stairs, doors).
1	C	Yes, the building has protection against movements of vehicle or (stab) wagon transport within 1 meter of the walls, floors and other building structures in all areas for storage, delivery, corridors and kitchens.
1	D	Yes, outside the building there is protection against, or prevention of, collisions with vehicles where the parking and manoeuvring of vehicles takes place within 1 metre of the façade of the building for all car parks and 2 metres for all delivery areas.
1	E	Yes, walking routes have been installed outside the building, which prevent building users from walking through green areas.

Criteria

#	CRITERIA	APPLICABLE ANSWER
FILTER		
1	If no vehicles can park/maneuver within 1 meter of the building and within 2 for delivery areas, this answer option can be filtered out of the assessment.	D
2	If the asset has no outdoor spaces, the answer option can be filtered out of the assessment.	E
CRITERIA FOR QUESTION		
3	Measures have been applied to protect the building from damage. The 'additional information' contains examples of measures that can be applied.	B, C, D and E

Specific notes

None.

Tables

None.

Protective measures against damage

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3	Photos of the protective measures.

Definitions

None.

Additional information

Examples of measures to prevent damage to main entrances, public spaces or passageways are:

- Hard-wearing and easy-to-clean floor finishes in busy traffic areas.
- Use of robust materials to limit damage caused by vandalism.
- Wall protection and/or wall bumpers.

Examples of measures to prevent damage caused by internal transport movements are:

- Protection elements such as handrails on walls of traffic areas.
- Kick plates or impact protection on doors.
- Hard-wearing and easy-to-clean floor finishes in busy traffic areas.
- Indoor collision protection.
- Wall protection and/or wall bumpers.
- Corner protection.
- Use of building elements designed to reduce the risk of damage to vulnerable building components, without the use of additional materials.

Examples of measures to prevent damage caused by parking vehicles and manoeuvring vehicles are:

- Barrier posts, bumpers, barriers or raised curbs.
- Collision protection.
- Robust outer wall construction, up to 2 meters high.

Examples of measures to protect green areas are:

- Upright edges in flower/green beds, such as border borders and border planters.
- Increase the distance between the landscaping and walking route so that the landscaping is not used as a shortcut.

References

None.

Alarm systems

Ensuring that the asset has an appropriate monitoring system in place to prevent damage to the asset and the assets in the asset.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

Is the asset equipped with an approved fire alarm and evacuation system and is the installation connected to a 24-hour alarm center?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
1	B	Yes, there is a fire alarm and evacuation system.
1	C	Yes, the fire alarm and evacuation system is connected to a 24-hour alarm center.

Question 2

Is the asset equipped with an approved burglar alarm system and is the installation connected to a 24-hour alarm center?

POINTS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	D	No.
1	E	Yes, there is a burglar alarm system.
1	F	Yes, the burglar alarm system is connected to a 24-hour alarm center.

Criteria

#	CRITERIA	APPLICABLE ANSWER
CRITERIA FOR QUESTIONS 1 AND 2		
1	For the fire alarm, evacuation system and/or burglar alarm system, the alarm must be audible when it is triggered. This is to ensure that building users are warned. If a silent alarm is necessary, for example in a nursing home or a ward in the hospital, an audible alarm is not mandatory.	B, C, E and F
2	The existing fire alarm system has been installed in accordance with NEN2535 and has a valid Inspection Certificate according to the CCV Fire Protection System Inspection Schedule Version 12.0.	B
3	The existing evacuation system has been installed in accordance with NEN 2575.	B
4	The alarm center to which the installation is connected must be manned 24 hours a day.	C and F
5	The existing burglar alarm system is CCV certification scheme BORG-E or equivalent certified, whereby the security measures are based on the risk class classification from the VRKI.	E
6	Alternatively, the answer option can also be met if there is manned on-site surveillance instead of a burglar alarm system.	E and F

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Photos of the installed alarm systems.
2, 3 and 5	An asset with an alarm system requires: <ul style="list-style-type: none"> Documentation that demonstrates that the burglar alarm system has been approved in accordance with the CCV certification scheme BORG-E or equivalent, where the security measures are based on the VRKI or equivalent. Documentation that demonstrates that the fire alarm system has been installed in accordance with NEN 2535 and has a valid Inspection Certificate in accordance with the CCV certification scheme for the supply of fire alarm systems. Documentation that demonstrates that the evacuation system has been installed in accordance with NEN 2575.
4	Documentation that demonstrates that the alarm system in the asset is connected to a 24-hour manned alarm center.
6	Documentation that demonstrates that trained security is present on site 24 hours a day.

Definitions

None.

Additional information

Improved Risk Classification (VRKI)

The VRKI is an instrument for determining the burglary risk of commercial buildings and homes. An inventory of the goods present determines the attractiveness for criminals. The risk class is determined together with the value of the goods. This risk class determines the type and severity of the security measures proposed by the VRKI.

Certificates equivalent to the 'CCV certificate scheme BORG-E'

- VEB Security Certificate.
- Industry: Transported Asset Protection Association (TAPA), minimum level C.
- Education: Guideline burglary protection educational institutions 2019.

References

- NEN 2535 – Fire safety of buildings – Fire alarm systems – System and quality requirements and projection guidelines.
- NEN 2575 – Fire safety of buildings – Evacuation systems – System and quality requirements and projection guidelines.
- CCV – certification scheme BORG-E – product certificate for the supply of alarm systems.
- CCV – certification scheme for fire installations.

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Land Use and Ecology



SUMMARY

This category promotes awareness of strengthening the ecological value of the asset or plot. In addition, it provides insight into the impact that the asset has on the ecology during the use phase. With the help of this category, a long-term strategy can be developed that focuses on improving the ecological value of the asset.

CONTEXT

The conservation and creation of biodiversity and natural habitats are essential for life on land. Habitats support both the diversity of living organisms and the interdependence between them. Goal 15 of the United Nations Sustainable Development Goals (SDGs) focuses on 'life on land' and aims to integrate ecosystem and biodiversity values into national and local planning and strategies, including poverty reduction, by 2020.

The ecological value of an asset extends beyond the plot boundaries and can have a significant impact on the ecological value of the environment. It is therefore important to understand the existing values and characteristics of the plot, promote ecological facilities and increase biodiversity on the plot where possible.

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Value of the issues

LUE 01	Planted area	4 Credits
Aim	Measuring and stimulating external landscaping within the asset's footprint, thereby increasing the ecological value of the plot. In addition, the well-being of the users is strengthened by access to nature.	
Value	This category identifies green spaces that, if properly managed, can contribute to biodiversity. In addition, it supports the improvement of the health, well-being and potentially productivity of building users through the presence and proximity of natural elements.	

LUE 02	Ecological features	2 Credits + 1 Exemplary Performance
Aim	Recognizing and measuring ecological facilities within the footprint of the asset, improving the ecological value of the plot.	
Value	This category increases awareness of the ecological value of the plot and strengthens the biodiversity on site. It creates connection zones for local native species and contributes to the restoration and continuous growth of biodiversity in the vicinity of the asset.	

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Planted area

Measuring and stimulating external green spaces within the footprint of the asset, thereby increasing the ecological value of the plot. In addition, the well-being of the users is strengthened by access to nature.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

What percentage of the asset's footprint has been implemented as landscaping (planted)?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	0%.
1	B	≥ 5% to ≤ 20%.
2	C	> 20% to ≤ 40%.
3	D	> 40% to ≤ 70%.
4	E	> 70% or more.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The landscaping can be a combination of horizontal and vertical planting.	A, B, C, D and E
2	Vertical habitats or green walls are: <ul style="list-style-type: none"> Freestanding or part of the building, as long as they are within the footprint of the asset. Partially or completely covered with vegetation and in some cases soil or an inorganic nutrient medium. Green walls can consist of greenery that is planted in the façade (plug planted) or greenery that is planted in the open ground (at ground level). 	A, B, C, D and E

Specific notes

None.

Tables

None.

Methodology

It depends on the project situation how the percentage of the footprint of the asset executed as landscaping is determined. The footprint of the asset is the surface area within the demarcation of the asset, i.e. building or building part including any outdoor space (see definitions for explanation).

Planted area

Situation: building with outdoor spaces

The asset footprint boundary should be defined as:

- Where the responsibility of the ownership or management of the site changes.
OR
- If there are several buildings with different owners on one site and there is a clear demarcation between the land around the buildings, this must be considered to be the boundary of the asset's footprint.
OR
- If there are several buildings of the same owner on one site, the total green area over the entire plot may be calculated and assigned to all individual buildings on the site.

Calculating the percentage of landscaping within the asset's footprint:

$$\frac{\text{Total external planted area (m}^2\text{)}}{\text{Asset footprint (m}^2\text{)}} \times 100$$

This is how you calculate the percentage of green space in the presence of vertical/horizontal planting:

$$\frac{(\text{Total external planted area (m}^2\text{)} + \text{total planted vertical of horizontal area (m}^2\text{)})}{\text{Asset footprint (m}^2\text{)}} \times 100$$

NB: In the calculation, the area of the vertical planting must be added to the area of the horizontal planting. The percentage can therefore exceed 100%.

Situation: building without outdoor spaces

The asset is a self-contained building, with no corresponding outer surface area within the asset's footprint (e.g., an office building in the city center).

Situation: building with a shared (green) roof

To calculate the percentage of the footprint of the asset executed as landscaping in the case of a roof with shared ownership, for example by a VVE, the surface area of landscaping will have to be calculated according to the percentage of ownership. To clarify this, see the two calculation examples below.

Calculation example 1:

A certifying party owns 44.5% of the property. The roof of the building has an area of 70 m² and consists entirely of planted area, then the organization may:

$$\text{Total external planted area (m}^2\text{): } 0,445 \times 70 = 31.15 \text{ m}^2$$

Of this 31.15 m², 100% landscaping is within the footprint of the asset.

Calculation example 2:

A certifying organisation owns 44.5% of a building whose roof has an area of 70 m². In this case, the distribution in area of roofing is different, namely 40 m² consists of green space and 30 m² of non-green space, e.g. stone. To determine the total planted area, the certifying organisation must divide the proportion of planted area with the roof area owned:

$$1. \text{Share of green roof: } 0,445 \times 40 \text{ m}^2 = 17.80 \text{ m}^2$$

$$2. \text{Total area owned by certifying organisation: } 31.15 \text{ m}^2$$

$$3. \text{Percentage green roof footprint asset: } (17.80 \text{ m}^2 \div 31.15 \text{ m}^2) \times 100\% = 57.14\%$$

Planted area

Please note: There may be several buildings being certified where ownership of the roofs is divided. In such a case, the certifying organisation should calculate the proportion of area of green space per roof as one of the above calculation examples (depending on the type of roofing; green and/or non-green). Then the area of greenery per roof should be added together to determine a total share of greenery.

Additional information

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Photos of the green areas.
1 and 2	Calculation of the percentage of landscaping.

Definitions

Landscaping

Terrain with landscaped planting, for example a green roof, green wall and/or garden.

Asset footprint

The asset footprint is the area within the demarcation of the asset, i.e. building or building section including any outdoor space. The area refers to the surface as projected on the earth, not, for example, the GLA. The situation of the asset determines how to calculate the percentage of green space within the asset's footprint.

Green roof

A green roof is a roof that is partially or completely covered with vegetation including soil or another substrate layer, situated above a waterproof membrane. There are several types of vegetation roofs. Two of these are an extensive and intensive vegetation roof.

An intensive vegetation roof

A green roof with a substrate layer of at least 15 cm. This allows for a high diversity of plant species. The vegetation is characterized by the presence of shrubs and trees, possibly in combination with sedum, moss, grass and herb roofs. This vegetation requires intensive maintenance and, depending on the planting used, also requires a lot of irrigation. In addition, an intensive vegetation roof places greater demands on the supporting structure.

Extensive vegetation roof

A green roof with a substrate layer of up to 15 cm. The vegetation often has a height lower than 50 cm and is characterized by the presence of sedum, moss, grass and herbs. This vegetation usually requires a minimum of maintenance, hardly needs to be irrigated and places less heavy demands on the supporting structure.

Vertical planting/green façade

Vertical planting or living wall normally consists of a nutrient medium (soil, water or an inorganic sublayer), with an integrated water supply system if necessary, depending on the climate and local weather conditions. The vegetation can be planted in the façade (plug planted) or in the open ground (at ground level) and can be led upwards from this position with a structure. Vertical planting or green façades are also known as green façades or vertical gardens.

Planted area

References

None.

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Ecological features

Recognizing and measuring ecological facilities within the footprint of the asset, improving the ecological value of the plot.

Part	Asset
Available Credits	: 2
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: X

Question

Are there different types of ecological features applied within the footprint of the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION THE EXEMPLARY PERFORMANCE CAN BE SELECTED SEPARATELY
0	A	No.
1	B	Yes, there are two different types of ecological facilities available.
2	C	Yes, there are at least four different types of ecological facilities available.
Exemplary Performance	D	There is at least one habitat on the plot that supports local native species.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>Examples of ecological features/facilities that can be applied to support local flora and fauna include (but not limited to):</p> <ul style="list-style-type: none"> Ecological facilities integrated in/on or near the building, such as nesting boxes or living areas for specific species (e.g. insect hotels). Ecological facilities around the building, such as external planters with (native) native plants, green roofs and/or facades, planting in parking lots and boundary fences, gardens with ecological greenery, hedgehog houses, etc. <p>Various ecological facilities must be present to earn points. For example, if there are two nesting boxes, this counts as one type of ecological facility.</p>	B and C
2	The ecological provisions must have been applied in accordance with the manufacturer's guidelines. An ecologist or relevant nature organization(s) can also advise on the correct application.	B and C
3	The ecological facilities must meet the needs of local (indigenous) flora and fauna. Online maps can provide support in insight into which local (native) flora and fauna occur at the asset.	B and C
4	If local, regional and national guidelines are prescribed regarding increasing the ecological value and the application of ecological facilities, these are followed.	B, C and D
5	<p>Habitats that significantly support local (native) animal species in order to be able to sustain themselves must be applied and maintained in accordance with local guidelines and the ecological advice of a recognized ecologist.</p> <p>Conditions for a species to sustain itself are the presence of sufficient food, safety, connection, living spaces and variation (the Five Rs). If one of these components is missing, the Exemplary performance point cannot be achieved.</p>	D

Ecological features

Functional function specific criteria

REQUIREMENT	CRITERIA
Improvement outside the scope of the asset	<p>When a recognised ecologist has confirmed that there are no or very limited possibilities to apply ecological facilities within the footprint of the asset, it is possible to realise ecological facilities within a radius of 2 kilometres from the asset. In this way, ecological value can still be added to the environment.</p> <p>A number of conditions apply here:</p> <ol style="list-style-type: none"> The same criteria apply as if the ecological facilities could be realized within the footprint of the asset. The licensed ecologist has confirmed that all possibilities on the plot have been exhausted before off-site improvement is recognized. The accredited ecologist has confirmed that the ecological facilities contribute significantly to biodiversity and are appropriate for the location in question. Have the ecological facilities been realized on a plot/asset of the same owner? Then it must be demonstrated by whom the provisions for the asset were realized. Counting a facility for different assets does not earn points.

Tables

None.

Methodology

None.

Argumentation

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2and5	Photos of the ecological facilities and habitats installed.
2,3and4	Documentation on application/installation of ecological facility, connection to local flora and faun and, if applicable, connection to local, regional and national guidelines (this can also be part of the ecological research).
5	Recommendations from a licensed ecologist.
1,2,3,4and5	If applicable, documentation concerns ecological facilities outside the scope of the asset.

Additional information

Application of ecological facilities

For the application of ecological facilities, it is important that the facilities are applied/installed in the right way (preferably as prescribed by a manufacturer, ecologist or nature organization). In this way, it can be prevented that the facility is applied in an incorrect way and its purpose is lost. For example, a south-facing nest box will usually get too hot and the animals will not use it.

Ecological features

Local, regional, and national guidelines

It is important that projects find out which local, regional and national guidelines are prescribed. To ensure that the ecological facilities and habitats in place contribute to local biodiversity objectives. For example, it may happen that the municipality has a guideline regarding biodiversity that deals with certain species that occur in the vicinity of the building with an endangered status. It is then recommended to apply ecological facilities for these types in particular.

Definitions

Ecologist

A person who has specialized in interactions between organisms and living systems for his or her profession and who is concerned with the relationship between organisms and their environment.

A Licensed Ecologist

- Has completed a course at college or university level with a focus on ecology.
OR
- As a practicing ecologist I work for an ecological consultancy that is affiliated with the Green Offices network.

Nature and species organizations

Organizations engaged in the collection of knowledge as a basis for research and the protection of species. Both the protection of individual species and their habitats are central. Examples are the Dutch Society for the Protection of Birds, RAVON, FLORON, SOVON, The Butterfly Foundation, the Mammal Society et cetera.

Habitat

A habitat describes the conditions that an area must meet in order for certain animal and plant species to survive there. The habitat is a description of the resources that a particular species needs.

Native native plants

Native native plants are plants that occur naturally in the Netherlands. The origin of plantings is important for biodiversity in the Netherlands. It is assumed that the planting occurs naturally in the Netherlands before 1500. These are originally native species (archaeophytes). In the Standard List of Dutch Flora 2020, the individuality and origin of the native species can be checked.

Alien species often have a different flowering time that does not correspond to the period when many insects need food. Or the trees or plants are not recognized by insects as a food source, and are not visited. This is not the case with native plants. These are usually insect-attracting plants.

Five Rs

The five Rs stand for reproduction, safety, food, connection and variation and are the basic principles for creating a habitat. Without a balanced balance in the various Rs, it is difficult for species to make use of the measures offered. Because without food nearby, a species does not use the location as a place to stay.

1. **Reproduction:** nesting facilities for animal species, enclosure boxes, nesting boxes, insect boxes, breeding heaps and stones so that species can nest here.
2. **Safety:** hedges, shrubs and trees that provide shelter, due to different height levels, including the soil revetment, creating safe zones.
3. **Food:** the installation of facilities as plants that are used directly as food such as nectar, pollen, seeds and kernels. Or that attracts insects that are interesting as food. Good soil quality for soil life
4. **Connection:** realising green-blue structures to connect locations. Think of flight paths or a connecting route with tree or shrub species to and from the location.
5. **Variation:** Variation in planting, difference in flowering time, use of height and level differences, deciduous and non-deciduous.

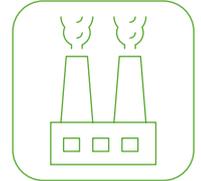
Ecological features

References

- Green Offices Network - <https://www.netwerkgroenebureaus.nl/>
- Measurement programmes Network Ecological Monitoring (NEM) - <https://www.netwerkecologischemonitoring.nl/>
- Delta Plan for Biodiversity Restoration - <https://www.samenvoorbiodiversiteit.nl/>
- BIJ12 – Species Knowledge Documents – Nature Conservation - <https://www.bij12.nl/onderwerp/natuurinformatie/kennisdocumenten-soorten-natuurbescherming/>
- Dutch Species Register – Overview of Dutch biodiversity - <https://www.nederlandsesoorten.nl/>
- Nature management plans provinces - [https://www.bij12.nl/onderwerp/natuursubsidies/snl/inhoud/natuurbeheerplan/#:~:text=Het%20Natuurbeheerplan%20\(NBP\)%20is%20a,nature%2C%20agricultural%20nature%20en%20landscape elements.](https://www.bij12.nl/onderwerp/natuursubsidies/snl/inhoud/natuurbeheerplan/#:~:text=Het%20Natuurbeheerplan%20(NBP)%20is%20a,nature%2C%20agricultural%20nature%20en%20landscape elements.)
- Dutch Action Agenda for Biodiversity - <https://www.iucn.nl/app/uploads/2021/09/Rapport-De-Nederlandse-Actie-agenda-voor-biodiversiteit.pdf>
- Atlas living environment – Explore and discover your living environment - <https://www.atlasleefomgeving.nl/kaarten>
- The Steenbreek – IVN Atlas - <https://steenbreek.nl/steenbreek-atlas/>

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Pollution



SUMMARY

This category focuses on preventing and controlling pollution related to the location and use of the asset. The aim is to reduce the impact on the surrounding neighbourhood and ecology, for example by reducing flooding and emissions to air, land and water. In this way, a healthy environment is created that is accessible to all demographic and economic groups, including vulnerable and disadvantaged populations.

CONTEXT

The United Nations has set "Good Health and Well-being" as one of its Sustainable Development Goals, with the sub-goal of significantly reducing deaths and illnesses from hazardous chemicals and pollution of air, water, and soil by 2030. BREEAM-NL contributes to this goal by reducing emissions from buildings, which improves air quality.

Air quality

Poor air quality has harmful effects on the health of humans and other organisms, especially in poor countries. Substances such as nitrogen oxides (NOx) react with other substances in the air, leading to dangerous compounds that irritate the respiratory tract, worsen allergies and can cause heart disease.

Refrigerants

Refrigerants in refrigeration systems have a much greater impact on climate change than CO₂. Although they are released in smaller quantities, they contribute greatly to global warming. The use of harmful refrigerants, such as CFCs and HCFCs, has now largely been phased out by global agreements, but HFCs are still used. These have a much greater warming capacity than CO₂ and are slowly being phased out worldwide.

It is crucial to effectively dispose of refrigerants at the end of the equipment lifecycle. BREEAM-NL supports this by prescribing systems that detect and control refrigerant leaks, which minimizes environmental impact, controls operational costs and extends the life of equipment.

