Technical manual version 2023 v1.01

BREEAM-NL New construction and Renovation Residential

BREEAM® | NL

DGBC Dutch Green Building Council

Code for a Sustainable Built Environment
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www.breeam.nl

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BREEAM® NL

Technical manual

BREEAM- NL New Construction and Renovation Residential

2023 - VERSION 1.01

EDITION:
Dutch Green Building Council
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Amendments BREEAM-NL New construction and Renovation Residential

VERSION	DATE BY ISSUE	COMMENTS
2023 v1.0	12 October 2023	First version
2023v1.01	1 November 2023	Textual improvements

Disclaimer

Dutch Green Building Council (DGBC) has an exclusive license by BRE Global Limited to apply the BRE Environmental Assessment Method (BREEAM) in The Netherlands. DGBC adapts BREEAM, original developed by BRE Global Limited, to improve its relevance and applicability of it in The Netherlands (BREEAM- NL). This assessment guideline is owned by DGBC and is publicly accessible for information purposes.

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Founding Dutch Green Building Council

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 predetermined criteria laid down in an Assessment Directive (BRL). The BREEAM-NL family of quality marks largely follows the international BREEAM, developed by the BRE in Great Britain (see further under BREEAM).

In the present assessment guideline, called BREEAM-NL Nieuwbouw Woningen, you will find all information about the Dutch version of the quality mark for new homes and residential buildings to be developed. There is also a quality mark specifically for the new construction of non-residential buildings called BREEAM-NL New Construction. The quality mark for existing buildings is called BREEAM-NL In-Use and is available is a version for homes and a version for non-residential buildings. There is also a quality mark for areas, BREEAM-NL Area.
This document only deals with BREEAM-NL New Build Homes. It is very important to choose the schedule that suits your project; if in doubt, please 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 in the road. BREEAM was developed by the Centre for Sustainable Construction, part of the English Building Research Establishment Global (BRE Global England).

Scheme management

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

In order 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 Assessor checks the accuracy and completeness of the file and determines the qualification of the project; DGBC randomly reviews the work of the Assessor.

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

Colophon

The DGBC is indebted to BRE Global and to all those who have provided feedback and recommendations through advisory or working groups, market consultation and other means. And also to the partners who make the development and updating of BREEAM-NL financially possible. Much of the feedback has been incorporated into the credit texts and you can continue to provide input via helpdesk@dgbc.nl. This assessment guideline is largely established through an 'open source' approach, using knowledge and expertise from the market that is very valuable.

At the time of finalisation of this version of the Assessment Directive, a large number of knowledgeable and experienced individuals were involved. Not least the Board of Experts and the New Construction Advisory Group, which continuously guarantee the quality of the quality mark and give direction in the development process.

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The content of this assessment guideline has been checked and approved by the New Construction Advisory Group, the Board of Experts and BRE Global.

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BREEAM-NL Experts & Assessors

Where BREEAM International has 'assessors', in the Netherlands a distinction is made between 'experts' and 'assessors'. The BREEAM-NL Expert supports the client with regard to the requirements of the BREEAM-NL certificate. Part of this is the construction of a file supplemented with the necessary evidence. Based on this file, an independent assessor makes the final BREEAM-NL assessment. The expert may work for the owner, developer, client, user, be a member of the design or construction team or be hired as an external expert.

The BREEAM-NL Assessor is an independent, qualified and DGBC-registered assessor with regard to BREEAM-NL New Construction, and must be employed by a Licensed organization. The assessor is at all times responsible for the assessment report on the basis of which the DGBC determines whether a certificate can be issued.

The user of this assessment guideline is deemed to be aware of the content of the BREEAM-NL User Manual, which states in detail the working method, including the responsibilities and powers, the method of submitting assessment reports, the version numbering, registration, etc. In the event of any inconsistencies in procedures, the user manual is above this assessment guideline. The user manual can be consulted and downloaded on the BREEAM-NL website.

1. Introduction

1.1. What is BREEAM and BREEAM- NL?

BREEAM - Building Research Establishments Environmental Assessment Method - is the leading and worldwide most used method for It to measure and certify by the sustainability performance by buildings. It sets the standard for best practice in durable design and is de facto the yardstick become to the sustainability performance by to describe a real estate object.
The goals and goals by BREEAM are:

Goals of BREEAM

- The realization of sustainable buildings with minimal impact on the environment.
- Making it possible to distinguish buildings according to sustainability.
- Providing a credible quality mark for sustainable buildings.
- Stimulating the supply and demand of sustainable buildings.

Objectives of BREEAM

- Provide market recognition of buildings with low environmental impact.
- Ensure that sustainable *best practices* are incorporated into buildings.
- Setting standards and setting criteria that go beyond the legal requirements
- To challenge the market to come up with innovative solutions that optimise the sustainability performance of buildings.
- Raising awareness among building owners, users, developers and managers of the benefits of buildings with a limited environmental impact.

1.2. Reliability of BREEAM

TECHNICAL RELIABILITY

BREEAM-NL is based on the BREEAM standard developed in England and is managed to meet the following underlying principles:

- BREEAM is based on objective criteria that value good sustainable performance.
- There is consensus on the importance of the topics to be assessed and their significant contribution to sustainability.
- Topics must be assessable at the relevant stages throughout the life of the building.
- Where possible, performance shall be based on scientific evidence and existing standards.
- Sustainability performance must go beyond legal requirements and promote innovation.
- Improvements stimulated by BREEAM-NL must be feasible and cost-effective.