Value of the issues

POL 01	Minimising watercourse pollution	4 Credits
Aim	Reducing the risk of pollution natural watercourses through contaminated surface run-off entering drainage systems.	
Value	This measure reduces the risk of pollution of local waterways, the soil and possible violations of environmental legislation. In addition, it helps to reduce the risk of clogged sewers, both on site and in the wider sewer system.	
POL 02	Chemical storage	2 Credits
Aim	Limiting the impact of leakage or spillage of hazardous chemicals.	
Value	Prevents damage to local waterways, the soil and possible violations of environmental legislation in the event of a chemical spill. And minimizes the risk for the people on site.	
POL 03	Local air quality	4 Credits
Aim	Reducing local air pollution by awarding and stimulation of the use no or low emission heating and hot water systems in the asset.	
Value	This measure reduces the impact on local air quality, human health, the formation of acid rain and the deterioration of the view. In addition, it helps reduce regulatory compliance costs by encouraging continuous and proactive maintenance.	
POL 04	Global warming potential of refrigerants	4 Credits
Aim	To encourage the use of refrigerants, with a low contribution to the greenhouse effect and to climate change.	
Value	This measure reduces the contribution to climate change and lowers regulatory compliance costs by promoting continuous and proactive maintenance.	
POL 05	Refrigerant leak detection systems	4 Credits
Aim	Reducing the level of greenhouse gas emissions related to the leakage of refrigerants.	
Value	Ensures that systems continue to function efficiently and deliver the intended cooling. This extends the lifespan and increases the market value of the system through the use of refrigerants with a low environmental impact.	

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Minimising watercourse pollution

Reducing the risk of pollution natural watercourses through contaminated surface run-off entering drainage systems.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

What measures have been taken to minimise the risk of pollution of natural watercourses?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	None.
2	B	Light-liquid separators are installed in places where a potential source of contamination could occur.
2	C	Grease traps/filters are installed in commercial kitchens.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no possible sources of contamination present, a light-liquid separators is not required and the answer option can be filtered out of the assessment. It must be demonstrated that there are no possible sources of contamination.	B
2	If there are no commercial kitchens present, the answer option can be filtered out of the assessment.	C
CRITERIA FOR QUESTION		
3	Areas that serve the asset must be assessed. There is a risk of contamination of waterways in the following areas and an light-liquid separators is required: <ul style="list-style-type: none"> • Areas where trucks maneuver, park, and load and unload. • Car parks or car parks for cars and motorcycles (from 50 parking spaces or larger than 800 m2). • Smaller parking spaces that drain into a sensitive nature reserve. • Areas designated for the storage of waste and hazardous substances (soil-threatening). • Refrigeration installations with a risk of leakage of liquid oil-containing refrigerants (such as glycol, on roof or grounds) are at high risk if they pose a risk to surface water or soil. 	B

Specific notes

REQUIREMENTS	CRITERIA
Other – Indoor parking	<p>Indoor parking (parking garages)</p> <p>If the project can demonstrate that there will be no water run-off from indoor parking, the purpose of the issue will be achieved for answer option B. Evidence is needed to demonstrate that water courses will be protected from hydrocarbons, both from spillage from vehicles and water ingress from outside.</p> <p>If it is plausible that water comes in from outside or there are drainage points that are cleaned regularly, the criteria for answer option B still apply.</p>

Minimising watercourse pollution

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3	Photos of installed separators.
3	Plans or documentation of the location of the separators.

Definitions

Commercial kitchens

Commercial kitchens are located in restaurants, cafeterias, hotels, hospitals, educational and workplace facilities, etc. These kitchens are generally large and feature larger and heavier appliances than a kitchen in a home or a kitchenette in an office.

Light-liquid/ Oil Separators

A part of the surface water drainage system into which potentially polluted wastewater flows. And where light floating liquids (such as oil) are separated from the wastewater by means of gravity and/or clumping and are retained.

Waterways

Rivers, streams, ditches, drains, culverts, dikes, locks, sewers and passages through which water flows.

Additional information

None.

References

None.

Chemical storage

Limiting the impact of leakage or spillage of hazardous chemicals.

Part	Asset
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Are all hazardous chemicals stored in a storage facility that is suitable for $\geq 110\%$ of the chemicals stored?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If no chemicals are stored in the asset, this issue can be filtered out of the assessment.	A and B
CRITERIA FOR QUESTION		
2	To determine whether hazardous substances are stored in the asset, which substances these are and what the necessary measures are to prevent leakage and spillage, the most current PGS 15 (publication of hazardous substances) must be used.	A and B
3	With the right storage facilities, risks of leakage or spillage can be prevented. Measures that can be applied in the storage facility are (list is not limited to): <ul style="list-style-type: none"> • Tanks with a double wall. • (Separate) drip trays. • Structures made of a liquid containment material that forms a barrier to retain liquids. • Containing storage. • Separate and closed safety cabinets with ventilation and exhaust to outside air. • Fire-resistant safety cabinets with fire resistance of at least 60 minutes. 	A and B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

Chemical storage

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	Photos of the storage facility.
2 and 3	Documentation indicating that the storage facility is appropriate for the asset for which it is intended.

Definitions

None.

Additional information

Hazardous chemicals

PGS 15 concerns the publication Hazardous Substances. The PGS 15 provides guidelines on the method of storage and temporary storage of packaged hazardous substances for fire safety, occupational safety and environmental safety.

The collection capacity of the hazardous liquids must be at least 110% of the volume of the largest packaging within the storage facility. If 110% of the largest package is less than 10% of the total volume of packaging, then 10% of the total volume of packaging must be adhered to.

If the hazardous substances stored in the building fall under the characteristics described below, the measures mentioned in PGS 15 should be applied. For further clarification, it is advisable to read section 1.2 Scope of the guideline from PGS 15 further.

Below is a shortened overview of applicable substances within the PGS measures:

- Aerosols
- UN 2037 holders
- Gas cylinders containing suffocating, oxidizing or flammable substances
- Gas cylinders with ammonia and ethylene oxide
- Substances falling under classification codes M6 and M7 (UN number 3082 and UN number 3077)
- Substances classified as acute toxicity hazard classes (oral, dermal and inhalation)
 - Category 1 and 2 (H300, H310, H330)
 - Category 3 (H331, H331, H301)

Beyond that, it is important to be aware of the quantities of the substances that are stored. For this purpose, the PGS 15 guideline has made an overview with various lower limits in quantities. These can be viewed in section 1.2.1 lower limits of the PGS 15. From the stated quantities, the intention is that the PGS 15 will be applied. Below this number, there is a legal provision that exemption is possible.

References

- Manual Publication Series Hazardous Substances (PGS) 15 - version 2021

Local air quality

Reducing local air pollution by awarding and stimulation of the use no or low emission heating and hot water systems in the asset.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Do the asset's heating and hot water systems generate local emissions of nitrogen oxides, particulate matter or volatile organic compounds?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Yes, and emissions from combustion systems exceed the limits.
1	B	Yes, and emissions from biomass or solid fuel combustion systems comply with the limits.
2	C	Yes, and emissions from oil-based combustion systems comply with the limits.
3	D	Yes, and emissions from gas-based combustion systems comply with the limits.
4	E	No, all heating for space heating and hot water is not generated by combustion systems, but by electricity, for example.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If the asset is connected to a collective heat network (district heating) that is outside the ownership/management of the building owner or manager, the issue can be filtered out of the assessment.	A, B, C, D and E
CRITERIA FOR QUESTION		
2	Credits can be awarded if the emissions from the combustion plants for space heating and hot water do not exceed the limit values in Table POL 03.	B, C, D and E
3	The limit values in Table POL 03 use the following metrics: <ul style="list-style-type: none"> Nitrogen oxides (NOx) are measured in mg/kWh, based on the amount of fuel in Gross Calorific Value for gas and oil combustion systems. Particulate matter and volatile organic compounds (VOCs) from all solid fuels or biomass boilers are measured in mg/m³ 20% O₂ on a dry basis (mg/m³ 10% O₂). Particulate matter and volatile organic compounds (VOCs), for all local heating systems, based on solid fuel or biomass is measured in mg/m³ 20% O₂ on a dry basis (mg/m³ 10% O₂). <p>In order to demonstrate compliance with the limit values, the producer must make available information on the measurements of emissions. If the information is not available in the above measured values, the manufacturer must provide the correct information.</p>	B, C, D and E
4	If multiple systems are installed, points must be awarded based on the system that performs poorly.	B, C, D and E
5	Back-up rooms for space heating or hot water systems can be excluded from the assessment. On the condition that these systems are only used in emergencies, so that their impact is limited.	B, C, D and E
6	Credits cannot be awarded if the combustion system is not listed in Table POL 03 (such as open-fronted stoves or stoves with open chimneys).	B, C, D and E

Local air quality

Specific notes

None.

Tables

Table POL 03 Limits for emissions from combustion systems

COMBUSTION SYSTEM	FUEL	NITROGEN OXIDES EMISSIONS	PARTICULATE MATTER EMISSIONS	VOC
Central combustion appliances (boilers) for heating, hot water or the combination of these.	Gas	56 mg/kWh		
	Oil	120 mg/kWh		
	Biomass	200 mg/m ³	40 mg/m ³	20 mg/m ³
	Solid fuel	350 mg/m ³	40 mg/m ³	20 mg/m ³
Space heating with CHP based on external combustion of fuels.	Gas	70 mg/kWh		
	Oil	120 mg/kWh		
Space heating with CHP based on internal combustion of fuels.	Gas	240 mg/kWh		
	Oil	420 mg/kWh		
Central heat pumps for heating, hot water or a combination of these based on external combustion.	Gas	70 mg/kWh		
	Oil	120 mg/kWh		
Central heat pumps for heating, hot water or combination of these based on internal combustion.	Gas	240 mg/kWh		
	Oil	420 mg/kWh		
Local space heating	Gas	130 mg/kWh		
	Oil	130 mg/kWh		
Closed-front local combustion appliances	Wooden pallets	200 mg/m ³	20 mg/m ³	60 mg/m ³
	Biomass	200 mg/m ³	40 mg/m ³	120 mg/m ³
	Solid fuel	300 mg/m ³	40 mg/m ³	120 mg/m ³

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3, 4 and 5	Photos of heating and hot water systems.
2, 3, 4 and 5	A specification of the installed combustion systems and the associated emission values.

Definitions

None.

Additional information

Local air quality

Emission limits from combustion systems

The limit values and measured values are based on the requirements of the 'European Union Ecodesign Directive' (2009/125/EC) and the associated regulations for energy-related products. It requires the performance obligation for combustion-based heating systems, and it obliges producers to publish the emission values of their products for NO_x, particulate matter and volatile organic compounds.

References

None.

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Global warming potential of refrigerants

To encourage the use of refrigerants, with a low contribution to the greenhouse effect and to climate change.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

What refrigerants are used in the refrigeration systems of the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	There are refrigerants with a GWP-100 of >10 CO ₂ equivalents (such as the majority of HFCs and HCFCs).
1	B	50% of the cooling or heating capacity measured by kW of the refrigerants has a GWP-100 of ≤10 CO ₂ equivalents (such as Propane and Butane).
2	C	All refrigerants have a GWP-100 of ≤10 CO ₂ equivalents (such as Propane and Butane).
4	D	All refrigerants have a GWP-100 of ≤1 CO ₂ equivalents (such as ammonia, water, carbon dioxide).

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If no refrigerants are used in the asset, or only small hermetically sealed systems (refrigerant charge in each system is ≤5kg), this issue can be filtered out of the assessment.	A, B, C and D
CRITERIA FOR QUESTION		
2	Relevant installations and systems that use refrigerants include, but are not limited to: <ul style="list-style-type: none"> Freezer and cold stores. Koelingen, including refrigerated display cases, counters, islands and wall coolers for food, but excluding residential white goods (e.g. refrigerators and freezers). Comfort cooling and heating (e.g. heat pumps). Process-related cooling (e.g. servers/IT equipment). 	A, B, C and D
3	This issue only applies to the refrigerants used in the installations installed in or on the asset.	A, B, C and D

Specific notes

None.

Tables

None.

Methodology

None.

Impact of refrigerants

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Confirmation from the building manager/owner/installer that there are no installations in the asset in which refrigerants are applied, or that the installations have a maximum charge of ≤5 kg.
2 and 3	Manufacturer's specifications on the GWP of the refrigerants used.
2 and 3	Photos of the installation, the systems and the type of refrigerants used (if applicable).

Definitions

Global Warming Potential (GWP)

The contribution to the greenhouse effect expressed in CO₂ equivalents. The addition '100' refers to the trial period of 100 years. (The contribution of the refrigerant over 100 years). The list of common types of refrigerants with a GWP value over 100 years can be found in the most recent IPCC report.

Synthetic refrigerants

Synthetic refrigerants are substances that do not occur naturally but have been developed by humans for industrial purposes, such as HFCs.

Natural and environmentally friendly refrigerants

Natural refrigerants also occur naturally in the environment, such as water (R718), CO₂ (R744) and ammonia (R717).

Automatic isolation and containment of refrigerant

Any system that isolates and encloses the refrigerant to minimize leakage into the atmosphere in the event of a system failure.

Additional information

Refrigerants

There are mainly three types of refrigerants:

1. Hydrofluorocarbons (HFCs): consisting of hydrogen, fluorine and carbon. These substances do not contain chlorine atoms (which are used in most refrigerants), which makes them known as one of the least harmful refrigerants for the ozone layer.
2. Soft chlorinated fluorocarbons (hydrocarbons) (HCFCs): consisting of hydrogen, chlorine, fluorine and carbon. These refrigerants contain a minimal number of chlorine atoms, which means that they have fewer adverse effects on the environment than some other refrigerants.
3. Hard chlorinated fluorocarbons (hydrocarbons) (CFCs): consisting of chlorine, fluorine and carbon. These refrigerants contain the highest number of chlorine atoms, making them the most harmful to the ozone layer.

Hydrocarbons and refrigerants based on ammonia have no or a low GWP. These substances and products offer good alternatives to HFCs if health and safety issues are thoroughly addressed.

The government provides a detailed explanation of the environmental impact of refrigerants on the website infomil.nl.

IPCC report

For the current list of common refrigerants with a GWP value over 100 years, the most current IPCC report can be used.

References

- IPCC AR6 synthesis report – 2023

Refrigerant leak detection systems

Reducing the level of greenhouse gas emissions related to the leakage of refrigerants.

Part	Asset
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Is there automatic leak detection for all refrigeration installations that use refrigerants?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No, there is no leak detection available.
3	B	Yes, there is leak detection with a warning system.
4	C	Yes, there is leak detection with a warning system/light including automatic shut-off and pumping out of refrigerants.
4	D	Only natural and environmentally friendly refrigerants (GWP ≤ 1) are used.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If no refrigerants are used in the asset, or only small hermetically sealed systems (refrigerant charge in each system is ≤ 5 kg), this issue can be filtered out of the assessment.	A, B, C and D
CRITERIA FOR QUESTION		
2	Relevant refrigeration installations and systems that use refrigerants include, but are not limited to: <ul style="list-style-type: none"> Freezer and cold stores. Refrigerators, including refrigerated display cases, counters, islands and wall refrigerators for food, but excluding residential white goods (e.g. refrigerators and freezers). Comfort cooling and heating (e.g. heat pumps). Process-related cooling (e.g. servers/IT equipment). 	B, C and D
3	This issue only applies to the refrigerants used in the installations installed in or on the asset.	B, C and D

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Confirmation from the building manager/owner that there are no installations in the asset in which refrigerants are applied, or that the installations have a maximum charge of ≤5 kg.
2 and 3	Manuals or maintenance plans detailing the installation of the leak detection system, or a site visit.
2 and 3	Confirmation from the manufacturer that the risk of leaks is minimal or that leaks have a minimal impact, when applying the environmentally and nature-friendly refrigerants supplied.

Definitions

None.

Additional information

IPCC report

For the current list of common refrigerants with a GWP value over 100 years, the most current IPCC report can be used.

References

- IPCC AR6 synthesis report – 2023

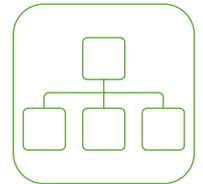
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Management

CATEGORIES	WEIGHINGS	AVAILABLE CREDITS	AVAILABLE EXEMPLARY PERFORMANCE
Management	11%	34	1
Health	16%	27	0
Energy	28%	62	5
Transport	0%	17	0
Water	8,5%	0	0
Resources	11%	14	3
Resilience	10,5%	19	2
Land Use and Ecology	8%	10	0
Pollution	7%	15	0
Total	100%	198	
Exemplary performance			11

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Management



SUMMARY

This category encourages the sustainable management and maintenance of buildings throughout their entire life cycle. Both the (technical) building manager and the building users play a role in achieving optimal sustainability performance during the use phase. Therefore, this category contains guidelines that are relevant to both parties. In addition, setting goals and implementing feedback procedures supports the optimization of processes and performance within the asset.

CONTEXT

More and more new buildings contribute to a sustainable built environment. They offer a healthier indoor climate and are more sustainable and efficient than ever before, which increases the expected performance of existing buildings. However, the climate goals will not be achieved by making new buildings more sustainable alone; Existing buildings also need to be addressed. In many cases, there are limited opportunities to make changes when a building is still in use. Good building management plays a crucial role in this. The goal of effective management is to ensure that buildings perform as originally intended, or even better, in practice. It is the responsibility of the managers or owners to ensure that policies and procedures are in place to ensure this performance. Finally, it must be ensured that the performance meets the needs of the building users.

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Value of the issues

MAN 01	User manual	2 Credits
Aim	To recognise and encourage the provision of information to the building users, so that they can enter, understand and use the building efficiently.	
Value	Provides building users with better insight into the functionality of the building and how to use it effectively. This increases comfort, meets their requirements and contributes to greater satisfaction and productivity.	
MAN 02	MANAGEMENT ENGAGEMENT AND FEEDBACK	9 Credits
Aim	Facilitating structured communication between facility management and residents optimally manage and use the building.	
Value	Provides the building manager with insight into the needs of the users and makes it possible for them to provide feedback. Ensures that problems are investigated and resolved when necessary.	
MAN 03	Maintenance Policies and Procedures	13 Credits
Aim	To recognise and encourage a proactive approach to the management and maintenance of the building.	
Value	Protects the long-term value of the asset with proactive maintenance policies and procedures. Ensures that knowledge about the use and operation of the building is effectively shared, so that the building functions efficiently according to the expectations of the users.	
MAN 04	Environmental Policy and Procedures	6 Credits + 1 Exemplary Performance
Aim	To recognise and encourage the implementation of progressive environmental management and ensuring that an environmental policy is in place and acted upon.	
Value	Helps building managers and occupants identify and manage the environmental performance of the asset. Supports the documentation of actions to minimise the environmental impacts of building activities and encourages the inclusion of resilience and climate adaptation in environmental policy.	
MAN 05	Green Lease	4 Credits
Aim	Encouraging the implementation of rental agreements, to actively engage with users/tenants on efficient use of energy, water and waste.	
Value	A green lease promotes collaboration between building managers and tenants, ensuring that the building functions efficiently and meets the expectations of its occupants, resulting in more sustainable outcomes for both parties.	

User manual

To recognise and encourage the provision of information to the building users, so that they can enter, understand and use the building efficiently.

Part		Management
Available Credits	:	2
Exemplary performance	:	0
Contains filter	:	X
Minimum standard	:	X

Question

Has relevant information from the user manual been made available to all building users?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The user manual does not have a mandatory format, but must be accessible to building users. Attention has been paid to making the information accessible to people with disabilities.	B
2	The user manual provides easily available and understandable information, relevant and accessible to all for at least the following stakeholders: <ul style="list-style-type: none"> The staff of the building (or where relevant: residents); The (non) technical facility management/building management; Other building users, e.g. visitors. 	B
3	The user manual is building or location-specific. The purpose of the manual is to help building users access, understand and use the building efficiently. The user manual focuses on the current facilities, procedures and installations of the building. The manual should include information on the following topics, if applicable (list is not exhaustive): <ol style="list-style-type: none"> Overview of building and environmental policies, such as energy, water or waste efficiency policies. And how building users can participate in this policy. Availability and accessibility of shared facilities. Availability of facilities and facilities for users with disabilities or users who are in need of care. Information and/or instructions about safety and emergencies. Procedures for specific building types or operations/processes, such as laboratories. Building-related reporting and complaints procedure with, if applicable, a feedback procedure. Information about the availability and accessibility of transport facilities, such as public transport, bicycle sheds, walking routes, etc. Information about availability and accessibility of local facilities. Referrals, references, and relevant contact information. Overview of the building installations and operation: where is the operation located? What can you control? How do you use the installations effectively and efficiently? Information for visitors regarding access, security procedures and facilities. Information relevant to the building and/or user that is not listed above. 	B

User manual

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 3	Copy of the user manual.
1, 2 and 3	Date on how the user manual or relevant documents from the manual are shared with building users (e.g. staff and/or visitors).

Definitions

None.

Additional information

None.

References

None.

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Management engagement and feedback

Facilitating structured communication between facility management and residents optimally manage and use the building.

Part		Management
Available Credits	:	9
Exemplary performance	:	0
Contains filter	:	X
Minimum standard	:	Excellent
<i>At least 2 credits (answer G or H)</i>		

Question 1

What processes are in place to ensure good communication between facility management, building users and the immediate environment of the asset?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	There are no processes in place.
1	B	There is formal communication between facility management and building users.
2	C	There are regular meetings with facility management and building users.
1	D	Building users are provided with information related to the environmental policy and the performance of the asset.
1	E	There is proactive involvement with stakeholders from the immediate vicinity of the asset and procedures are in place to handle complaints about the asset and the use of the asset (e.g. noise, smell and light).

Question 2

Has a satisfaction survey been conducted among the building users?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	F	No.
2	G	A satisfaction survey among building users was carried out by facility management.
4	H	A satisfaction survey among building users was carried out by an independent party.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	There is periodic formal communication and meetings are held. Even when new procedures are adopted, or systems/controls are installed.	B and C
2	Information may relate to: <ul style="list-style-type: none"> Health, safety and environmental policy. Procedures for the use of the building. Public transport. Best practices in the field of the environment. Accessibility and equality. 	D
3	Examples of proactive engagement with stakeholders from the immediate environment: <ul style="list-style-type: none"> Online feedback options. Conducting surveys on and around the plot with stakeholders from the immediate vicinity of the asset. 	E

Management engagement and feedback

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> Events or meetings for social involvement. Contribution/cooperation/participation in neighborhood groups/activities (e.g. local sustainable initiatives). 	
4	The complaints procedure should describe how complaints are dealt with quickly and impartially.	E
CRITERIA FOR QUESTION 2		
5	The user satisfaction survey and associated feedback should be conducted at least once every three years and results should be collected. And additionally, when major changes have been made in facility management, building facilities, etc.	F and G
6	The user satisfaction survey must include at least the following: <ol style="list-style-type: none"> Indoor environment conditions. Indoor environment controllability. Internal fittings and components that are the responsibility of the building owner/building users. Communal facilities in the building. 	F and G
7	Based on the results of the user satisfaction survey, goals were drawn up that include all topics raised by participants in the survey. In addition, the established goals and results from the research must be shared with the building users. The progress of the set goals must be reviewed annually and achieved/implemented within 3 years.	F and G
8	If the owner is also the tenant and manager of the building, the user satisfaction survey can be carried out by the organisation itself.	F

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
3	Data that demonstrates social cohesion or proactive engagement with the asset's immediate environment.
4	Copy or description of the relevant complaints procedure.
5, 6 and 7	A copy of the user satisfaction survey, set goals and results.
5, 6 and 7	Data on how the set objectives and developments in procedures have been communicated with the building users.

Management engagement and feedback

Definitions

Formal communication

Formal communication refers to the communication according to predefined channels, with the aim of exchanging information between different parties (facility management and building users) within the asset.

Examples of formal communication are:

- Standard feedback forms (online or offline);
- Assigned email address (helpdesk, reception, service desk);
- Online feedback forms;
- Standard forms accessible to all staff in locations.

Additional information

None.

References

None.

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Maintenance policies and procedures

To recognise and encourage a proactive approach to the management and maintenance of the building.

Part	Management
Available Credits	: 13
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question 1

Which of the following maintenance policies and procedures are met?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	There are no policies or procedures in place.
1	B	Maintenance manuals are available and accessible to facility management.
2	C	There is a proactive maintenance policy and procedures for the external site.
2	D	There is a proactive maintenance policy and procedures for the building fabric.
2	E	There is a proactive maintenance policy and procedures for heating, ventilation and cooling installations (climate installations), where applicable, and hot water systems.
2	F	There is a proactive maintenance policy and procedures for electrical installations.

Question 2

Is the building management system regularly checked and maintained?

POINTS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	G	No.
2	H	There is regular control and maintenance of the operation of the monitoring or building management system by a trained facility management employee.
4	I	There is regular control and maintenance of the operation of the monitoring or building management system by a qualified third party.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If the asset has no outdoor spaces, the answer option can be filtered out of the assessment.	C
2	For buildings equal to or smaller than 1000 m2, a monitoring or building management system (BMS) is unnecessary, the corresponding answer options can be filtered out of the assessment if desired.	G, H and I
CRITERIA FOR QUESTION 1		
3	The maintenance manuals include all current and relevant building installations and structural elements, including (but not limited to): <ul style="list-style-type: none"> • Heating and cooling systems; • Water distribution systems; • Ventilation systems; • Lighting installations; • Outdoor sun protection installations; 	B

Maintenance Policies and Procedures

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> Building details/specifications of the building envelope; Renewable and low-carbon technologies (if any). 	
4	<p>The long-term maintenance policy (MJOB) and the resulting maintenance procedures that are drawn up include at least:</p> <ol style="list-style-type: none"> The person or organization responsible for the maintenance policy. The necessary resources for the proactive maintenance of the building (including financial, labor hours, equipment). Maintenance objectives and measures. An assessment framework in which it is determined whether a product/element must be replaced in the event of malfunctions or at an intended replacement moment, or whether this product/element can be repaired. 	B, C, D, E and F
CRITERIA FOR QUESTION 2		
5	This credit is about the entire building management system. Individually automated controls, such as a motion sensor that controls lighting, are not considered a building management system.	H and I
6	Employees of the facilities management or of the organization that manages the building must be trained so that they can use the building management system to high efficiency standards.	H and I
7	<p>Building management systems should be reviewed at least once every 6 months and adjusted as needed to ensure that the system is functioning correctly. The assessment must include at least the following:</p> <ol style="list-style-type: none"> Calibrating the meters. Inspection/evaluation of whether the system is working correctly. Correctly signaling malfunctions. Completeness and quality of the system's data output. <p>Performance throughout the year is taken into account (e.g. during summer and winter or during wet and dry seasons).</p>	H and I
8	Maintenance and control must be carried out by a person or organisation with sufficient knowledge about the building management system (this party independent of the building owner or manager). This can be, for example, an external maintenance company, a trained technician or the manufacturer/supplier of the existing system.	I

Specific notes

None.

Tables

None.

Methodology

None.

Maintenance Policies and Procedures

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	The front and contents of the maintenance policy and procedures and an overview of all current and relevant building installations and building elements.
3, 4, 5, 6 and 7	The multi-year maintenance policy and procedures (e.g. of the cover page and the table of contents) must clearly state: <ol style="list-style-type: none"> The person or organization responsible for the maintenance policy. Date on which the documents were drawn up. Overview of the topics included in the policy/procedures.
6, 7 and 8	The inspection log, report or other form of documentation relating to the assessment of the building management system, if applicable carried out by the qualified third party.

Definitions

Building fabric

The outer shell of the building, including the walls, cladding, doors, windows, and roofs.

Proactive maintenance policy

Proactive maintenance policy to increase the reliability of the installed installations and water systems. This maintenance policy usually consists of two parts:

- Preventive maintenance: Maintenance, measurements, tests, replacement of parts, etc., to avoid errors and malfunctions.
- Predictive (Predictive) Maintenance: Techniques to help determine the condition of installed equipment to predict when maintenance will need to occur.

Additional information

Access to management and maintenance manual

The Assessor is not obliged to assess the content of the management and maintenance manual. But he or she must establish that all relevant documents are available and accessible. If the building management is carried out by an external party, they may store the manuals outside the building. In all cases, it is important that the information is easily available, in such a form that it is easy for contractors to obtain a copy and use it in the building.

References

None.

Environmental Policy and Procedures

To recognise and encourage the implementation of progressive environmental management and ensuring that an environmental policy is in place and acted upon.

Part		Management
Available Credits	:	6
Exemplary performance	:	1
Contains filter	:	X
Minimum standard	:	Very Good
<i>At least 2 credits (answer B)</i>		

Question

Has an environmental management policy or plan been developed by the building management organisation?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
2	B	The facility management has developed and applied an environmental policy or plan.
2	C	The environmental policy or plan is certified in accordance with ISO 14001 or an equivalent standard.
2	D	Improvement targets have been set for energy, water and waste/reuse.
Exemplary Performance	E	The environmental policy or plan also includes building resilience, circularity and climate risks.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>An environmental policy or plan must:</p> <ul style="list-style-type: none"> a) Be implemented and the evaluation process should ensure that goals are set and action plans are completed. b) Have been approved by senior management. c) Available to all regular building users. d) Include an approach that describes how improvement goals for energy, water and waste/reuse are achieved (e.g. indicating required financial resources, instruments, manpower). <p>The required level of detail of the environmental policy or plan depends on the size and complexity of the asset.</p>	B, C and D
2	If the environmental policy or plan is certified in accordance with ISO 14001 (focused on facility management), the Assessor does not need to check the content and structure.	C
3	Improvement goals should include a scope and targets. For energy, at least targets have been set for 2030 and 2050, in line with the EU Green Deal and the Paris Climate Agreement.	D
4	<p>The environmental policy or plan must meet the criteria for answer options B and D in order to claim the Exemplary Performance.</p> <p>The environmental policy or plan describes the approach and appoints who is responsible for identifying and mitigating climate risks, circularity and other sustainability-related issues of the asset.</p>	E

Environmental Policy and Procedures

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 4	The environmental policy or plan, containing the documents marked that relate to the improvement goals and/or resilience and climate risks.
3	If the environmental policy or plan is certified by a third party, the certificate must be issued.

Definitions

None.

Additional information

Standards equivalent to ISO 14001

The following standards are recognized as equivalent standards to ISO 14001:

- EMAS – Community eco-management and audit scheme;
- Eco-Lighthouse/Miljøfyrtårn.

EU Green Deal

With the EU Green Deal, the European Commission has introduced a package of policy initiatives to make Europe climate neutral by 2050, in accordance with the Paris Climate Agreement. This 'Fit for 55' package aims to achieve a CO2 reduction of at least 55% by 2030 compared to 1990. The initiatives are aimed at the full breadth of the economy. Within the construction and real estate sector, the Energy Performance of Buildings Directive (EPBD IV) is specifically aimed at the energy performance of buildings.

The EPBD IV indicates on the one hand where buildings should go by 2050 (Zero Emissions Buildings) and on the other hand it provides a path for phasing out the worst-performing buildings. In the EPBD IV, the emphasis is on phasing out the 16% worst-performing non-residential buildings by 2030 and 26% worst by 2033.

Parties can set improvement goals for this by (non-exhaustively):

- Gain insight into the energy label and energy consumption;
- Create a roadmap for the building;
- Planning work in such a way that the building no longer has a bad energy label before 2030/2033;
- Renovating the building to the renovation standard or Paris Proof in one go.

The EU Taxonomy stems from the EU Green Deal and also sets requirements for the energy performance of existing buildings. However, it is important to take a broader view, in order to achieve both the goals of the 'Fit for 55' package and ultimately meet the Paris climate targets.

Environmental Policy and Procedures

Paris Climate Agreement

The Paris Climate Agreement is an international treaty to combat global warming. The agreement was presented on 12 December 2015 at the Paris climate conference. In it, 195 countries, including the Netherlands, have agreed to limit the increase in the average global temperature to well below 2 degrees Celsius, and if possible 1.5 degrees Celsius, by 2050. Part of the Climate Agreement is that the built environment will be completely climate neutral by 2050.

References

None.

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Green lease

Encouraging the implementation of rental agreements, to actively engage with users/tenants on efficient use of energy, water and waste.

Part	Management
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Are green lease agreements/contracts with user/tenants in place?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, there are agreements for >25% of users/tenants, including the exchange of consumption data.
2	C	Yes, there are agreements for >25% of the users/tenants. Including the exchange of consumption data and targets for energy and water use and waste reduction.
2	D	Yes, there are agreements for >50% of users/tenants, including the exchange of consumption data.
3	E	Yes, there are agreements for >50% of the users/tenants, including the exchange of consumption data and targets for energy and water use and waste reduction.
3	F	Yes, there are agreements for >75% of users/tenants, including the exchange of consumption data.
4	G	Yes, there are agreements for >75% of the users/tenants, including the exchange of consumption data and targets for energy and water use and waste reduction.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If the asset does not have any rentable spaces (for example, if the owner is also the user), this issue can be filtered out of the assessment.	A, B, C, D, E, F and G
CRITERIA FOR QUESTION		
2	The exchange of consumption data includes: a) Electricity; b) Other forms of energy; c) Water; d) Waste. If one or more of these categories is not applicable or relevant, this must be substantiated.	B, C, D, E, F and G
3	Green leases cover at least five of the following topics: a) Energy efficient goals; b) Possible sustainability measures to be taken during redesign and renovation; c) User manual/environmental policy/energy management plan; d) Sustainability reporting; e) Improvements/a list of defects; f) Financial agreements; g) Preference for maintenance companies;	B, C, D, E, F and G

Green lease

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> h) Measuring energy, water, and/or gas separately; i) Dispute resolution procedures; j) Other agreements in the field of sustainability. 	
4	<p>The percentage can be calculated on the basis of the number of tenants, or the percentage based on the distribution of the floor area per tenant.</p> <p>If the tenant is the initiator of the certification (whereby he is also the only user within the demarcation of the certification) and the green lease agreement is provided with the landlord and meets criteria 2 and 3, this may suffice as agreements made with 100% of the 'users/tenants'.</p>	B, C, D, E, F and G

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3 and 4	A copy of the green lease contract/agreements, with the relevant documents marked.

Definitions

Schedule of defects/dilapidations:

A document prepared by the facility manager/building manager, identifying defects if the tenant has not acted in accordance with the repair clause of the lease. The document states what work is needed to repair the damage.

Additional information

None.

References

None.

Health



SUMMARY

The purpose of this category is to map the health, safety, accessibility and comfort aspects of the building and its immediate surroundings.

CONTEXT

The World Health Organization (WHO) defines health as a state of complete physical, mental and social well-being, and not just the absence of disease or physical infirmity. The WHO emphasizes that the right to the highest attainable standard of health applies to everyone, regardless of race, religion, political opinion, or social and economic status. This idea is also reflected in "good health and well-being", the third goal of the United Nations Sustainable Development Goals (SDGs).

On average, people spend more than 90% of their time in and around buildings, while the rest of their time is often spent traveling between different locations. This makes the built environment an important factor for the well-being and health of the users. There is growing evidence that the indoor climate of buildings – such as visual, thermal, acoustic and air comfort – has a major impact on both physical and mental health. Health problems that are often linked to indoor environments include lung problems, allergies, cardiovascular disease, but also psychological complaints such as stress and fatigue. Individuals in high-risk groups, such as young children, the elderly, the disabled, and the sick, may experience additional health problems due to an unhealthy environment. Some of these health risks can be serious or even life-threatening.

In addition, personnel costs make up about 90% of the total costs of a company. Employee well-being has a direct impact on their productivity, recruitment and retention strategies, and overall satisfaction. This makes the environment in which employees work, live, and relax critical to an organization's success. A healthy and well-designed work environment not only promotes the physical and mental health of employees, but also contributes to their performance and the success of the company.

Value of the issues

HEA 14	Thermal comfort	8 Credits
Aim	Determine that occupied rooms provides thermal comfort for the occupants.	
Value	Reduces the risk of poor comfort due to extreme indoor temperatures and reduces unnecessary heating or cooling, reducing operational costs and environmental impact.	
HEA 15	Non-smoking	1 Credits
Aim	Valuing and encouraging a smoke-free environment	
Value	Reduces the risk of health problems caused by (passive) smoking and improves the comfort and productivity of building users by eliminating this source of nuisance.	
HEA 16	Indoor air quality management	6 Credits
Aim	To encourage and support healthy internal environments with good indoor air quality.	
Value	Reduces air pollution from pollution sources in the building and supports the physical health of occupants by reducing the risk of air-related health problems.	
HEA 17	Acoustic conditions	6 Credits
Aim	Ensure that the asset provides a good indoor acoustic environment, ensuring a high level of noise comfort for occupants.	
Value	Minimises noise pollution between rooms and improves productivity by creating a suitable acoustic environment for the different functions of the building.	
HEA 18	Microbiological risk management	4 Credits
Aim	Ensure that water systems are managed in a way that prevents or minimizes the risk of microbiological contamination.	
Value	Protects building users from legionella risks and ensures the hygiene and quality of the water supply for safe use.	
HEA 19	Drinking water management	2 Credits
Aim	Ensure that the number and locations of drinking water supplies meet the needs of building users.	
Value	Helps reduce safety risks by preventing dehydration and ensures that building users stay hydrated, contributing to their physical and mental wellbeing.	

Thermal comfort

Determine that occupied rooms provides thermal comfort for the occupants.

Part	Management
Available Credits	: 8
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

Is the thermal comfort of the occupied rooms measured?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, monitoring is done with temperature measurements.
4	C	Yes, monitoring is done with measurements in accordance with the methodology of a third party.

Question 2

Is the thermal comfort of building users regularly monitored?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
4	E	Yes, through an occupant thermal satisfaction surveys of building users in occupied rooms.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTIONS 1 and 2		
1	It is ensured that the results of the measurements are evaluated and, if necessary, points for improvement have been drawn up and presented to senior management within the organization.	B, C and E
2	The temperature is measured in a representative number of occupied rooms, during opening hours of the building throughout the year. Measurements can be carried out, for example, by means of real-time temperature sensors or temperature data loggers.	B
3	Thermal comfort in occupied rooms shall be measured in accordance with one of the following methods or an equivalent methodology: ISSO 74, where at least Class B is achieved. OR ISO 7730, whereby in Table A.1 – Operative temperature – category B temperature requirement: - $0.5 < PMV < +0.5$ is achieved.	C
4	The satisfaction survey on thermal comfort in the occupied rooms must be carried out at least once a year. This survey can be part of the satisfaction survey as mentioned in MAN 02.	E
5	All building users or a representative sample of them should be given the opportunity to participate in the survey. To earn credits, a response rate of at least 35% must be achieved. If there are fewer than 45 building users, the Assessor assesses whether the number of respondents is representative.	E

Thermal comfort

Specific notes

REQUIREMENT	CRITERIA
Education function	The requirements for Class B from the Fresh Schools Program of Requirements (2021) must be met.
Sports function	Thermal comfort in swimming pools is guaranteed on the basis of NEN EN 15288-1. For swimming pools, static calculations will suffice. The criteria do not apply to a sauna or wellness.
Industry function - Laboratories	For laboratories, the same requirements already apply in criterion 2, except in rooms where the thermal comfort for persons is secondary to the process conditions and where the temperature sensitivity is $\leq \pm 1.5$ K compared to the normative value.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation of evaluation and/or points for improvement that have been submitted to senior management.
2 and 3	Measurement data (if applicable, carried out in accordance with third-party methodology).
4 and 5	Relevant documents from satisfaction surveys and response rates.

Definitions

Saloons

A space intended for the stay of people for at least a continuous period of 30 minutes per day.

Additional information

Thermal comfort survey

ANSI/ASHRAE standard 55-2017 "Thermal Environmental Conditions for Human Occupation" provides an example of a thermal satisfaction survey. A modified version of the survey is shown below.

SURVEY QUESTION		ANSWER
1.	How satisfied are you with the temperature in the occupied rooms?	a) Very satisfied b) Satisfied c) Somewhat satisfied d) Not satisfied but also not dissatisfied e) Slightly dissatisfied f) Dissatisfied g) Very dissatisfied
2.	If you are dissatisfied with the temperature in the occupied rooms, which of the following aspects contribute to this (tick what applies):	a) Always too hot b) Often too hot c) Occasionally too hot

Thermal comfort

SURVEY QUESTION	ANSWER
<ul style="list-style-type: none"> • During hot weather, the temperature in the occupied rooms is: • During cold weather, the temperature in the occupied rooms is: 	<ul style="list-style-type: none"> d) Too cold at times e) Often too cold f) Always too cold
<p>3. If you are dissatisfied with the temperature in the occupied rooms, when is this usually a problem (check all that apply)?</p>	<ul style="list-style-type: none"> a) In the morning (before 11:00) b) In the afternoon (between 11:00 -14:00) c) In the afternoon (between 14:00 -17:00) d) In the evening (after 17:00) e) Weekends or holidays f) Monday morning g) No specific time h) All the time i) Otherwise
<p>4. If you are dissatisfied with the temperature in the occupied rooms, how would you describe the cause of this discomfort (tick all that apply)?</p>	<ul style="list-style-type: none"> a) Humidity too high (damp) b) Humidity too low (dry) c) Air movement/Ventilation too high d) Air movement/Ventilation too low e) Falling sun f) Heat from equipment g) Draughts through windows h) Draughts through vents i) The living area is warmer/colder than other rooms. j) Thermostat is inaccessible k) Thermostat is adjusted by other people. l) Heating/cooling system does not respond quickly enough to the thermostat. m) Hot or cold surrounding surfaces (floor, ceiling, walls, or windows). n) Windows do not function properly. o) Otherwise.
<p>5. If you are dissatisfied with the temperature in the occupied rooms, which aspects do you think do not yet mention contribute to this?</p>	<p>Describe any other problems related to the temperature in the living areas.</p>

References

- ISO 7730:2005 Climate conditions – Analytical determination and interpretation of thermal comfort by calculations of the PMV and PPD values and local thermal comfort.
- ISSO publication 74:2014 Thermal comfort – Requirements and backgrounds regarding the thermal indoor climate in offices and comparable commercial buildings.
- Program of Requirements Fresh Schools 2021.
- NEN-EN 15288-1 Swimming pools part 1: Safety requirements for design.

Non-smoking

Valuing and encouraging a smoke-free environment.

Part		Management
Available Credits	:	1
Exemplary performance	:	0
Contains filter	:	X
Minimum standard	:	X

Question

Is a smoke-free environment encouraged?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	All entrances to the building and, if any, outdoor spaces (such as gardens, balconies, terraces and patios) are non-smoking.	B
2	The owner/manager, in cooperation with the tenants, has taken measures to prevent people from smoking in front of the entrance of the building or on the plot. Consider, for example, the 'smoke-free generation' initiative or similar projects.	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Photos of the 'no smoking' or 'smoke-free' measures.

Non-smoking

Definitions

None.

Additional information

None.

References

- <https://www.rookvrijegeneratie.nl>.

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Indoor air quality management

To encourage and support healthy internal environments with good indoor air quality.

Part	Management
Available Credits	: 6
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are there management processes in place to help maintain good levels of indoor air quality within the asset?

POINTS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
1	B	Yes, providing information to personnel on how to operate and manage the ventilation systems.
1	C	Yes, procedures or plans for cleaning the interior of the asset.
1	D	Yes, procedures or plans for inspecting the cleanliness of and for cleaning parts of ventilation systems.
1	E	Yes, in the procurement policies for operation and maintenance work, products with no or low emissions of (very) volatile organic compounds are specified.
1	F	Yes, procedures or plans for regular monitoring of air quality in living areas.
1	G	Yes, procedures or plans that minimize the impact on indoor air quality during maintenance, refurbishment, renovation or construction activities on or in the asset.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The policy, procedures or plans must be kept up to date and can be part of an environmental policy at the organisational level.	B, C, D, E, F and G
2	Information for staff/relevant contractors/installers should: <ol style="list-style-type: none"> To handle the technical operation and maintenance of all ventilation systems and associated components. Include procedures on the actions to be carried out if there are problems with the air quality in the building. 	B
3	Cleaning procedures/plans include the following: <ol style="list-style-type: none"> Frequency of cleaning operations with associated tasks. Frequency of deep cleaning of, for example, carpets, mats and floors at entrances and exits, stairs, lifts, toilets, etc. Prescribing cleaning equipment and products that minimize the impact on air quality (see 'additional information'). Training requirements and records for the cleaning staff on cleaning methods, the use of equipment and products. 	C
4	Inspection and cleaning procedures/plans cover the following, if any: <ul style="list-style-type: none"> Air handling units (AHUs) Ventilation ducts Filters Humidifiers 	D

Indoor air quality management

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> • Heating and cooling • Heat recovery plants • Air inlets and outlets • Volume flow controller for supply air with variable volume rates • Decentralised air handling units, e.g. ventilation convectors and induction units <p>Inspection and cleaning frequencies must be in accordance with the following standards or equivalent alternatives: BS EN 15780:2024 Ventilation of buildings – air ducts – cleanliness of ventilation systems OR ISSO publication 17 quality requirements for air duct systems in residential and commercial construction OR Table 8.2 of ANSI/ASHRAE Standard 62.1-2022 Ventilation for Acceptable Indoor Air Quality.</p>	
5	<p>In any case, the procurement policy must include emissions of highly volatile organic compounds, including formaldehyde, and volatile organic compounds (VOCs). In addition, the procurement policy must include appropriate selection criteria for products with low or no emissions.</p> <p>Products that must be part of the purchasing policy include, but are not limited to:</p> <ul style="list-style-type: none"> • Paints and coatings for indoor applications. • Adhesives and sealants for indoor applications. • Floor coverings and other floor finishes. • Furniture. • Cleaners. 	E
6	<p>Procedures and plans for monitoring indoor air quality must be carried out at least once every three years, including recording of the results. This includes the following measures:</p> <ol style="list-style-type: none"> Measuring the concentrations of (relevant) air pollutants within the asset, using robust test methods at representative sampling sites. Instead of point sampling, continuously measuring sensors can also be used. The monitoring should cover at least carbon dioxide and at least two other pollutants (e.g. particulate matter, total volatile organic compounds (TVOC), formaldehyde, carbon monoxide, nitrogen dioxide or radon). Conducting surveys among building users that provide insight into users' perceptions of indoor air quality. Carrying out inspections of the building envelope, sanitary facilities and climate installations to identify moisture and condensation sources. Evaluating the ventilation rates of the building, including airflows at inlets and outlets. Agreements/policies/procedures around following up on complaints from building users or problems that are identified. 	F
7	<p>Procedures and plans for maintenance, refurbishment, renovation and construction activities must, where applicable, contain at least the following measures:</p> <ol style="list-style-type: none"> If possible, turn off ventilation systems during work. Close off air intakes, air ducts and vents before work begins. Use tools with dust caps and/or dust collectors equipped with a suitable HEPA filter to collect dust and particles generated during work. Clean work areas regularly during operations and increase cleaning schedules for common areas. Clean air ducts and replace filters during and after completion of the work. Plan and coordinate work to minimize disruption to living areas. Separate/isolate workstations from other rooms by sealing doorways and windows or by physical partitions (for example, temporary partitions). Maintain living areas under overpressure in relation to the outside and indoor areas where work is carried out. 	G

Indoor air quality management

#	CRITERIA	APPLICABLE ON ANSWER
	i) Apply measures to prevent the spread of dirt and contaminants from sites where work is taking place to residential areas (e.g. the use of mats at entrances and exits, and separate access routes for building users and workers).	

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3, 4, 5, 6 and 7	Relevant policy documents, procedures, plans and the accompanying documents.

Definitions

None.

Additional information

Procedures and plans for air quality management

The indoor air quality in an asset and the associated management requirements to maintain good air quality depend on several factors, including:

- The location, size, layout, and shape of the asset.
- The function and use of the asset
- The air quality of the outdoor environment.
- Internal sources of pollutants.
- The ventilation strategy of the asset.
- The requirements of users, owners, or managers of the asset.

The content and details of air quality management procedures and plans must therefore be specific to assessing the asset.

Procedures and plans apply to everything within the scope of the assessment centre (i.e. areas that are the responsibility of the building manager).

Prescribing appropriate cleaning equipment and materials that minimize the impact on air quality: Examples include HEPA vacuum cleaners, lint-free cloths and vacuum cleaners, chemical cleaners

Low or zero emission products

There is a wide range of local and international standards, testing protocols, and labeling for low-emission products. The uptake of such initiatives and thus the availability of low or no emission products on the market varies by product group. Therefore, policies and

Indoor air quality management

procedures should refer to local or international products that operate at the asset's location. Examples of such initiatives include, but are not limited to:

- Ausschuss zur gesundheitlichen Bewertung von Bauprodukten (AgBB) evaluation scheme
- Belgian VOC regulation
- Blue Angel Ecolabel
- Eco-INSTITUT label
- EMICODE
- EU Ecolabel
- FloorScore®
- French VOC regulation
- GREENGUARD Certified/GREENGUARD Gold
- Green Label Plus™
- GUT Label
- Indoor Air Comfort®/Indoor Air Comfort Gold®
- Indoor Advantage™ Gold - Building Materials
- M1 Emission Classification of Building Materials
- Nordic Swan Ecolabel

Guidelines for indoor air quality during maintenance, refurbishment, renovation or other construction activities

The Sheet Metal & Air Conditioning Contractors' National Association (SMACNA) guidance 'IAQ Guidelines for Occupied Buildings Under Construction' provides guidance for minimizing the impact of maintenance, re-fit, renovation or construction activities on indoor air quality in operational buildings.

References

None.

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Acoustic conditions

Ensure that the asset provides a good indoor acoustic environment, ensuring a high level of noise comfort for occupants.

Part	Management
Available Credits	: 6
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

Is the acoustic environment in occupied rooms measured in terms of internal sound insulation?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	The performance standards for internal sound insulation have been achieved in $\geq 50\%$ of the occupied rooms.
2	C	The performance standards for internal sound insulation have been achieved in $\geq 80\%$ of the occupied rooms.

Question 2

Is the acoustic environment in occupied rooms measured in terms of noise levels of installations (ambient noise)?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
1	E	The performance standards for noise levels of installations have been achieved in $\geq 50\%$ of the occupied rooms.
2	F	The performance standards for noise levels of installations have been achieved in $\geq 80\%$ of the occupied rooms.

Question 3

Is the acoustic environment in occupied rooms measured in terms of room acoustics?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	G	No.
1	H	The performance standards for room acoustics have been achieved in $\geq 50\%$ of the occupied rooms.
2	I	The performance standards for room acoustics have been achieved in $\geq 80\%$ of the occupied rooms.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTIONS 1, 2 and 3		
1	The percentage of the accommodation units that meet the performance standards can be calculated using the calculation under Methodology.	B, C, E, F, H and I
2	The acoustic measurements must be carried out by a trained and qualified acoustic consultant.	B, C, E, F, H and I

Acoustic conditions

#	CRITERIA	APPLICABLE ON ANSWER
3	The acoustic measurements must have been carried out in accordance with the procedures of NEN-EN-ISO 16283 or NEN 5077 (including NPR 5092 and NPR 5097) or an equivalent standard or guideline. In addition, the Methodology can be used for the measurements to be carried out.	B, C, E, F, H and I
4	The acoustic measurements must be revised at least after adjustments have been made to the building (both internal and external) or to the installations that affect the acoustic performance in the occupied rooms of the building.	B, C, E, F, H and I
5	The internal sound insulation meets the performance standards in Table HEA 17.1.	B and C
6	The noise levels of installations meet the performance standards in Table HEA 17.2	E and F
7	The room acoustics meet the performance standards in Table HEA 17.3, HEA 17.4 and HEA 17.5. The noise measurements are carried out when the room is not in use.	H and I

Specific notes

None.

Tables

Table HEA 17.1 Limit values for airborne sound insulation and structure-borne sound level

BUILDING FUNCTION		MINIMUM EIS			
Function	Space type	To living space [DnT,A in dB]	From circulation space (with door) [DnT,A in dB]	To accommodation [LnT,A in dB]	From traffic space [LnT,A in dB]
Office	Working area normal	42 without door - 37 with door	33	57 (if different organizations per floor than 48)	57
	Work area increased privacy	45 without door - 39 with door			
	Consultation room normal	42 without door - 37 with door			
	Doctor's office increased privacy	45			
	Sanitary facilities or other noise-producing areas (including anteroom)	48			
	Adjacent office landscape wall with door	33			
	Adjacent office landscape with a closed wall	42			
	Adjacent office landscape to living space with raised privacy wall with door	39			
	Adjacent office landscape to living space with increased privacy with closed wall	45			
Meeting	Meeting room normal	42	33	57	57

Acoustic conditions

BUILDING FUNCTION		MINIMUM EIS			
	Meeting room increased privacy	45			
	Nursery sleeping area	33			
Education	Group room and classroom	43 with door – 38 without door	31	59	59
	Workstations in the hallway to the adjacent group room or room with door	38	N/a.		
	Workstations in the hallway to the adjacent group room or room with a closed wall	43	N/a.		
	Lecture hall	53	33		
	Music/playroom	60			
	Workshop	53			
	Practical room	43			
	Aula (as a multifunctional room)	43			
Sport	(*depending on the Of noise-sensitivity adjacent living space) See CN8 for standard	53	33 (if going to education is concerned)	25*	25
Accommodation	Sitting/sleeping area	48	33	52	52
Care	Sitting/sleeping area	48	33	52	52
Laboratory	Open workspace	42	33	57	57

Additional information: In the case of all-glass partition constructions (which are visually transparent), the requirement for partition constructions without a door may be reduced by 2 dB due to the visual interaction between living areas.

Table HEA 17.2 Performance standards for noise levels of installations

FUNCTION OF THE SPACE	PERFORMANCE STANDARD NOISE LEVEL OF INSTALLATIONS
Common areas (toilets, changing rooms)	≤ 40
Single office	≤ 35
Office for multiple occupancy	≤ 40
Meeting rooms	≤ 35
Reception	≤ 40
Spaces specifically intended for communication exchange, such as conference rooms	≤ 35
Classrooms	≤ 30
Concert halls, theatre halls, auditoriums	≤ 30
Café or canteen space	≤ 50
Professional kitchen	≤ 50
Dining room in restaurant	≤ 45
Bar	≤ 50
Shop*	Guideline ≤ 50 – 55
Manufacturing*	Directive ≤ 55
Recording studios	≤ 25
Laboratories*	Directive ≤ 40

Acoustic conditions

FUNCTION OF THE SPACE	PERFORMANCE STANDARD NOISE LEVEL OF INSTALLATIONS
Sports room or swimming pools	≤ 45
Library	≤ 40
Hotel bedroom	≤ 35

*For the functions of shop, manufacturing industry and laboratories: projects must determine a correct maximum value in consultation with a qualified acoustic consultant.

Table HEA 17.3 Limit values reverberation time

FUNCTION	SPACE TYPE	MAXIMUM AVERAGE REVERBERATION TIME (NOT PROVISIONED)*
Office	Private workplace	≤ 0.8 s
	Concentration workplace/one-person phone booths (enclosed space)	≤ 0.6 s
	Open workspace (10 or more workspaces) (office landscape/call centre) **	≤ 0.6 s
	Circulation areas	≤ 1.0 s
	Large traffic area (atriums/courtyards)	≤ LOG (V/20), up to 2.5 sec
Meeting	Meeting room	≤ 0.8 s
	Nursery sleeping area	≤ 0.8 s
	Restaurant < 49 m ²	≤ 0.8 s
	Restaurant ≥ 50 m ²	≤ 1.0 s
	Circulation spaces (up to 20 m ²)	≤ 1.0 s
	Large traffic area (atriums/courtyards)	≤ LOG (V/20), up to 2.5 sec
Education	Group room and classroom	≤ 0.8 s
	Circulation areas	≤ 1.0 s
	Large traffic area (atriums/courtyards)	≤ 0.8 * LOG (V/20), up to 2.0 s
	Open learning environment***	≤ 0.6 s
	Lecture hall	≤ 1.0 s
	Music/playroom	≤ 1.0 s
	Practical room	≤ 0.6 s
	Aula (as a multifunctional room)	≤ 0.8-1.0 s
Library	≤ 1.0 s	
Sport	Gym/gym (depending on volume)	See Table HEA 17.4
Accommodation	Sitting/sleeping area	≤ 0.8 s
	Circulation areas	≤ 1.0 s
Care	Sitting/sleeping area	≤ 0.8 s
Laboratory	Open space/ closed workplace	≤ 0.6 s

* If the living areas have already been set up during the measurements, the requirements in Table HEA 17.3 will be stricter by 0.2 s and stricter by 0.15 s for education.

*** Decrease in requirement: 6 dB per distance doubling in accordance with ISO 3382-3 provisions (in accordance with class B from Healthy Offices in Housing).

Acoustic conditions

FUNCTION	SPACE TYPE	MAXIMUM AVERAGE REVERBERATION TIME (NOT PROVISIONED)*
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The layout and design, together with the absorption and diffusion of sound by materials, is essential to obtain the right acoustics in open learning and working environments, among other things. Since the heights of the screens are often max. 1.5m in the Netherlands, will have to be worked with zoning.

Table HEA 17.4 Maximum permissible average reverberation time (T20) average for sports halls and gymnasiums in accordance with KVLO and NOC*NSF

CATEGORY	VOLUME (MIN) M3	VOLUME (MAX) M3	T20(S)
A1	-	1700	≤1.0
A2	1701	2100	≤1.1
A3	2101	2400	≤1.2
B1	2401	3200	≤1.3
B2	3201	4350	≤1.4
B3	4351	6300	≤1.5
C1	6301	7400	≤1.6/1.7*
C2	7401	9500	≤1.7/1.8*
C3	9501	12400	≤1.9
D1	12401	17250	≤2.0
D2	17251	29000	≤2.3
E	>29001		≤2V/3S**

* highest values in accordance with NOC*NSF guideline.
 ** S is the sum of all surfaces (wall/floor/ceiling).

Table HEA 17.5 Performance Standards for Reverberation Time in Speech and Music Room

ROOM VOLUME	REVERBERATION TIME, T (SECONDS)	
	Speech rooms	Music Spaces
≤ 50	0.4	1.0
51-100	0.5	1.1
101-200	0.6	1.2
201-500	0.7	1.3
501-1000	0.9	1.5
>1000	1.0	1.6

The noise measurement must be carried out when the room is not in use. If the above reverberation times are not suitable for the room type, the qualified acoustic consultant must explain why this is the case. In addition, an alternative set of reverberation times must be justified to demonstrate that the criteria are met.

Methodology

Computation

The percentage of accommodation that meets the performance standards =

$$\frac{\text{Net floor area of all occupied spaces that comply with the relevant performance standards}}{\text{Total net floor area of all occupied spaces}} \times 100$$

Acoustic conditions

Random check

To determine whether the accommodation areas meet the performance standards, random measurements can be taken as follows. This is in addition to the NEN 5077. Taking more measurements is always allowed. Coordinate with a qualified acoustic consultant whether the sample is sufficiently comprehensive and representative of the performance in all living areas.

Sample internal sound insulation:

- Airborne noise: 10% of the separations with a minimum of 3 measurements (divided between representative separations and special situations).
- Impact sound: at least 3 measurements (horizontal and vertical) per representative floor structure.
- Sample noise levels of installations: 10% of the rooms with a minimum of 3 measurements (divided over representative rooms and special situations (near TR or shafts)).
- Sample room acoustics: 10% of the rooms with a minimum of 3 measurements (divided between representative partitions and special situations).

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	A report of the acoustic survey, showing that it was carried out by a qualified acoustic consultant.
1, 4, 5, 6 and 7	Measurement data with substantiation and calculation showing what percentage of the surface area of the living areas meets the performance requirements.

Definitions

One-person phone booths

These rooms are designed for short-term use and do not have, for example, a fixed monitor and (ergonomic) office chair, which encourage you to stay there for a longer period than necessary.

Qualified acoustic consultant

A person who meets all of the requirements listed below can be considered adequately qualified:

Has completed a course at college or university level or has completed an equivalent course with a diploma in acoustics or sound testing.

OR

Minimum of three years of relevant professional experience (during the last five years). Such experience should clearly demonstrate a practical understanding of the factors affecting acoustics in relation to construction and the environment, including an advisory role to make recommendations for appropriate acoustic performance levels and mitigation measures.

If an adequately qualified acoustic consultant verifies the acoustic measures or calculations of another acoustic consultant who does not meet the SQA requirements, this qualified acoustic consultant must have read and checked the report and confirm in writing that it:

- Complies with the limit values.
- Realistic is for the assessed building and is in line with PoR.
- Doesn't contain incorrect, biased, or exaggerated recommendations.

Noise-sensitive rooms

Spaces that require a degree of privacy are:

- Mobile offices.
- Meeting, interview, consultation or treatment rooms.
- Spaces for teaching and learning, e.g. a classroom or an auditorium.
- Spaces for public speeches or seminars.

Acoustic conditions

Occupied rooms

A room or space within the asset for people stays, for at least an average period of 30 minutes per day.

Room acoustics

How sound behaves in a closed space, in terms of reverberation time (degree of echo), sound level and intelligibility of speech. Room acoustics are influenced by the geometry of the room, distribution of acoustic absorption by the furnishing elements or by the introduction of sound-absorbing products.

Additional information

None.

References

None.

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Microbiological risk management

Ensure that water systems are managed in a way that prevents or minimizes the risk of microbiological contamination.

Part	Management
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Has an assessment of the asset's water systems been performed to identify the potential risk of exposure to legionella bacteria and, if so, are management plan in place to prevent or control the risk?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
4	B	Yes, there is a risk analysis and management plan available.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no water systems in place that pose a potential risk, the issue can be filtered out of the assessment.	A and B
CRITERIA FOR QUESTION		
2	The risk analysis was carried out in accordance with ISSO Publication 55.1 for tap water installations or ISSO Publication 55.2 for collective tap water installations, which identifies and analyses the risk of exposure of building users to the legionella bacteria (via the water system of the asset). The risk analysis must be reviewed periodically, in particular after changes in the water system or changes in the water systems of the asset.	B
3	For all water systems that pose a potential risk, appropriate management measures must be included in the management plan. The control measures must be described in a management plan in accordance with the ISSO publications below, depending on the water systems in place: <ul style="list-style-type: none"> • ISSO Publication 55.1 for tap water installations. • ISSO Publication 55.2 for collective tap water installations. • ISSO Publication 55.3 for mains water-fed cooling tower installations and humidification systems. • ISSO publication 55.5 for an overall management plan. 	B
4	The risk analysis and management plan must be drawn up by a BRL 6010 certified company.	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Documentation of the risk analysis.
3	Documentation of the management plan.
4	Documentation on the organisation that carried out the risk analysis and drew up the management plan.

Definitions

Legionella

Legionella is the name of the bacterium that can cause Legionellosis. People who are infected with Legionella bacteria can suffer permanent health damage or die. Infection occurs by inhaling the bacterium through very small droplets of water (aerosols) that can be released into the air by misting water.

Additional information

Water systems at risk

Water systems with an increased risk of spreading Legionella are, but not limited to:

- Storage and distribution systems (taps) for hot and cold water.
- Evaporative cooling systems (e.g. cooling towers and evaporative condenser).
- Swimming pools and spa baths.
- Fountains and water features.
- Humidifiers.
- Emergency showers, eye and face washes.
- Industrial water systems, e.g. air scrubbers, wet gas scrubbers, car washes, wastewater treatment plants, foggers and sprinkler systems.

Legionella and water system guidelines

Guidelines for the risk assessment and control of the legionella bacteria in water systems are:

- European Centre for Disease Prevention and Control; European Technical Guidelines for the Investigation, Control and Prevention of Travel Associated Legionnaires' Disease; 2017.
- World Health Organisation; Legionella and the Prevention of Legionellosis; 2007.
- Publication 55.1: Practical manual for the prevention of Legionella in tap water.
- Publication 55.2: Manual Duty of Care Legionella Prevention Collective Tap Water Installations.
- Publication 55.3: Legionella prevention in climate installations.
- Publication 55.4: Alternative techniques for Legionella prevention in collective tap water installations.
- Publication 55.5: Management and maintenance of collective tap water installations.

Microbiological risk management

References

- Dutch government: What should I do as a business owner to prevent legionella infections?

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Drinking water management

Ensure that the number and locations of drinking water supplies meet the needs of building users.

Part	Management
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Are the drinking water supplies regularly maintained/checked and evaluated in terms of location and numbers?

POINTS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
1	B	Yes, the drinking water supplies are regularly maintained/checked.
1	C	Yes, the drinking water supplies are regularly evaluated on location and numbers.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The drinking water supplies are maintained/checked during the year for operation and hygiene.	B
2	An annual evaluation is made (either in the event of a significant change in the number of building users or in the event of redesign/renovation) to see whether the location and the number of drinking water facilities in the asset meet the needs of the building users.	C
3	Drinking water supplies must: <ol style="list-style-type: none"> Be sufficiently present in number to provide for all regular building users (e.g. staff). There is at least 1 drinking water supply per floor with living areas. It is at the discretion of the Assessor whether this is sufficient. Free to use. Be accessible to all regular building users, including people with disabilities. Be hygienic. Suitable for filling water bottles. 	B and C
4	Drinking water supplies in accordance with the criteria are, for example: <ul style="list-style-type: none"> Faucets in kitchens Water coolers Drinking water fountains <p>This credit cannot be met with only taps in the washrooms.</p>	B and C

Specific notes

REQUIREMENT	CRITERIA
Accommodation/hotel function	The criteria are only applicable to common areas and areas where staff work. Guest bedrooms do not need to be included in the review for this credit.
Store/retail function	Buildings where the building users mainly consist of visitors/customers, such as: <ul style="list-style-type: none"> Shopping centres Educational institutions Hospitals
Healthcare function	
Educational function	

Drinking water supplies

REQUIREMENT	CRITERIA
	Then there must also be drinking water facilities that can be used by visitors/customers. If both employees/staff and visitors/customers can use the facilities, this is also sufficient.
Meeting function	For museums and theatres, drinking water facilities must be available for employees/staff in accordance with the criteria.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation on the maintenance/control or cleaning of drinking water facilities.
2	Document on the annual evaluation of drinking water supplies.
3 and 4	Photos of the drinking water supplies.

Definitions

Occupied rooms

A space intended for the stay of people for at least a continuous period of 30 minutes per day.

Additional information

None.

References

None.

Energy



SUMMARY

This category recognizes building installations that contribute to lower energy consumption and CO2 emissions over the life of the building. The credits in this category assess the energy efficiency of the building, the efficiency of the installations, and the capacity of installed renewable energy generation systems. It also encourages the installation of energy monitoring and management systems to support efficient energy use and prevent unnecessary consumption.

CONTEXT

Climate change is one of the biggest global challenges and is already causing higher temperatures, more flooding and extreme weather events. The increased concentration of greenhouse gases such as carbon dioxide and methane, mainly due to human activities, is the main cause. Since the Industrial Revolution, greenhouse gas emissions have increased by about 45%, mainly due to the burning of fossil fuels, agriculture, deforestation and industrial processes. The construction and real estate sector is responsible for 39% of energy-related CO2 emissions, most of which come from the use phase of buildings.

Climate change mainly affects vulnerable, poor communities, leading to poorer health, higher mortality rates and greater risks from extreme weather events. The Paris Agreement aims to limit global warming to a maximum of 2°C this century, preferably to 1.5°C. The 2018 IPCC report emphasized the urgency of limiting the temperature increase to 1.5°C, which requires a 45% reduction in CO2 emissions by 2030 and achieving net-zero CO2 emissions by 2050.

The UN has included affordable and clean energy as part of the Sustainable Development Goals, with the aim of doubling energy efficiency and increasing the share of renewable energy. Reducing energy consumption in buildings and promoting renewable energy is crucial to combating climate change and can contribute to reducing energy poverty and creating a healthy living environment, especially for vulnerable populations.

Value of the issues

ENE 19	Energy consumption	50 Credits + 5 Exemplary Performance
Aim	Minimizing energy consumption and related CO ₂ emissions.	
Value	Focuses on improving the energy performance of an asset by identifying and improving underperforming parts. It promotes energy management, reduces unnecessary energy consumption and lowers energy costs. The use of renewable energy and energy-efficient building materials is also encouraged.	

ENE 22	Energy audit	4 Credits
Aim	Identifying and implementing cost-effective energy saving measures.	
Value	Promotes a systematic process to understand the energy use of the asset, rewards the identification of cost-effective energy savings and encourages the reporting of the findings.	

ENE 23	Energy consumption reporting	4 Credits
Aim	Minimizing energy use and related CO ₂ emissions by collecting data, setting targets and raising awareness of energy use among the building manager and building users.	
Value	Encourages energy performance goal setting, promotes efficient energy use by users, and rewards improved energy efficiency. It reduces unnecessary energy consumption and energy costs, and encourages specifying an energy-efficient building envelope, installations and appliances.	

ENE 102	Performance of installations	4 Credits
Aim	To ensure an efficient operation of the building services, to prevent waste of energy and to guarantee a good indoor climate.	
Value	This approach encourages and rewards increased energy efficiency and reduces unnecessary energy consumption. It reduces operational energy costs and promotes a comfortable indoor climate.	

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Energy consumption

Minimizing energy consumption and related CO₂ emissions.

Part		Management
Available Credits	:	50
Exemplary performance	:	5
Contains filter	:	X
Minimum standard	:	Excellent
<i>Minimum 25 credits</i>		

Question

What is the energy intensity (operational energy) based on the actual energy consumption (in kWh/m² GO per year) of the asset determined according to the WEii calculation method in relation to the reference value?

CREDITS	ANSWER	ENERGY INTENSITY/ REFERENCE VALUE	CREDITS	ANSWER	ENERGY INTENSITY/ REFERENCE VALUE
SELECT A SINGLE ANSWER OPTION					
0	A	>2.09	34	W	<0.39 to 0.35
5	B	<2.09 to 1.97	35	X	<0.35 to 0.31
6	C	<1.97 to 1.85	36	Y	<0.31 to 0.28
7	D	<1.85 to 1.74	37	Z	<0.28 to 0.24
8	E	<1.74 to 1.63	38	AA	<0.24 to 0.21
9	F	<1.63 to 1.52	39	AB	<0.21 to 0.18
10	G	<1.52 to 1.42	40	AC	<0.18 to 0.16
11	H	<1.42 to 1.33	41	AD	<0.16 to 0.13
12	I	<1.33 to 1.24	42	AE	<0.13 to 0.11
13	J	<1.24 to 1.15	43	AD	<0.11 to 0.09
14	K	<1.15 to 1.06	44	AG	<0.09 to 0.07
15	L	<1.06 to 0.99	45	AH	<0.07 to 0.06
20	M	<0.99 to 0.91	46	AI	<0.06 to 0.04
21	N	<0.91 to 0.84	47	AJ	<0.04 to 0.03
22	O	<0.84 to 0.77	48	AK	<0.03 to 0.02
23	P	<0.77 to 0.71	49	AL	<0.02 to 0.01
24	Q	<0.71 to 0.65	50	AM	<0.01 to 0
25	R	<0.65 to 0.59	50 + 1 Exemplary Performance	AN	<0 to -0.2
30	S	<0.59 to 0.53	50 + 2 Exemplary Performance	AO	<-0.2 to -0.4
31	T	<0.53 to 0.48	50 + 3 Exemplary Performance	AP	<-0.4 to -0.6
32	Y	<0.48 to 0.44	50 + 4 Exemplary Performance	AQ	<-0.6 to -0.8
33	V	<0.44 to 0.39	50 + 5 Exemplary Performance	AR	<-0.8 to -1

Energy consumption

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The actual energy intensity of the asset must be calculated with the WEii calculation tool. If a WEii certificate is available, not older than 12 months, a substantive check of the determination of the actual energy intensity by the Assessor is not necessary. CO ₂ emission of the actual energy intensity of the asset must be calculated with the WEii calculation tool.	A to AR
2	The benchmark is equal to the WEii's Paris Proof objective. The corresponding reference values are set out in Guidance Note 45. See the methodology for the conversion of WEii score to BREEAM-NL credits.	A to AR
3	For assets where a building part is assessed and the energy consumption of this building part is unknown (but the energy consumption of the entire building is known), the 'Energy Allocation Calculation Tool' can be used.	A to AR

Specific notes

None.

Tables

None.

Methodology

Conversion of WEii score to BREEAM-NL points

ENE 19 uses the WEii calculation tool to calculate the actual energy intensity of the asset. The calculation tool must be completed via <https://www.wei.nl/rekentool>. The calculation tool shows the actual energy intensity indicator in kWh/m² GO per year. To determine the number of points in BREEAM-NL In-Use Non-Residential Construction, this result must be divided by the reference value shown in the table below and in Guidance Note 45.

Example

The building has a GO of 3,000 m².

- 1,500m² office function
- 1,000m² meeting function other
- 500 m² meeting function café

The energy consumption is 10,000 kWh and the natural gas consumption is 36,000m³. If this is entered in the WEii, an Actual Energy Intensity indicator of 121 kWh/m² comes out. To determine the number of BREEAM-NL In-Use Non-Use construction points, the WEii must be divided by the reference values as indicated in the table below and in Guidance Note 45.

Example calculation

The WEii for the combined functions is 121 kWh/m², this must be divided by the corresponding reference value in relation to the floor area. Total: 3000 m² = 121 kWh/m²

- 1500 m² office function = 60.5 kWh/m² / 230 = 0.26
- 1000 m² meeting function other = 40.3 kWh/m² / 245 = 0.16
- 500 m² meeting function café = 20.2 kWh/m² / 250 = 0.08

Outcome: 0.26 + 0.16 + 0.08 = 0.5 = 31 credits

Energy consumption

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation regarding the data entered and results of the WEii calculation tool OR the WEii certificate and calculations of the ratio to the benchmark.

Definitions

None.

Additional information

WEii

WEii stands for Actual Energy Intensity Indicator. The WEii of a building is calculated on the basis of the actual, measured, energy consumption and the usable area of the building. The unit of WEii is kWh per year per m².

WEii consists of a calculation protocol that leads to seven degrees of energy consumption per building type. WENG, the Truly Energy-Neutral Building, and Paris Proof, a building that meets the target of the Paris Climate Agreement, are two of the seven classes of energy intensity.

Allocation calculation tool

The 'Energy Allocation calculation tool' makes it possible to calculate the energy consumption of a specific building component. The calculation tool is available on the BREEAM.NL website.

References

- WEii - <https://www.wei.nl>
- BREEAM-NL Guidance Note 45 – Reference values

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Energy audit

Identifying and implementing cost-effective energy saving measures.

Part		Management
Available Credits	:	4
Exemplary performance	:	0
Contains filter	:	X
Minimum standard	:	X

Question

Has an energy audit been carried out for the asset and have energy-saving measures been implemented?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No, no energy audit has been carried out.
2	B	Yes, an energy audit has been carried out.
3	C	Yes, an energy audit has been carried out and all measures with a payback period of ≤ 5 years have been implemented.
4	D	Yes, an energy audit has been carried out and all measures with a payback period of ≤ 10 years have been implemented.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The energy audit is not older than four years.	B, C and D
2	The energy audit and the measures identified specifically relate to the assessed asset.	B, C and D
3	The energy audit was carried out in accordance with NEN-ISO 50002: 2014 or ISSO publication 75.2 or another equivalent standard.	B, C and D
4	The asset is an establishment that falls under the Activities Decree and 'recognised measures' have been made and implemented for the relevant sector.	B, C and D

Specific notes

None.

Tables

None.

Methodology

Energy Audit

The energy audit must at least:

1. Be based on current, measured and traceable data of energy consumption and (for electricity) load profiles.
2. Include a detailed assessment of the asset's energy usage.
3. Are based on the simple payback period (Simple TVT), or else a life cycle cost analysis (LCC) to account for long-term savings, the residual value of long-term investments and discount rates.
4. Be proportionate and sufficiently representative to be able to paint a reliable picture of the overall energy performance and the most significant improvement measures.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	The energy audit with recommendations for improvement measures.
2,3 and 4	Detailed and validated calculations of the payback period or LCC of the identified improvement measures.
2,3 and 4	Photographic evidence or documentation showing that the measures with the relevant payback period or LCC have been implemented.
3	Documentation showing which standard is used to prepare the energy audit.

Definitions

Energy audit

A systematic procedure for obtaining sufficient knowledge about the energy use of the asset so that you can identify, quantify and report cost-effective energy saving opportunities.

Additional information

None.

References

None.

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Energy consumption reporting

Minimizing energy use and related CO₂ emissions by collecting data, setting targets and raising awareness of energy use among the building manager and building users.

Part		Management
Available Credits	:	4
Exemplary performance	:	0
Contains filter	:	X
Minimum standard	:	X

Question

What is done with information about energy consumption?

CREDIT	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Data on energy consumption is not collected.
2	B	There is energy monitoring and energy consumption is compared with target figures.
3	C	There is energy monitoring, energy consumption is compared with target figures and internal reporting is carried out.
4	D	There is energy monitoring, energy consumption is compared with target figures, internal reporting is done and published in a public annual report.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The energy consumption of the asset is monitored and targets have been set for reducing energy consumption.	B, C and D
2	Reporting is done to senior management within the organization, who are responsible for managing the asset.	B, C and D
3	The measurement data and targets are published in an annual report, or a similar document, and are publicly accessible to everyone.	D

Specific notes

None.

Tables

None.

Methodology

None.

Use of energy use information

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation of the comparison/analysis of the measurement data with the objectives.
2	Documentation on reporting to senior management/internal reporting.
3	Documentation on public publication.

Definitions

None.

Additional information

None.

References

None.

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Performance of installations

To ensure an efficient operation of the building services, to prevent waste of energy and to guarantee a good indoor climate.

Part	Management
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Is the correct functioning of the installations guaranteed for energy efficiency and indoor climate performance?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	The intended performance of the installations has been recorded and a contractual agreement has guaranteed that at least 3 years recommissioning of the installations on site is guaranteed on the basis of analysis and/or monitoring. This ensures that the installations are brought back up to performance.
3	C	The intended performance of the installations has been recorded and a contractual agreement has guaranteed that an annual recommissioning of the installations on site is carried out on the basis of analysis and/or monitoring. This ensures that follow-up measures have been carried out at least annually, if necessary, to continue to guarantee performance. Buildings with a rated output of more than 290 kW must have a building automation and control system (GACS) for monitoring and analysis.
4	D	The intended performance of the installations has been recorded and a competent person has been appointed to monitor the functioning of the installations and to guarantee the performance with a continuous process of commissioning. Follow-up measures have been implemented to continue to guarantee performance. Buildings with a rated output of more than 70 kW must have a Building Automation and Control System (GACS) for monitoring and analysis.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The following installation components (if any) are part of the performance assurance: a) TES. b) Space heating (distribution and dispensing). c) Space cooling. d) Hot tap water. e) Ventilation/air treatment. f) Lighting. g) Sustainable energy and/or storage systems.	B, C and D
2	The intended correct functional operation of the installations, follow-up measures and optimizations are documented.	B, C and D
3	The contractual agreement must specify how the performance assurance is carried out. At least the following must be specified: a) Adjustment in accordance with ISSO 31 b) Monitoring Sustainable management and maintenance in accordance with ISSO 103	B and C
4	A building automation and control system (EPBD & GACS) meets at least the technical requirements of the RVO checklist for the installation types present.	C and D

Performance of installations

#	CRITERIA	APPLICABLE ON ANSWER
5	An expert person has been appointed to set up and carry out the continuous process, this person can be: A recognized commissioning manager (in accordance with the register Commissioning Nederland) OR Someone with equivalent work experience	D

Specific notes

None.

Tables

None.

Methodology

Performance assurance

Installations performance assurance helps to provide insight into the actual performance of installations and, where possible, to optimise them. Because in many buildings the installations are not properly adjusted or set up or are not properly coordinated with the current use of the building, the energy saving potential is high. In addition, the proper functioning of the installations contributes to a healthier indoor climate. With functional recommissioning and the optimization of the adjustment/setting, the performance of the installations in the building is guaranteed.

Continuous commissioning

Continuous commissioning is a form of quality assurance in which the functioning and performance (of buildings) is continuously monitored using real-time data from the building, so that the functioning and performance of the building and its installations are made transparent. After dashboarding (digital visualization and analysis), possible optimizations can be determined. After implementation of the optimisations, the effect can be assessed immediately with information from the building (real-time data). An integrated process is needed that uses the available real-time data and dashboarding in which a technical expert analyzes the data and sets out actions for optimizations, which are then implemented. Optimizations consider various aspects, such as functionality, performance, energy consumption, indoor climate and lifespan of the installation, to ensure that the implementation is successful. In order to achieve set energy objectives, the behaviour of the end user is becoming increasingly important, but this is often not measured or measured to a limited extent, but with continuous commissioning it is possible to provide insight into behaviour and its consequences. Conversations with the end user, in addition to real-time data and dashboards, are therefore crucial input for the technical expert. With continuous commissioning, the functionality and performance of buildings is safeguarded and optimized where possible.

Recommissioning

Purpose

Inspecting, testing and optimally adjusting various systems under operating conditions (see next point) with the aim of ensuring good performance assurance of the installations, so that optimal operation is guaranteed.

Size

The performance assurance covers the following systems, if any.

- Heating systems.
- Lighting systems.
- Water distribution systems.
- Cooling systems.
- Ventilation systems.
- BMS and control systems.

Performance of installations

- Building-related cold rooms.
- Renewable energy systems and/or energy storage systems

Heating and cooling systems/Thermal comfort

The assessment of thermal comfort during performance assurance should focus in particular on the control functionality of the workstations (post-controls) and also the central air handling systems.

- Local (individual) room temperature controls (stability).
- Measurement of room temperatures (maximum/minimum).
- Derogations.
- Measurements and trends of the temperature and relative humidity of AHUs.
- Efficiency of HRV and VTW (heat recovery and moisture recovery).

Lighting

Assessing the functioning of presence detection/daylight-dependent control and bridging.

Ventilation

Assessing performance.

- COV (air volume control) valves.
- VAV valves (functioning and stability of the regulation, control air volumes).

Collecting input from building users

Based on input from building users, it must be determined which positions or installation components need extra attention, so that adjustments and/or adjustments can also be made with the help of monitoring and trend analysis to optimize the functionality of the installations.

Failure and follow-up reports

The recommissioning must be carried out partly on the basis of failure and follow-up reports from the intervening period.

Energy measurements and efficiency

Part of the performance assurance is the optimization of the temperature ranges and flow rates across the groups and customers. To this end, the installer must carry out the necessary monitoring and trend analysis work (flow rates, return temperatures, delta T), including the preparation of optimization proposals.

Extensive monitoring and trend analysis work must also be carried out for the AHUs in order to optimize both technical and energetic performance.

(From answer option C)

The monitoring/BMS reports should provide a good picture of the work performed, optimisations, etc. based on BMS logging data.

- Spring
Performance in a transition from heating to cooling at outside temperatures of approximately 10 to 15°C, with which the various installations are tested under partial load.
- Summer
Performance at very high outside temperatures approx. 28-30°C. This is used to test the performance of the refrigeration system under full load, among other things.
- Autumn.
Performance in a transition situation from cooling to heating at outside temperatures of approximately 10 to 15°C, with which the various installations are tested under partial load.
- Winter.
Performance at very low outside temperatures around -10°C to -5°C. This is used to test the performance of the heating system under full load, among other things.

Performance of installations

Occupation

Low and high occupancy performance, e.g. during holiday periods

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 4	Documentation proving the intended performance of the installation.
3, 4 and 5	Documentation showing that a contractual agreement has been entered into for the functional recommissioning on site and to restore the installations to performance (if necessary) in accordance with the set criteria.
1, 2, 3 and 4	Report of the follow-up measures implemented and what has been optimized with them.
4	Specifications of the GACS.

Definitions

Commissioning Manager

An independent expert person whose task is to draw up a commissioning plan and, if necessary, to put together a team of commissioning specialists. He or she is independent of the executing manager, maintenance party or contractor. He or she monitors the (desired) performance for the client that has been contractually determined for the building. The person has demonstrable experience as a commissioning manager, and/or has followed training for this (e.g. "Commissioning Manager" at TVVL). Persons who are included in the register of Registered Commissioners with Commissioning Nederland with this qualification in any case meet this qualification.

GACS

Building automation and control systems (GACS) are building solutions that are used to monitor, control and optimize the performance and energy consumption of various technical installations in buildings. A GACS plays an important role in improving energy efficiency and reducing a building's operational costs.

There are three main functions of a GACS:

- Energy management: continuous monitoring, analysis and optimization of the building's energy use.
- Performance monitoring: testing energy efficiency, identifying efficiency losses of plants and systems, and informing the operator of opportunities for improvement.
- Interoperability: Communicating and collaborating with various systems and devices within the building.

Additional information

No.

References

- ISSO publication 31: Measuring points and measurement methods for climate installations.
- ISSO publication 103: Monitoring Sustainable Management and Maintenance.
- ISSO publication 106: Functional inspection method for sustainable management and maintenance.
- ISSO publication 107: Delivery procedure for climate installations and transfer to management.
- Commissioning Netherlands: Guideline Commissioning 2021.
- European Energy Performance of Buildings Directive (EPBD), see <https://www.rvo.nl/onderwerpen/wetten-en-regels-gebouwen#wet--en-regelgeving-energieprestatie-gebouwen>.

Water



SUMMARY

This category promotes sustainable drinking water use during the use phase of the asset and the associated outdoor spaces. Minimizing water loss due to leaks is also part of this, so that drinking water consumption is reduced throughout the life of the asset.

CONTEXT

Water efficiency is a key focus within the United Nations Sustainable Development Goals (SDGs). Goal 6, "clean water and sanitation", states that by 2030 we must increase the efficiency of water use in all sectors and ensure the sustainable extraction and supply of freshwater, in order to remedy water scarcity and significantly reduce the number of people affected by it.

Increasing population density and high water consumption are causing water shortages worldwide, which are expected to worsen further in the coming years. The demand for water will increase by 55% between 2000 and 2050. In addition, the energy required for the extraction, purification, supply, heating, cooling and disposal of water (and wastewater) contributes to climate change and deteriorated air quality. Using water more efficiently is therefore essential to meet future demand while combating climate change.

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Value of the issues

WAT 11	Water consumption	3 Credits
Aim	Ensuring that the building owner/manager is aware of the annual drinking water consumption.	
Value	Increases awareness about water consumption in the asset and encourages reducing consumption where possible, which also leads to lower costs.	

WAT 12	Water recycling	4 Credits
Aim	Encourage the use of alternative water sources to reduce the demand for drinking water.	
Value	Reduces drinking water consumption and associated energy consumption through the use of water-saving equipment and innovations	

WAT 13	Water consumption reporting	4 Credits
Aim	The structured systematic provision of reports on water consumption, so that building users understand water-efficient measures.	
Value	Manages water consumption to reduce usage where possible and minimizes damage, costs and disruptions from leaks.	

WAT 14	Water strategy	6 Credits
Aim	Promoting lower drinking water consumption by promoting strategies aimed at efficient water use and limiting waste.	
Value	Raises awareness about water consumption and monitors large water consumers to promote efficient management and maintenance and reduce unnecessary consumption.	

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Water consumption

Ensuring that the building owner/manager is aware of the annual drinking water consumption.

Part		Management
Available Credits	:	3
Exemplary performance	:	0
Contains filter	:	X
Minimum standard	:	X

Question

What is the asset's annual water consumption from utility-supplied water?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Water consumption is not measured.
3	B	Enter annual water consumption in m ³ .

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	Annual water consumption includes the sum of all drinking water used within the boundaries of the asset, for each possible use during the reported period.	B
2	For the reliability of the data entered, the measurement period shall be a full year in the two years prior to the certification date.	B

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2	Invoice or usage data from the drinking water company or meter readings from the beginning and end of the measurement period

Definitions

None.

Water consumption

Additional information

None.

References

None.

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Water recycling

Encourage the use of alternative water sources to reduce the demand for drinking water.

Part	Management
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

What is the asset's annual water consumption from alternative supplies?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
1	A	Enter annual water consumption from alternative sources in m ³ .

Question 2

What is the percentage of the asset's annual water consumption from alternative supplies?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	B	<5%.
1	C	≥ 5% to < 15%.
3	D	≥ 15%.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	In WAT 11, the annual drinking water consumption is entered and all criteria of the issue are met.	A, B, C and D
2	The consumption data for alternative water sources should cover the same measurement period as in WAT 11.	A, B, C and D
3	Various water sources can contribute to achieving the credits, provided the water is used to limit the use of drinking water for unregulated water use applications.	A, B, C and D

Specific notes

None.

Tables

None.

Methodology

None.

Water recycling

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2 and 3	Measurement data from the alternative water sources.
2 and 3	A robust estimate of the annual water consumption of alternative water sources, if no measurement data can be provided.

Definitions

Alternative water sources

Alternative sources include rainwater and greywater. An alternative source can be both treated and untreated water.

Greywater

Slightly contaminated water from household activities (such as dishwasher, washing machine, sink, shower).

Rainwater

Rainwater or meltwater from ice, snow and hail that is captured and reused.

Additional information

None.

References

None.

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Water consumption reporting

The structured systematic provision of reports on water consumption, so that residents understand water-efficient measures.

Part	Management
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

How is the collected water consumption data used?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	Measurement data is archived.
2	B	Measurement data is compared with objectives.
3	C	Measurement data is compared with objectives and reported internally.
4	D	Measurement data is compared with objectives, reported internally and published in a public annual report.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The water consumption of the asset is monitored and targets have been set for reducing water use. The objectives are supported by senior management. The objectives state that: a) The organization is dedicated to reducing water use. b) The organisation works with (if applicable) building users/tenants/suppliers to draw up strategies to reduce water use	B, C and D
2	The measurement data and objectives are reported internally at an appropriate level within the organizational structure of the building user.	C and D
3	The measurement data and targets are published in an annual report, or a similar document, and are publicly accessible to everyone.	D

Specific notes

None.

Tables

None

Methodology

None.

Water consumption reporting

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3	Documentation of water consumption analysis, such as spreadsheets, summary reports, etc.
2	Screenshots/documentation of internal reporting.
3	Screenshots/documentation of external reporting.

Definitions

None.

Additional information

None.

References

None.

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Water strategy

Promoting lower drinking water consumption by promoting strategies aimed at efficient water use and limiting waste.

Part	Management
Available Credits	: 6
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

Is there a water strategy in place?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Question 2

What is part of the water strategy?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	C	None of the below.
2	D	The water strategy includes replacing water appliances and fittings with low water use equivalents during refurbishment and natural replacement moments.
2	E	The water strategy includes a proactive maintenance policy for installed water systems.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The water strategy must be approved by senior management or the board of directors.	B
CRITERIA FOR QUESTION 2		
2	The strategy shall at least lay down: a) A replacement plan that describes that equipment and sanitary facilities with a high water consumption are replaced by alternatives with a low water consumption during renovation or at natural replacement moments. b) An overview of water-saving alternatives. The appliances and sanitary facilities must be easily identifiable as water-saving by means of relevant labels or flow volume.	D
3	Answer option B must be selected to achieve answer options C and D.	D and E
4	If all water-using appliances and plumbing are water-saving, a water policy must also be in place to maintain the current situation in the event of changes in the future.	D and E

Specific notes

None.

Tables

Water strategy

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2 and 4	A copy of the policy with the relevant documents highlighted.
1	Confirmation that the senior management/board of directors has approved the water strategy.
4	(If applicable) Maintenance logs.

Definitions

Proactive maintenance strategy

A maintenance strategy to ensure that the reliability of the installed fittings and water systems is increased. These maintenance policies typically consist of two parts:

1. **Preventive maintenance:** maintenance, measurements, tests, parts replacement, etc. to prevent faults from occurring.
2. **Predictive maintenance:** techniques that are designed to help determine the condition of installed equipment in order to predict when maintenance should occur.

Additional information

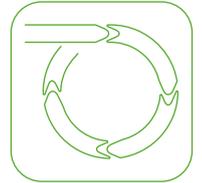
None.

References

None.

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Resources



SUMMARY

This category promotes the responsible and circular use of materials in the building, with the aim of improving value and sustainability performance, both during the use phase and at the end of its life cycle. This is achieved by gaining insight into the condition and value of the building, which contributes to maintaining and strengthening the building value and the optimal (re)use of building materials. In addition, the circular use of residual flows during the use phase is encouraged.

CONTEXT

The use phase has a significant share in the amount of materials used during the life cycle of the asset. In addition, many materials are released that reach the end of the life cycle. Many important materials are non-renewable and are becoming scarcer, more expensive and riskier to extract. In addition, the extraction and production of mainly raw materials leads to social and ecological degradation. One of the United Nations' 'sustainable development goals' includes 'responsible consumption and production' (SDG12). The goal is to achieve sustainable management and efficient use of natural resources. By 2030, waste streams must be significantly reduced through prevention, reduction, recycling and reuse. It is essential that the real estate industry does everything it can to highlight these challenges by:

1. Use existing buildings for as long as possible.
2. Maintain or increase the value of materials.
3. Facilitate the reuse or recycling of raw materials in existing buildings.
4. Enable users to maximize the reuse or recycling of waste.
5. Minimize the overall use of materials.
6. Choosing reused or recycled materials instead of primary materials.
7. Using raw materials that cause less harm to society and the environment.

Value of the issues

RSC 05	Sustainable Procurement	8 Credits + 3 Exemplary Performance
Aim	To recognise and encourage the procurement of more sustainable products and services.	
Value	Encourages economically, socially and environmentally responsible practices in the sourcing and production of materials, components and consumer goods. Promotes the application of circular economy principles throughout the procurement chain and supports the use of environmental management systems. Encourages the use of reliable guidelines to evaluate and improve responsible sourcing behaviors.	

RSC 06	Optimising resource use, reuse and recycling	6 Credits
Aim	Reducing the use of materials and facilitating the reuse, repurposing and recycling of residual flows from the asset.	
Value	Supports the achievement of corporate and legal recycling targets, reduces the ecological impact and processing costs of waste. Improves the quantity and quality of waste data, allowing for the measurement and comparison of reduction, reuse and recycling performance against targets. Increases collaboration between building users and awareness of the impact of waste, while promoting circular economy principles during the use phase of the asset.	

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Sustainable procurement

To recognise and encourage the procurement of more sustainable products and services.

Part	Management
Available Credits	: 8
Exemplary performance	: 3
Contains filter	: X
Minimum standard	: Pass
<i>At least 1 credit (answer B)</i>	

Question 1

Is a sustainable procurement policy in place?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	There is no sustainable procurement policy.
1	B	Yes, facility management has a procurement policy and the purchase of legally harvested and traded timber is part of the sustainable procurement policy for all timber products (and wood-based products).
1	C	Yes, and the sustainable purchasing policy is applied to maintenance, repairs, replacement work and renovation work.
1	D	Yes, and the sustainable procurement policy is applied when purchasing consumer goods and equipment.
1	E	Yes, and there is a procedure/policy in place to evaluate the effectiveness of the sustainable procurement policy annually and to evaluate and possibly adjust or tighten the goals for sustainable procurement.

Question 2

Who applies this sustainable procurement policy?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	F	There is no sustainable procurement policy.
2	G	The sustainable procurement policy is applied by the organisation managing the asset in purchasing decisions.
2	H	Contractors who carry out work on the asset are obliged to apply conditions from the sustainable procurement policy.
1 Exemplary Performance	I	The building users of an organisation other than the organisation managing the asset applies the sustainable procurement policy.
1 Exemplary Performance	J	The organisation managing the asset has a certified environmental management system in accordance with ISO 14001 or equivalent, which includes the sustainable procurement policy.
1 Exemplary Performance	K	All regular suppliers have an environmental management system certified in accordance with ISO 14001 or equivalent.

Sustainable procurement

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	<p>The procurement of legally harvested and traded timber is part of the sustainable procurement policy for all timber products (and wood-based products) and must be endorsed by senior management.</p> <p>The procurement policy gives preference to wood products (and wood-based products) that meet one of the following standards:</p> <ul style="list-style-type: none"> • FSC certification • PEFC certification • SFI Certification <p>Another type of certification system that has been approved by the Timber Procurement assessment committee (TPAC).</p>	B
2	<p>The purchasing policy includes at least:</p> <ol style="list-style-type: none"> Goals about sustainability to organize procurement activities accordingly. The performance description of relevant indicators that are in line with the procurement-related activities (see additional information). The way in which choices between products are made. 	B, C and D
3	<p>If the sustainable procurement policy applies to multiple assets or has been implemented at the organizational level. Then the processes from the ISO 20400:2017 must be followed. The Facilities Management Board endorses the sustainable procurement policy.</p>	B, C and D
4	<p>The senior management of the organisation managing the asset shall endorse the suitable procurement policy.</p>	B, C and D
5	<p>The procedure/policy for the evaluation of the procurement policy must focus on the effective implementation of the procurement policy and on the objectives set regarding the sustainability of procurement activities.</p> <p>The procedure/policy can be part of the purchasing policy. The evaluation is carried out annually in consultation with the senior management of the organisation managing the asset.</p>	E
CRITERIA FOR QUESTION 2		
6	<p>If contractors and/or building users can guarantee that their own sustainable procurement policy meets the requirements of the procurement policy of the organisation managing the asset, points can be awarded for answer option H and/or I.</p> <p>If the organisation managing the asset and building user are the same organisation, the EP for answer option I does not apply and cannot be achieved.</p>	H and I
7	<p>Answer options I, J and K can only be achieved if answer options B, C and D have been met.</p>	I, J and K
8	<p>The environmental management system has a valid certificate in accordance with ISO 14001 and is certified by a third party.</p>	J
9	<p>Suppliers have an environmental management system with a valid certificate in accordance with ISO 14001 and is certified by a third party.</p> <p>These are suppliers of both goods and services that comprise at least the top 80% of the total goods and services supplied, expressed in volume or money, at the discretion of the organisation, and always including the regular suppliers. For example, one-off or single deliveries usually fall outside the scope, but the annual accountancy service and the leasing company should be within the scope.</p>	K

Specific notes

Sustainable procurement

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'Burden of proof' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	The sustainable procurement policy.
1	Documentation/declaration of endorsement of sustainable purchasing policy with regard to wood products by senior management.
3	The sustainable procurement policy drawn up in line with processes from ISO 20400:2017.
4	Documentation/declaration of endorsement of sustainable procurement policy by management.
5	Procedure/policy regarding evaluation of the sustainable procurement policy or relevant documents in sustainable procurement policy highlighted.
6	Documentation and statement from the contractor and/or building user justifying that their sustainable procurement policy is adequate.
7 and 8	ISO 14001 certificate.

Definitions

Consumer goods and equipment

Products that are used for the normal functioning of the asset and related services. This includes security, items for reception and concierge, IT equipment and office furnishings, cleaning products, waste bins and recycling bins, lamps and filters.

Contractors who carry out work on the asset

Organisations that have entered into a contract with the facility manager/building manager to provide a service to the asset (such as cleaning, (re)construction work, gardening, security).

CITES

The CITES (Convention on International Trade in endangered species of wild fauna and flora) agreement includes rules to protect animal and plant species.

Environmental management system

An environmental management system controls and improves the organization's environmental performance. It ensures a continuous cycle of policy-making, monitoring and improvement of environmental risks, compliance with environmental laws and regulations and environmental performance. The environmental management system is, preferably, part of the usual management system. Through an environmental management system, structural attention is paid to the environment in business operations, and environmental management is integrated into daily business operations

Renewable raw materials

Raw material from a source that is grown, naturally replenished or naturally cleaned on a human timescale.

Sustainable procurement

Secondary materials

Material from previous use or from residual flows from another product system, which replaces primary materials or other secondary materials.

Reused products

Products that are reused in the same function, with or without processing.

Environmental impact

Change in the environment, adverse or beneficial, resulting in whole or in part from an organization's activities or products.

Environmental performance

Performance with regard to environmental impacts and environmental aspects.

Detachability

Detachability is the extent to which objects can be dismantled at all scales, without compromising the function of the object or the surrounding objects in order to protect the existing value.

Scarce raw materials

Limited availability, based on the size of the stock of a raw material or material, the extractability and the security of supply in the event of geopolitical or social changes.

Critical materials

Material with great economic importance and low security of supply.

Social Return on investment

Designation that is used in the broad sense for the social added value that you achieve with measures taken or to be taken. Think of better respect for fundamental rights and principles of equality and non-discrimination, and strengthening social cohesion and solidarity.

Additional information

Sustainable procurement policy indicators

- The share of renewable raw materials.
- The proportion of secondary materials.
- The proportion of reused products.
- The environmental performance of products and materials.
- The detachability of products and materials.
- Critical and scarce raw materials.
- Toxic substances.
- Extending the lifespan of products.
- The value of preserving the lifespan of products.
- Social Return on Investment.
- Circular revenue models such as product-as-a-service, take-back systems (take-back by producer after use).
- Low energy consumption during the lifespan (based on the energy label, for example).

Equivalent standards

Standards equivalent to ISO 14001 The following standards are recognized as equivalent standards to ISO 14001:
EMAS – Eco-management and audit scheme

Legally harvested wood

Sustainable procurement

Legally harvested timber products (and timber-based products) come from a forest where the following criteria are met: The forest manager or owner has rights to legally manage the forest and local and national regulations, including the relevant use criteria for:

- Forests.
- Environment.
- Work and welfare.
- Health and safety.
- Term of office of other parties and rights of use.
- All relevant royalties and taxes have been paid.
- The criteria of CITES are fully met.

Legally harvested and traded timber

Legally traded timber products (and timber-based products) are:

- Exported in accordance with the export country's legislation governing the export of timber and timber products, including the payment of export taxes, obligations or levies.
- Imported in accordance with the import country's legislation on the import of timber and timber products, including the payment of export taxes, obligations or levies.
- Traded in accordance with legislation on the Convention on International Trade in Endangered Species (CITES) where applicable.

References

- Lexicon circular Construction, CB'23 - Unambiguous terms and definitions, 2 July 2020 - <https://platformcb23.nl/aan-de-slag/2020>
- A measurement method for detachability – Dutch Green Building Council 2021 - <https://www.dgbc.nl/circulair-losmaakbaarheid-196>

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Optimising resource use, reuse and recycling

Reducing the use of materials and facilitating the reuse, repurposing and recycling of residual streams from the asset.

Part	Management
Available Credits	: 6
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

Has data been collected from the waste generated during the management of the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.
4	C	Yes, and data has been collected on the waste generated by building user(s).

Question 2

Has the reduction, reuse and recycling of waste from the asset been optimised because targets have been formulated? And is the involvement of building users stimulated?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	D	No.
1	E	Targets have been formulated for reducing waste generated from the asset, increasing reuse and recycling.
1	F	Facility management actively encourages the involvement of building users in reuse and recycling.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The following data are recorded for each waste stream: a) Type of waste/waste stream; b) The weight or volume of the waste; c) The processing method. This data is included in the Assessment Tool.	B and C
2	The data is shared annually with the asset's senior management.	B and C
3	The waste generated during the management of the asset may be kept in combination with the user's waste, if no separate data is available.	B
4	The waste generated by building users must be recorded separately from the waste generated during the management of the asset. If the facility management is also the main user of the asset, the waste generated during the management of the asset and the waste from occupied rooms/users may be registered jointly.	C
CRITERIA FOR QUESTION 2		
5	If answer option C or D is achieved, answer options E and F can only be achieved.	E and F

Optimising resource use, reuse and recycling

#	CRITERIA	APPLICABLE ON ANSWER
6	The senior management of the organisation managing the asset reviews and endorse annual targets for reducing waste generated from the asset and increasing reuse and recycling of waste from the asset.	E
7	<p>Facility management encourages tenant engagement by taking at least five of the following measures:</p> <ol style="list-style-type: none"> Communication about the waste hierarchy and other relevant background information. Communication about how and why the waste of the asset is registered. Communication about the quantities and type of waste produced by the asset. Communication about the benefits of reducing, reusing and recycling waste from the asset. Highlighting relevant examples/case studies of the other assets/organizations. Communication about the facilities available for reuse and recycling. Communication on how building users can gain more experience and explanation. Other appropriate measures to increase tenant engagement. <p>This information will be shared with the relevant staff in person or through a presentation:</p> <ul style="list-style-type: none"> Of all new tenants. And at least annually to all tenants. 	F

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'Burden of proof' for evidence that can also be used to demonstrate that the criteria are met.
1,3 and 4	Documentation of the registered waste and the data is entered in the Assessment Tool.
2	Documentation showing that the waste registration data has been shared with senior management.
6	Documentation (e.g., confirmation, minutes, statement) showing what the goals are set and that senior management endorses the goals.
7	Documentation/photos of the measures that have been implemented.

Definitions

European waste catalogue

European waste classification system according to the "European List of Waste (LoW)".

Optimising resource use, reuse and recycling

Additional information

None.

References

None.

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Resilience



SUMMARY

This category focuses on the protection of the asset, including against the effects of climate change. These include physical risks, such as flooding and the possible contamination of run-off water, but also damage to materials, physical safety, and social risks and opportunities. A proactive approach is encouraged to mitigate these risks, seize opportunities to strengthen the resilience of the asset and environment, and ensure a rapid recovery. In addition to risk management, the focus is also on disaster preparedness and response, as well as the factors that contribute to the broader resilience of both the asset and its immediate environment.

CONTEXT

The risk of flooding is a major concern, especially since many buildings are located in locations with an increased risk of flooding, which is increasing every year. Goal 11 of the United Nations Sustainable Development Goals (SDGs) focuses on promoting sustainable, safe and resilient cities. In the event of flooding, the consequences are far-reaching, with a major impact on business continuity. Cleaning, repairing and preparing buildings for reopening is time and cost intensive. The first step in managing flood risks is to gain insight into the specific risk to a building.

In addition, the runoff of rainwater can have serious consequences for water quality, public health and the local economy. However, controlling this run-off water offers opportunities for the asset and the environment, such as the reuse of rainwater, the construction of resilient infrastructure, the restoration of urban waterways and the introduction of more greenery to increase the quality of life. In addition to flooding, other natural disasters can also pose a threat to the asset and building users. Understanding the risks associated with such events helps develop strategies to protect both the users and the value of the asset.

The durability of the building itself also plays a role. Exposed parts of the building can suffer damage due to aging or wear and tear, leading to unnecessary use of materials and waste. This can be reduced by identifying, phasing out, and taking protection measures in place at risk.

Finally, safety is crucial for the well-being of building users. Fear of crime can affect the sense of security, affecting health and productivity. The presence of an alarm system contributes to the safety and comfort of users, and strengthens the overall resilience to such risks.

Value of the issues

RSL 06	Emergency plans	6 Credits + 1 Exemplary Performance
Aim	Encouraging the presence of emergency plans that protect the asset and the environment in addition to building users.	
Value	Ensures that the impact of calamities is minimised, with the aim of protecting building users and the environment during incidents, and protecting the asset and its value during the use phase.	
RSL 07	Transition plan	4 Credits
Aim	Stimulating the transition to a future-proof built environment with insight into the risks, opportunities and objectives	
Value	Ensures that the transition to a low-carbon economy has minimal impact on the asset, reduces the risk of loss of value, and recognizes opportunities for the asset during this transition.	
RSL 08	Social value	4 Credits
Aim	Gaining insight into the social aspects of the community and contributing to it.	
Value	Ensures that the social risks and opportunities in the community are understood, and stimulates projects to open up their buildings and integrate them better into the local environment.	
RSL 09	Fire risk management	3 Credits
Aim	Ensuring that there is a consistent baseline level of fire safety risk assessment.	
Value	Provides insight into fire risks to save lives and strives to protect the asset and its operational value.	
RSL 10	Security risk assessment	2 Credits + 1 Exemplary Performance
Aim	Ensuring that all building-related security issues are identified and addressed to prevent the risk of crime.	
Value	Reduces crime risks and insurance costs, increases the value of the building and protects both the building occupants and the asset.	

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Emergency plans

Encouraging the presence of emergency plans that protect the asset and the environment in addition to building users.

Part	Management
Available Credits	: 6
Exemplary performance	: 1
Contains filter	: X
Minimum standard	: Excellent
<i>At least 3 credits (answer B)</i>	

Question

Is there an emergency plan in place and what is the scope of the emergency plan?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No, there is no emergency plan in place.
3	B	Yes, a contingency plan is in place and the contingency plan includes the protection of the asset.
3	C	Yes, an emergency plan is in place and the emergency plan includes the environmental impact on the immediate vicinity of the asset.
Exemplary Performance	D	Yes, there is an emergency plan in place and the emergency plan includes how the asset provides a common shelter for emergencies and how this has been communicated to the immediate vicinity of the asset.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>The contingency plan is a coherent strategy and at least takes into account all relevant climate-related physical risks and broader safety risks that apply to the asset and building users. The strategy includes how the asset and building users are protected from these identified risks.</p> <p>As a basis, a risk assessment must be made that shows which climate-related physical risks and safety risks apply to the asset and building users. If a risk assessment has been made for RSL 01 and RSL 09, it can be used here. An additional risk assessment must then be made for broader safety risks.</p> <p>The level of detail required will depend on the risks to which the site is exposed and the complexity of mitigating those risks.</p>	B, C and D
2	The emergency plan must be prepared by a competent person or organization.	B, C and D
3	The responsibility for the emergency plans is known to relevant employees within the manager's organization and/or to the building owner. This includes managing and updating the emergency plans. This has been communicated to the building users.	B, C and D
4	<p>In addition to the above criteria, the emergency plan also includes a description of the communal reception area. The size of this reception area depends on the number of building users, the number of stakeholders in the immediate vicinity of the asset, the existing reception areas and the risks and associated calamities that may occur. The location of the communal reception area has been communicated to the building users and the relevant stakeholders in the immediate vicinity of the asset.</p> <p>Examples of communal reception areas can be:</p> <ul style="list-style-type: none"> Emergency shelter. 	D

Emergency plans

#	CRITERIA	APPLICABLE ON ANSWER
	<ul style="list-style-type: none"> Heat wave cooling centers. Kitchen areas. Meeting places. 	

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1	Documentation of the emergency plan.
2	Documentation of the competent person or organisation that carried out the assessment.
3 and 4	Documentation about the awareness of the emergency plan among the manager organization and/or building owner, and the communication of this to building users.
4	Documentation about the communication of the communal reception area with the building users and immediate surroundings, and how they can use the reception area in the event of an emergency.

Definitions

Physical climate risks

Physical risks of climate change are risks arising from events, such as extreme weather events (floods, extreme heat), as well as longer-term shifts in climate patterns. Physical risks of climate change can be both acute, such as an increase in the severity of extreme weather events, or chronic such as sea level rise or chronic heat waves.

Security risks

Potential hazards or threats that may affect the safety of the building and people in or around a building. This includes various risks that can arise from various factors, such as construction defects, fire safety, natural disasters, crime, and exposure to harmful substances. The purpose of identifying these risks is to take appropriate measures to protect the building and users of the building.

Competent person or organization

An individual or organization (or individuals) with sufficient knowledge and experience:

Experienced in drawing up emergency plans

OR

Has knowledge of the building, is able to determine appropriate measures and is able to estimate the impact on the immediate surroundings.

Additional information

Emergency plans

None.

References

- ISO 14091 Adaptation to climate change – Guidelines on Vulnerability, impacts and risk assessments.

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Transition plan

Stimulating the transition to a future-proof living environment with insight into the risks, opportunities and objectives.

Part		Management
Available Credits	: 4	
Exemplary performance	: 0	
Contains filter	: X	
Minimum standard	: X	

Question

Has a transition plan been developed for the asset?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, a transition plan has been drawn up for the asset.
4	C	Yes, a transition plan has been drawn up for the asset and includes how the additional transition risks and opportunities will be anticipated.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>The building owner and/or facility management has drawn up a transition plan for the asset or the asset is part of a transition plan at the organisational level.</p> <p>This plan describes the transition of the asset(s) to a future-proof built environment.</p> <p>For example, the transition plan can be in line with the transition to:</p> <ul style="list-style-type: none"> The Paris climate goals (climate neutral by 2050) 100% circular business operations Emission-free transport and transport <p>The transition plan may not reflect an interim goal, such as 50% circular or 50% emission-free.</p>	B and C
2	The transition plan has a clear end goal and focus points, contains a schedule for how to get there and describes how it will be monitored.	B and C
3	The transition plan provides insight into the risks and opportunities for achieving this final goal. This must be made transparent for both short-term and long-term transition risks and opportunities.	C

Specific notes

None.

Tables

None.

Methodology

None.

Transition plan

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2 and 3	The transition plan, including a description of how the plan will be monitored.

Definitions

Transition plan

An action plan, roadmap, etc. that is drawn up by the building owner/manager with regard to a strategy that focuses on a transition to a future-proof built environment. Within this, the building owner/manager can focus on, for example, energy neutrality, circularity, emission-free transport, climate adaptive, etc.

Additional information

Transition risks and opportunities

Transition risks and opportunities can be political, legal and technological in nature, and can arise from market developments (not exhaustive). Think of government policy that sets requirements for the CO2 emission reduction of buildings, innovations that make it possible to reuse more and subsidies that make it more or less attractive to drive on electricity/hydrogen.

Paris Climate Agreement

The Paris Climate Agreement is an international treaty to combat global warming. The agreement was presented on 12 December 2015 at the Paris climate conference. In it, 195 countries, including the Netherlands, have agreed to limit the increase in the average global temperature to well below 2 degrees Celsius, and if possible 1.5 degrees Celsius, by 2050. Part of the Climate Agreement is that the built environment will be completely climate neutral by 2050.

References

None.

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Social value

Gaining insight into the social aspects of the community and contributing to it.

Part		Management
Available Credits	:	4
Exemplary performance	:	0
Contains filter	:	X
Minimum standard	:	X

Question 1

Has the social aspects in the community been researched?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
1	B	Yes, a basic neighborhood analysis has been carried out.
2	C	Yes, an extensive neighborhood analysis has been carried out.

Question 2

Does the asset contribute to the social sustainability of the community?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	D	No.
2	E	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	<p>The basic environmental analysis must include at least:</p> <ul style="list-style-type: none"> a) Socio-economic characteristics of the community. b) SWOT analysis of strengths and weaknesses, as well as opportunities and threats in the community. c) Overview of stakeholders in the community. d) Based on the environmental analysis, actions have been determined to contribute to the community through the asset. <p>If an environmental analysis is already available, for example made by the developer, and it is not older than three years, it can be used as a basis.</p>	B
2	<p>The comprehensive environmental analysis must include at least:</p> <ul style="list-style-type: none"> a) Socio-economic characteristics of the community. b) SWOT analysis of strengths and weaknesses, as well as opportunities and threats in the community. c) Overview of stakeholders in the community. d) The social points of interest according to key figures in the community. e) Based on the environmental analysis, actions have been determined to contribute to the community through the asset. It also indicates how and when these actions will be carried out, and how this added value will be evaluated. 	C

Social value

#	CRITERIA	APPLICABLE ON ANSWER
	The environmental analysis must have been carried out by someone who has experience in performing such analyses or has a background in sociology (or similar). If necessary, an external expert can be called in to guide the environmental analysis.	
CRITERIA FOR QUESTION 2		
3	The actions identified in the environmental analysis, to make a social contribution to the community, have been carried out. This can be done, for example, by making the asset socially accessible to the community. The added value/effectiveness of the actions will be evaluated within three years. A financial contribution to a social initiative is not enough to earn credits.	E

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Environmental analysis report
3	Documentation/photos of actions carried out and, if required, evaluation of these actions.

Definitions

Environmental analysis

Public data can be used as a basis for the environmental analysis. Examples of public databases are Statistics Netherlands (CBS) on Map, Atlas of the Region (PBL), the Liveability Meter, and the Social Map of the Netherlands.

Socio-economic characteristics

Relevant socio-economic characteristics include the age, origin and level of the incomes of the residents, the number of residents on benefits, the number of residents with and without children, the number of social facilities, the degree of activity, the accessibility to commercial facilities and social cohesion.

Stakeholders

A stakeholder is a person or party who is present or active in the community and has or can influence the social aspects of the community. Think of residents, local entrepreneurs, a healthcare institution, library, but also the municipality, and developers and (other) investors who have real estate in the community.

Social value

Key figures

A key figure is a stakeholder in the community, and is known for knowing what is going on in the community and what social concerns are. This can be a local entrepreneur, a resident, a volunteer at a social organization, or a municipality.

Social accessibility

Social accessibility specifically refers to the accessibility of the building and/or plot for the community. This concerns whether residents, entrepreneurs and/or organisations from the area can use the space or facilities of the building and/or plot.

Additional information

Environmental analysis

An environmental analysis can lead to well-considered actions that make a positive contribution to the community in various ways. Some examples of how the asset can contribute positively to the community (not exhaustive):

- Safety has been identified as a weakness and therefore a focus in the community. By means of outdoor lighting and a lively plinth, the asset contributes to greater safety.
- The community is very petrified and more greenery is therefore desired. By means of front gardens and a green façade, the asset contributes to the greening of the community.
- It turns out that the asset reduces mobility/accessibility. The size of the asset means that residents have to walk far to get somewhere. By making the asset partly accessible to the community, the asset is less of a physical obstacle to the community.

Social accessibility

Examples of how an asset can be made more socially accessible to a community (not exhaustive):

- In addition to the asset, there is a part, green outdoor space that can also be used by residents from the community
- The asset facilitates space for local community initiatives, such as educational and cultural organizations and events.
- If the asset is not fully utilized for some of the time, the asset rents out a space (or more) to local businesses, non-profits, or start-ups.

References

None.

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Fire risk management

Ensuring that there is a consistent baseline level of fire safety risk assessment.

Part	Management
Available Credits	: 3
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: Excellent
<i>At least 2 credits (answer B)</i>	

Question

Has a fire safety risk assessment been carried out?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, a risk assessment has been carried out.
3	C	Yes, a risk assessment has been carried out and there is a fire safety manager or other staff member who manages, monitors and initiates evaluations of the results of the risk assessment.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The risk assessment must be carried out for buildings in use. Risk assessments carried out during the design phase of new construction projects and risk assessments drawn up prior to commissioning are inadequate.	B and C
2	A fire safety risk assessment must be carried out by a competent person/organisation in line with, for example: <ul style="list-style-type: none"> BRL-K21016 Fire Safe Use of Buildings (BGB). NPR6059 (practice guideline for fire safety) or NEN6059 (assessment of fire safety of buildings). Inspection in accordance with the BOEI RvB methodology of the Central Government Real Estate Agency. Or an equivalent guideline. 	B and C
3	The risk assessment is in line with the demarcation of the building or part of the building that is being certified. If applicable, the related access routes should also be included in the assessment.	B and C
4	The following is at least part of the risk assessment: <ol style="list-style-type: none"> The risk of starting, developing and spreading a fire in the building. The potential consequences in the event of a fire in the building. The translation of the results of the risk assessment into an action plan with appropriate measures to minimise the risk of fire and the consequences of fire. 	B and C
5	The results of the risk assessment must be reviewed every three years and when changes have been made to the asset.	B and C
6	A competent person has been made responsible for the management, monitoring and timeliness of the risk assessment.	C

Specific notes

None.

Fire risk management

Tables

None.

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1, 2, 3, 4, 5 and 6	The most recently carried out risk assessment.
2	Qualification of the person who carried out the risk assessment.
6	Documentation of direction/appointments with fire safety manager or other staff member.

Definitions

Competent person

In this context, competent means that the person has sufficient training, knowledge and/or experience to advise on the measures to be implemented on the basis of a safety chain-wide approach. For more complex assets, this role can be filled by a team.

Additional information

Risk assessment in the field of fire safety

A fire safety risk assessment is a systematised and structured assessment of the risks of fire in buildings. This maps out the current risks of fire, determines the extent to which the current fire prevention measures are adequate and determines whether any additional fire prevention measures are necessary and their nature. The necessary additional fire prevention measures have been translated into an action plan and are part of the archived risk assessment. The aim of the action plan is to develop measures to ensure that the level of risk is reduced, or maintained, to a permissible level. This ensures that the focus is on fire prevention measures, rather than just fire safety.

References

None.

Safety risk assessment

Ensuring that all building-related security issues are identified and addressed to prevent the risk of crime.

Part		Management
Available Credits	:	2
Exemplary performance	:	1
Contains filter	:	X
Minimum standard	:	X

Question

Has a safety-risk assessment been carried out?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION THE EXEMPLARY PERFORMANCE CAN BE SELECTED SEPARATELY
0	A	No.
2	B	Yes, a safety-risk assessment has been carried out.
Exemplary Performance	C	Certification has been carried out in accordance with a recognised assessment system in the field of (burglary) security.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	An competent person has drawn up a safety-risk assessment.	B and C
2	The assessment determines the risk profile based on the risk classes of the Improved Risk Class Classification (VRKI).	B and C
3	The assessment includes which security measures are in place to manage the identified security risks and agreements are made to keep the safety-risk assessment up to date.	B and C
4	One of the following certificates is present: <ul style="list-style-type: none"> BORG certificate or BORG Delivery Certificate VEB SABRE (www.bregroup.com/sabre) 	C

Specific notes

None.

Tables

None.

Methodology

None.

Safety risk assessment

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	The safety-risk assessment, drawn up by an expert person.
3	A certificate from a recognised security risk assessment system.

Definitions

Competent person

The security advisor is independent and does not work for the company involved in the provision of security measures.

The following persons can be considered experts:

- Individuals with a Crime Prevention Through Environmental Design (CPTED) degree.
- Persons with a post-HBO Security and Technology degree.
- Persons with a Certified Protection Officer (CPO) diploma.
- TBV diploma in combination with IRIS Security Management.
- Qualified employee of a BORG or NBR certified security company.
- Persons who are registered as 'SABRE Registered Professional' and who meet the 'Risk' criteria. An up-to-date list of SABRE Registered Professionals can be found on www.redbooklive.com.
- An active security advisor or security head who meets the following requirements:
At least 3 years of relevant experience in the past 5 years and is affiliated with a professional institute and meets the requirements for registration at the time of carrying out the risk assessment.

Additional information

Recognized rating system in the field of (burglary) protection

Certification providers who have not been appointed but believe that their certification is equivalent to the named certifications can contact the DGBC.

References

None.

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Land Use and Ecology



SUMMARY

This category promotes awareness of strengthening the ecological value of the asset or plot. In addition, it provides insight into the impact that the asset has on the ecology during the use phase. With the help of this category, a long-term strategy can be developed that focuses on improving the ecological value of the asset.

CONTEXT

The conservation and creation of biodiversity and natural habitats are essential for life on land. Habitats support both the diversity of living organisms and the interdependence between them. Goal 15 of the United Nations Sustainable Development Goals (SDGs) focuses on 'life on land' and aims to integrate ecosystem and biodiversity values into national and local planning and strategies, including poverty reduction, by 2020.

The ecological value of an asset extends beyond the plot boundaries and can have a significant impact on the ecological value of the environment. It is therefore important to understand the existing values and characteristics of the plot, promote ecological facilities and increase biodiversity on the plot where possible.

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Value of the issue

LUE 03	Ecology report	4 Credits
Aim	Encourage organizations to identify and improve the environmental value within the asset's footprint, based on the recommendations of a qualified ecologist.	
Value	Identifies the ecological value within the footprint of the asset and the environment, so that negative effects on the ecology can be minimised and improvements in biodiversity can be achieved where possible.	

LUE 04	Biodiversity management plan	6 Credits
Aim	Encouraging organisations to develop a biodiversity management plan. In order to maintain and improve the ecological value of the site.	
Value	Ensures that the expected benefits are realized sustainably and efficiently during the use phase of the asset. Supports owners, managers and users in improving the ecology and biodiversity within the asset. Contributes to local, national and international initiatives to protect habitats and biodiversity.	

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Ecology report

Encourage organizations to identify and improve the environmental value within the asset's footprint, based on the recommendations of a qualified ecologist.

Part	Management
Available Credits	: 4
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question

Has an ecological study been carried out in the past 3 years and have the recommendations been implemented?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, and the recommendations have been implemented outside the scope of the asset because the licensed ecologist has confirmed that there are no or very limited opportunities to improve the ecological value within the footprint of the asset.
2	C	Yes, and at least 75% of the recommendations identified by a qualified ecologist have been implemented.
4	D	Yes, and all recommendations identified by a qualified ecologist have been implemented.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	<p>The ecological study must comply with the following:</p> <ul style="list-style-type: none"> a) The ecological research was carried out by a qualified ecologist. b) The ecological study has been carried out or revised in the past three years. If changes have occurred in the meantime that may affect the results of the investigation, the investigation must also be revised. c) The content of the ecological study must at least comply with the components mentioned in the 'Methodology'. <p>An ecological study/nature report drawn up for another BREEAM-NL guideline or previous certification is sufficient, if it meets the above requirements.</p>	B, C and D
2	Recommendations from the accredited ecologist can be realized outside the scope of the asset if the conditions in the 'use function specific criteria' are met.	B

Specific notes

REQUIREMENT	CRITERIA
Improvement outside the scope of the asset	<p>When a recognised ecologist has confirmed that there are no or very limited possibilities to apply ecological facilities within the footprint of the asset, it is possible to realise ecological facilities within a radius of 2 kilometres from the asset. In this way, ecological value can still be added to the environment.</p> <p>A number of conditions apply here:</p> <ul style="list-style-type: none"> a) The same criteria apply as if the ecological facilities could be realized within the footprint of the asset. b) The qualified ecologist has confirmed that all possibilities on the plot have been exhausted before off-site improvement is recognized.

Ecology report

REQUIREMENT	CRITERIA
	<ul style="list-style-type: none"> c) The accredited ecologist has confirmed that the ecological facilities contribute significantly to biodiversity and are appropriate for the location in question. d) Have the ecological facilities been realized on a plot/asset of the same owner? Then it must be demonstrated by whom the provisions for the asset were realized. Counting a facility for different assets does not earn points.

Methodology

Ecological report

An ecological study must be carried out by a qualified ecologist to determine the ecological starting position, including:

- a) The current and potential environmental value and characteristics of the asset's footprint, and related areas within its sphere of influence.
- b) Direct and indirect risks to the current ecological value of the asset.
- c) The possibility and feasibility for enhancing the ecological value within the footprint of the asset and, if relevant, related areas within the sphere of influence.

The study and evaluation is carried out at an appropriate time of the year to assess the habitat and the expected presence of flora and fauna at the right time. Once the ecological starting position has been determined, the recommendations of the qualified ecologist are based on this.

The following components must be included at least for the examination:

- a) Determine the area affected by the asset's footprint, including adjacent areas and habitats.
- b) The current value and condition of the plot and the area affected by the asset's footprint, including:
 - Characteristics such as habitats, existing ecological facilities, size, quality, connectivity, fragmentation, 5 Rs. The recent and historical characteristics of the plot. Flora and fauna (both permanent and temporary species)
 - Benefits and opportunities for biodiversity and ecosystems.
 - Direct (e.g. due to human activities) and indirect (e.g. water, noise and light pollution) risks to the current ecological value. Taking into account vulnerable areas and facilities on or near the plot.
 - Existing levels and agreements for management and maintenance, and the impact of this on flora and fauna.
 - Existing ecological initiatives within the sphere of influence.
 - Identification and consultation of relevant stakeholders (where necessary according to the ecologist), who have an impact on or are affected by the plot.
 - Local knowledge or sources of information.

Evaluation (for the recommendations):

- a) Possibilities and feasibility to strengthen the ecological value.
- b) Overview of the recommendations made by the accredited ecologist, and which ones have and/or have not been implemented, including substantiation.
- c) Restoration of habitat(s) and the potential for new habitats.
- d) Possible future developments (renovation, expansion, etc.) that have a negative impact on the flora and fauna.

Tables

None.

Ecology report

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'Burden of proof' for evidence that can also be used to demonstrate that the criteria are met.
1	The ecological report/study.
2	Proof that the ecological survey has been carried out by a qualified ecologist, for example by a copy of relevant documents, qualifications, CV or membership.
1 and 2	Evidence showing that the recommendations for protecting or enhancing ecological value have been implemented, such as photographs, inspections, or implementation plans for specific key ecological areas on the plot.

Definitions

Ecologist

A person who has specialized in interactions between organisms and living systems for his or her profession and who is concerned with the relationship between organisms and their environment.

(Suitably) qualified Ecologist (SQE)

- Has completed a course at college or university level with a focus on ecology.
OR
- As a practicing ecologist I work for an ecological consultancy that is affiliated with the Green Offices network.

Zone affected by the asset's footprint/scope

The plot to be assessed can affect soil, water and air. These can also be areas outside of the asset's footprint, such as adjacent areas or areas that depend on the location but are not physically connected to it. Areas within the sphere of influence may be negatively impacted by changes at an assessment site, but they also provide further opportunities to maximise improvement activities.

Asset footprint

The surface area within the demarcation of the asset, i.e. building or building part including any outdoor space. The surface is the surface as projected on the earth, not, for example, the GFA.

For buildings without outdoor space:

The asset is a stand-alone building, with no corresponding surface area within the asset's footprint (e.g. an office building in the city centre).

For buildings with outdoor space:

The asset footprint boundary should be defined as:

Responsibility of the ownership or management of the plot changes.

OR

If there are several buildings on one plot and there is a clear demarcation between the space around the buildings, this must be used as the boundary of the asset's footprint.

OR

If there are several buildings of the same owner on one plot, the total green area of the entire plot may be calculated and allocated to all individual buildings on the plot.

References

- Green Offices Network - <https://www.netwerkgroenebureaus.nl/>

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Biodiversity management plan

Encouraging organisations to develop a biodiversity management plan. In order to maintain and improve the ecological value of the site.

Part	Management
Available Credits	: 6
Exemplary performance	: 0
Contains filter	: X
Minimum standard	: X

Question 1

Has a biodiversity management plan been drawn up with specific goals to protect the ecological value of the plot?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, a management plan has been drawn up to manage and maintain existing ecological facilities.
4	C	Yes, a management plan has been drawn up with the aim of improving the ecological value and biodiversity on the plot, including management, maintenance and monitoring of the existing ecological facilities.

Question 2

Is the management plan based on the recommendations of a qualified ecologist and in line with regional and national biodiversity policy plans?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	D	No.
1	E	Yes, the management plan is based on the recommendations of a qualified ecologist.
1	F	Yes, the management plan is in line with local, regional and national biodiversity policy plans.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
CRITERIA FOR QUESTION 1		
1	The management plan serves as a manual for the maintenance and management of the applied ecological facilities. The plan includes (but is not limited to): <ol style="list-style-type: none"> Overview of applied green and ecological facilities and their desired condition. Actions and responsibilities for the management of ecological facilities and green spaces. No harmful and/or artificial means are used for the management of green areas and ecological facilities. 	B
2	The management plan must be kept up to date and is evaluated and revised every three years.	B and C
3	In addition to criterion 1, the management plan also includes objectives to maintain and increase the ecological value of the asset for the next three years.	C
4	Monitoring of the ecological facilities is part of the management plan to safeguard the ecological value. The Monitoring Recommendation makes clear (see also additional information): <ol style="list-style-type: none"> The recommended monitoring for a period of three years. What the expectations and objectives of the facilities are. For which species they are intended. 	C

Biodiversity management plan

#	CRITERIA	APPLICABLE ON ANSWER
	d) How good management and maintenance can support the objectives. e) How the findings of monitoring affect management and maintenance.	
CRITERIA FOR QUESTION 2		
5	If points have been awarded for LUE 03, the management plan is based on the findings and recommendations from the ecological study of a qualified ecologist.	E
6	If local, regional and national guidelines are prescribed, they are followed. This ensures that the management plan contributes to the objectives set in the field of biodiversity. For example, it may happen that a municipality has a guideline to improve regional biodiversity through certain measures. The management plan must be in line with this.	F

Specific notes

None.

Methodology

None.

Tables

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'Burden of proof' for evidence that can also be used to demonstrate that the criteria are met.
1,2,3,4,5 and 6	Documentation of the management plan.
5	Proof that the ecological survey has been carried out by a qualified ecologist, for example by a copy of relevant documents, qualifications, CV or membership.

Definitions

Ecologist

A person who has specialized in interactions between organisms and living systems for his or her profession and who is concerned with the relationship between organisms and their environment.

Suitably qualified ecologist (SQE)

- Has completed a course at college or university level with a focus on ecology.
OR
- As a practicing ecologist I work for an ecological consultancy that is affiliated with the Green Offices network.

Biodiversity management plan

Citizen science

With citizen science, citizens actively contribute to the monitoring of plant and animal species. For example, many types of group organizations, such as RAVON, SOVON, etc., use counts by volunteers to describe trends.

Additional information

Application of ecological facilities

For the application of ecological facilities, it is important that the facilities are applied/installed in the right way (preferably as prescribed by a manufacturer, ecologist or nature organization). In this way, it can be prevented that the facility is applied in an incorrect way, and its purpose is lost. For example, a south-facing nest box will usually get too hot, and the animals will not use it.

Local, regional, and national guidelines

It is important that projects find out which local, regional and national guidelines are prescribed. To ensure that the ecological facilities and habitats in place contribute to local biodiversity objectives. For example, it may happen that the municipality has a guideline regarding biodiversity that deals with certain species that occur in the vicinity of the building with an endangered status. It is then recommended to apply ecological facilities for these types.

Monitoring

Monitoring of plant and animal species takes place to protect or preserve added natural values. It also provides insight into whether the ecological facilities are functioning properly and where adjustments can be made if necessary. Monitoring can be applied in different ways, for example:

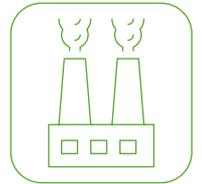
- A certified ecologist engaged for this purpose is responsible for monitoring and carrying out any improvements to the existing ecological facilities.
- Monitoring takes place as part of, for example, a citizen science project at the location, coordinated by a responsible authority, municipality or organisation. Participants are actively involved in the monitoring, guided and feedback takes place

References

- Green Offices Network - <https://www.netwerkgroenebureaus.nl/>
- Citizen science for nature - <https://www.clo.nl/indicatoren/nl062501-citizen-science-voor-natuur>

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Pollution



SUMMARY

This category focuses on preventing and controlling pollution related to the location and use of the asset. The aim is to reduce the impact on the surrounding neighbourhood and ecology, for example by reducing flooding and emissions to air, land and water. In this way, a healthy environment is created that is accessible to all demographic and economic groups, including vulnerable and disadvantaged populations.

CONTEXT

The United Nations has set "Good Health and Well-being" as one of its Sustainable Development Goals, with the sub-goal of significantly reducing deaths and illnesses from hazardous chemicals and pollution of air, water, and soil by 2030. BREEAM-NL contributes to this goal by reducing emissions from buildings, which improves air quality.

Air quality

Poor air quality has harmful effects on the health of humans and other organisms, especially in poor countries. Substances such as nitrogen oxides (NOx) react with other substances in the air, leading to dangerous compounds that irritate the respiratory tract, worsen allergies and can cause heart disease.

Refrigerants

Refrigerants in refrigeration systems have a much greater impact on climate change than CO₂. Although they are released in smaller quantities, they contribute greatly to global warming. The use of harmful refrigerants, such as CFCs and HCFCs, has now largely been phased out by global agreements, but HFCs are still used. These have a much greater warming capacity than CO₂ and are slowly being phased out worldwide.

It is crucial to effectively dispose of refrigerants at the end of the equipment lifecycle. BREEAM-NL supports this by prescribing systems that detect and control refrigerant leaks, which minimizes environmental impact, controls operational costs and extends the life of equipment.

Value of the issues

POL 06	Reduction of nighttime light pollution	4 Credits
Aim	Ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, thereby reducing unnecessary light pollution and nuisance to building users and the immediate environment.	
Value	Minimizes light nuisance for adjacent plots and provides adequate safety and security lighting. Reduces energy consumption by applying appropriate control systems.	
POL 07	Maintenance of watercourse pollution prevention features	3 Credits
Aim	Maintaining the effectiveness of installed facilities to prevent pollution of watercourses.	
Value	Reduces the risk of damage to local watercourses and environmental legislation, as well as the risk of clogged pipes on the plot and in the sewer.	
POL 08	Refrigerant replacement	2 Credits
Aim	Reducing the environmental impact of refrigerants.	
Value	Reduces the contribution to climate change and lowers compliance costs by promoting proactive and continuous maintenance.	
POL 09	Limiting soil contamination	4 Credits
Aim	Ensure that there is no soil contamination on the plot.	
Value	Reduces the risk of soil contamination from the asset's activities and protects human health and the environment.	
POL 10	Procedure for pollution incidents	2 Credits
Aim	Limiting the impact of pollution incidents on the environment.	
Value	Reduces the impact of potential pollution incidents, minimizing disruption and damage to the environment.	

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Reduction of nighttime light pollution

Ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, thereby reducing unnecessary light pollution and nuisance to building users and the immediate environment.

Part		Management
Available Credits	: 4	
Exemplary performance	: 0	
Contains filter	: X	
Mandatory from	: X	

Question

Has an assessment been performed that demonstrates that external lighting does not result in light pollution at night?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, a qualitative audit has been carried out.
4	C	Yes, a quantitative audit has been carried out by a lighting expert.
4	D	There is no outdoor lighting and this is not required from a safety point of view.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	The qualitative audit where outdoor lighting is present applies: a) All outdoor lighting is directed downwards, to prevent illumination of the sky. b) There is no outdoor lighting directed towards adjacent buildings or open spaces. Or screens or partitions have been placed to prevent light from spreading to those places. c) There are no illuminated signs. d) The lighting is automatically adjusted to be switched off or dimmed between 23:00 and 07:00.	B
2	For the quantitative audit where outdoor lighting is present, a lighting expert confirms that it has been carried out in accordance with the NSW's light nuisance guideline or at least the following must be met: a) All outdoor lighting (except safety and security lighting) complies with Table POL06.1 and can be switched off automatically between 23:00 and 07:00. b) Illuminated signs, if present, comply with the maximum brightness (cd/m ²) set out in Table POL06.1. c) If safety or security lighting is installed and used between 23:00 – 07:00, then this meets the requirements set out in Table POL06.1 (e.g. by using an automatic switch to reduce the lighting levels from 23:00 or earlier). d) If lighting is required for other than safety purposes between 23:00 and 07:00 (e.g. in buildings that are open during these times), the system can automatically switch to night-time lighting levels.	C
3	The assessment of illuminance is not required if all luminaires are equipped with cut-off measures, and positioned in such a way that potential light pollution is blocked. Assessment of the upward light ratio is not required if all luminaires are equipped with cut-off measures that only provide downward light.	C
4	All types of illuminated signs must meet the criteria requirements, both self-lit and illuminated by reflection from other sources.	B and C
5	No distinction is made between lighting installed indoors and outdoors. If the purpose of these lights is to illuminate the exterior or outdoor areas, they are part of this credit and should be included in the assessment.	B and C

#	CRITERIA	APPLICABLE ON ANSWER
6	If light fixtures are specified with specific safety standards that do not meet the set criteria, they may be disregarded. However, this must be demonstrated by evidence that the specific safety standards apply to the project in question. Examples are; Beacons used for the safe manoeuvring of vehicles and safety lighting incorporated into the road surface for demarcation of the road (active lighting).	B and C
7	It must be confirmed that there is no outdoor lighting present (this includes lighting installed indoors to illuminate the exterior or outdoor areas). In addition, it must be demonstrated that the safety and security of the plot and the safety of the building users are guaranteed.	D

Specific notes

None.

Tables

Table POL 06.1 Luminous pollution limitations of outdoor lighting and illuminated signs

ZONE (TABLE POL06.2)	MAXIMUM LUMINAIRE UPWARD LIGHT RATIO (ULR)/ %	MAXIMUM ILLUMINANCE (EV) IN LUX ON RELEVANT FAÇADE PART OR WINDOW OPENING		MAXIMUM LUMINAIRE (I) IN CD		MAXIMUM AVERAGE SURFACE AREA LUMINANCE FAÇADE (L)* / CD/M ²	MAXIMUM AVERAGE SURFACE AREA LUMINANCE FAÇADE (L)* / CD/M ²
		Day and evening 07:00-23:00	Night 23:00-07:00	Day and evening 07:00-23:00	Night 23:00-07:00		
E0	0	0	0	0	0	<0.1	<0.1
E1	0	2	0#	2,500	0	<0.1	50
E2	2.5	5	1	7,500	500	5	400
E3	5.0	10	2	10,000	1,000	10	800
E4	15	25	5	20,000	2,500	25	1000

*The values apply to both day and night, with the exception of zones E0 and E1, where the limits are 0 at night. The values for signs do not apply to traffic signs.

Maximum 1 lux for public road lighting.

Table POL 06.2 Lighting Areas Zones

ZON E	TYPE OF AREAS	SURROUNDINGS	EXAMPLES
E0	Intrinsically dark	Protected	UNESCO Starlight Reserves, IDA Areas of Darkness
E1	Very low ambient brightness	Of course	General nature reserves and rural areas far from residential areas
E2	Low ambient brightness	Rural	Outside urban and rural (residential) areas
E3	Average ambient brightness	Urban residential areas	Urban residential areas
E4	High ambient brightness	Urban residential areas with nighttime activities	Urban residential areas such as entertainment centers and industrial areas

Methodology

Audit by lighting expert

The direct measurement of the upward light ratio (ULR), vertical illuminance and brightness is not possible in some situations due to limited access to luminaires or adjacent properties. If this is the case, the lighting expert should use his/her professional judgment to

determine whether the requirements in POL06.1 are met. This can be done, for example, by visual inspection to estimate the proportion of ULR. Is access to sensitive receptors not possible? Then an Assessor can carry out light intensity measurements (or have them carried out) from accessible locations in the direction of the view of luminaires, as seen from sensitive receptors. When lighting design documentation is available (from the time the lighting is installed), an administrator can use it to demonstrate that the criteria are met.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1,2,3,4,5,6 and 7	Report on lighting levels at night or other relevant surveys or documentation.
1,2 and 3	Photos confirming that the outdoor lighting fixtures are designed to reduce upward directed light and light wastage.
1 and 2	Confirmation that the lighting will be switched off within the required times.

Definitions

Lighting expert

A lighting expert has proven experience in reducing light pollution in the last three years or is a member of IALD or ELE or equivalent.

Additional information

None.

Credentials

None.

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Maintenance of watercourse pollution prevention features

Maintaining the effectiveness of installed facilities to prevent pollution of watercourses.

Part		Management
Available Credits	:	3
Exemplary performance	:	0
Contains filter	:	✓
Minimum standard	:	✗

Question

Are bunded areas, light-liquid separators and grease separators effectively maintained?

CREDITS	ANSWER	SELECT ALL THE ANSWER OPTIONS THAT APPLY
0	A	No.
1	B	Yes, the maintenance policy/plan includes the inspection and maintenance of bunded areas.
1	C	Yes, the maintenance policy/plan includes the inspection and maintenance of light-liquid separators.
1	D	Yes, the maintenance policy/plan includes the inspection and maintenance of grease traps.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If no chemicals are stored in the asset, the answer option can be filtered out of the assessment.	B
2	If there are no possible sources of contamination present, an oil separator is not required and the answer option can be filtered out of the assessment.	C
3	If there are no commercial kitchens present, the answer option can be filtered out of the assessment.	D
CRITERIA FOR QUESTION		
4	A maintenance policy/plan has been drawn up in which the scope of the inspection and maintenance is included.	B, C and D

Specific notes

None.

Tables

None.

Methodology

None.

Evidence

Maintenance of drip trays, oil and grease separators

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
4	Documentation of the maintenance policy/plan in which the relevant chapters are highlighted.
4	If available, copy of the logbook or inspection schedule.

Definitions

Bund (fixed drip trays)

A structure made of a liquid repellent material, which forms a barrier to retain liquids.

Light-liquid separators (oil separators)

A part of the surface water drainage system into which potentially polluted wastewater flows. And where light floating liquids (such as oil) are separated from the wastewater by means of gravity and/or clumping and are retained.

Additional information

None.

References

None.

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Refrigerant replacement

Limiting the environmental impact of refrigerants.

Part		Management
Available Credits	:	2
Exemplary performance	:	0
Contains filter	:	✓
Mandatory from	:	✗

Question

Is there a strategy/policy in place to replace refrigerants with low environmental impact alternatives?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	No, all refrigerants already have a low impact on the greenhouse effect (GWP ≤ 10).
2	C	Yes, there is a strategy/policy in place to replace all refrigerants with alternatives with a low impact on global warming (GWP ≤ 10).

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If no refrigerants are used in the asset, or only small hermetically sealed systems (refrigerant charge in each system is $\leq 5\text{kg}$), this credit can be filtered out of the assessment.	A, B and C
CRITERIA FOR QUESTION		
2	The refrigerants present have a GWP of ≤ 10 .	B
3	The strategy/policy includes: <ol style="list-style-type: none"> Equipment with refrigerants, which need to be replaced. Which alternative with low environmental impact replaces the existing refrigerant. A schedule when the replacement will be implemented. 	C
4	The strategy/policy includes installations and systems that use refrigerants, including: <ul style="list-style-type: none"> Freezer and cold stores. Koelingen, including refrigerated display cases, counters, islands and wall coolers for food, but excluding residential white goods (e.g. refrigerators and freezers). Comfort cooling and heating (e.g. heat pumps). Process-related cooling (e.g. servers/IT equipment). 	C

Specific notes

None.

Tables

None.

Refrigerant replacement

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2	Confirmation or documentation that the refrigerants present meet the requirements.
3 and 4	Documentation on the refrigerant replacement strategy/policy.

Definitions

None.

Additional information

IPCC report

For the current list of common refrigerants with a GWP value over 100 years, the most recent IPCC report can be used (see reference).

References

- IPCC AR6 synthesis report – 2023

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Limiting soil contamination

Ensure that there is no soil contamination on the plot.

Part		Management
Available Credits	: 4	
Exemplary performance	: 0	
Contains filter	: X	
Minimum standard	: X	

Question

Has the risk from potential land contamination associated with the asset site been assessed?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes, and soil contamination has been established and further investigation or measures are required.
4	C	Yes, and no soil contamination has been established.
4	D	Yes, and soil contamination has been identified and all measures have been implemented to remedy the contamination.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1	A soil survey on the site has been carried out by or under the supervision of a qualified person. The soil investigation has been carried out or evaluated for topicality in the past 5 years. Evaluation of the soil investigation must also be carried out by or supervised by a qualified person.	B, C and D
2	The soil investigation consists of a combination of the following, if relevant to the asset: <ul style="list-style-type: none"> a) Preliminary research in accordance with NEN 5725, consisting of literature research and an exploration b) In-depth, exploratory, detailed and/or additional site investigation in accordance with NEN 5740 (including a preliminary investigation in accordance with NEN 5725) or in accordance with NEN 5707 for soil contamination with asbestos c) Remediation strategy or action plan d) Confirmation of the implementation of the remediation strategy or action plan <p>If one of the above actions has already been carried out, e.g. during construction or through environmental research, it may be used to demonstrate that the criteria are met. If this information is older than five years, the qualified person must check for topicality.</p>	B, C and D

Specific notes

None.

Tables

None.

Limiting soil contamination

Methodology

None.

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
1 and 2	Documentation of the soil investigation by the qualified person.
1 and 2	Written confirmation from the owner of the asset or plot that in-depth investigation and/or remediation work is planned.

Definitions

Qualified person

A person who meets the following requirements:

- Have a degree or equivalent qualification in chemistry, environmental science or management, earth sciences, civil engineering, or a related field of work.

AND

- Has at least three years of experience in site research and risk analysis and assessment (in the last five years). This experience can consist of practical experience from location research, experience with understanding remediation measures, knowledge of national soil legislation. But also, for example, experience as a consultant in recommending remediation options.

Soil pollution

Contamination of the soil by the introduction or introduction of substances or materials that do not occur naturally in the soil or groundwater, which leads or may lead to damage to the ecosystem. Soil contamination creates unacceptable risks to public health, buildings and/or the environment. Soil contamination is often caused by former industrial use on or near the plot, but can also be caused by spillage or leakage during current or recent activities on or near the plot. But soil contamination can also occur in other locations, including rural areas (e.g. due to the spread of silt or as a result of the removal of contaminated soil). Furthermore, it is possible that locations are contaminated by natural or background contamination by potentially harmful substances, such as radon, methane or elevated concentrations of metals.

Remediation measures

Soil remediation is the purification of a piece of land where there is soil contamination. Various techniques can be chosen for the remediation of a piece of land. In this way, the contamination can be removed on site without earthmoving (in-situ technology). It is also possible to excavate, clean and return soil (on-site technique) or to excavate and dispose of it for treatment or processing elsewhere (ex-situ technique). In the case of existing buildings, preference may be given to in-situ techniques, because then no soil needs to be moved. In this way, the IBC principle can be used to isolate, manage and control the contamination. A manageable and controllable situation must have arisen after the installation of insulation facilities. Within the in-situ technique, extractive, biological or chemical remediation can also be chosen.

Additional information

None.

Limiting soil contamination

References

Guidelines for carrying out soil contamination investigations and remediation are:

- NEN 5740 Soil - Land soil - Strategy for conducting exploratory soil research - Research into the environmentally hygienic quality of soil and soil.
- NEN 5725 Soil - Land soil - Strategy for conducting preliminary research in exploratory and further research.
- NEN 5707 Soil - Inspection and sampling of asbestos in soil and batches of soil.

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Procedure for pollution incidents

Limiting the impact of pollution incidents on the environment.

Part	Management
Available Credits	: 2
Exemplary performance	: 0
Contains filter	: ✓
Minimum standard	: ✗

Question

Is a response plan in place to deal with pollution incidents in line with national standards or best practice guidelines?

CREDITS	ANSWER	SELECT A SINGLE ANSWER OPTION
0	A	No.
2	B	Yes.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
FILTER		
1	If there are no sources of contamination on the plot, this credit can be filtered out of the assessment.	A and B
CRITERIA FOR QUESTION		
	A company emergency plan is in place that describes how to deal with potential pollution incidents. The measures must relate to the control of the incident and the mitigation of its consequences and be applicable to the substances stored in the building.	B
2	Potential sources of contamination include, but are not limited to: <ul style="list-style-type: none"> Fuel storage (e.g. diesel for emergency generators). Storage of cleaning products. Refrigerants that are used or stored on site. Leakage of gasoline or oil in the parking lots or at delivery areas. 	
3	The company emergency plan must be evaluated at least every five years or after an incident/emergency	B
4	The company emergency plan must be up-to-date and, if practical, the procedure or action plan is periodically tested.	B

Specific notes

None.

Tables

None.

Methodology

None.

Procedure for pollution incidents

Evidence

CRITERIA	REQUIREMENTS FOR EVIDENCE
-	The evidence referred to below is not exhaustive. Please refer to Chapter 4 'BREEAM-NL evidential requirements' for evidence that can also be used to demonstrate that the criteria are met.
2, 3 and 4	Documentation of the company emergency plan.
2 and 3	Documentation of evaluations and tests performed.

Definitions

None.

Additional information

None.

References

None.

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