Where specific goals cannot be described on the basis of scientific data, logical and practical measures are recommended that increase the sustainability performance of the building and its users.

COMMERCIAL RELIABILITY

Assessments are carried out exclusively by organisations and individuals trained by DGBC under license from BRE Global. This ensures:

- Market
- Involvement from across the sector
- Assessors who work according to the same quality standard.

Certification is carried out by DGBC under license from BRE Global.

The Dutch Green Building Council Foundation is the NSO (National Scheme Operator) for BREEAM in the Netherlands. DGBC manages various BREEAM-NL quality marks in the Netherlands, developed to assess the sustainability performance of developments across the different life phases. These are:

- BREEAM-NL Area for (re)developments on area level
- BREEAM-NL New construction for new utility or residential buildings
- BREEAM-NL In-Use for existing utility or residential buildings in use

Independent BREEAM-NL Assessors, trained, qualified and licensed by DGBC, can perform a BREEAM-NL assessment using this scheme and associated reporting and calculation tools. As soon as an assessment has been completed and the quality is guaranteed, DGBC releases a BREEAM-NL certificate. The BREEAM-NL certificate provides formal verification that the Assessor has completed an assessment of a building, in accordance with the requirements of the scheme and quality standards and procedures.

A BREEAM-NL certificate offers every interested party the assurance that the BREEAM-NL qualification of a building at the time of certification accurately reflects the performance of the assessment guideline. Do you want to verify a BREEAM-NL qualification of a building? Then look up the BREEAM-NL certificate in the BREEAM-NL certified lists. You can find these on www.breeam.nl/projecten or on greenbooklive.com.

1.3. Quality assurance and consistency

There are increasingly higher demands on the sustainability of homes. By implementing the BREEAM system, a good assessment framework is available to determine the sustainability performance of homes in an independent and unambiguous manner. BREEAM-NL Newly Built Homes 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 European BREEAM quality marks, such as BREEAM-NOR, BREEAM-DE, BREEAM-ES and BREEAM-SE.

The international Code for a Sustainable Built Environment (CSBE) is a framework for assessing the sustainability of buildings. The CSBE formulates strategic principles and sustainability criteria that 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 into 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. On the one hand these are the technical requirements in the Core Technical Standard (CTS) and on the other hand the process requirements in the Core Process Standards (CPS). These documents contain lists of requirements that a national Scheme Operator (such as the DGBC for the Netherlands) must meet in order to use the name BREEAM. DGBC operates the BREEAM-NL under license from BRE Global Ltd, BRE is accredited by UKAS. See the user manual for license details.

1.4. BREEAM-NL New construction and Renovation Residential 2023

BREEAM-NL New construction and Renovation Residential is a performance-based assessment method and certification scheme for new homes and residential buildings. The primary goal of BREEAM-NL New construction and Renovation Residential 2023 2023 is to reduce the environmental impact of new homes in a robust and cost-effective way throughout the life cycle and to increase the quality of life. You can achieve this by integrating the scheme and using it at key stages of the design and build process. The assessment of a building (plus plot) takes place per subject, based on a so-called credit list.

The Dutch credit list focuses on Dutch laws and regulations, practice guidelines and construction practice. In addition, consistency with the international BREEAM version is monitored by BRE Global. This allows the customer, through the BREEAM-NL Assessor and the certification process, to measure, evaluate and reflect on the performance of his new building in an independent and robust way based on current practice guidelines (best practices).

The building performance can be quantified with a number of individual measures and associated criteria, which extend over nine different sustainability categories. This can ultimately be expressed as a single certified BREEAM-NL qualification on the certificate. The points to be awarded may differ per type of home or due to existing building characteristics. The applicant indicates in his file which type of home and which building properties apply. The current version of this assessment guideline can be consulted and downloaded on www.breeam.nl.

1.5. How and when to select BREEAM-NL New construction and Renovation Residential 2023

If you want to seamlessly integrate the BREEAM-NL methodology into a project, it is advisable to call in an Expert and/or Assessor trained as BREEAM-NL New Construction. If you do not do this, the possibility to optimize the environmental performance of the building in a cost-effective way and to achieve the desired BREEAM-NL qualification will come under pressure. If you appoint a BREEAM-NL Expert and/or Assessor early in the project, this will help you achieve the qualification and reduce the risk of undesirable consequences of design decisions and possibilities.

Figure 1 highlights the link between the BREEAM-NL New construction and Renovation Residential 2023 assessment and certification phases and the standard task description STB 2014. This figure helps clients to plan the construction phases in relation to the BREEAM-NL criteria, and the appointment of a BREEAM-NL Expert or Assessor. Clients can view www.breeam.nl current lists of BREEAM-NL Assessors, Experts and certified projects on the website..

It is important to recognize that BREEAM-NL primarily reflects the overall performance of the building. The methodology is not specifically intended to expose the existing opportunities or limitations for stakeholders, planning or design. This means that the client, the design team, the main contractor, the BREEAM-NL Expert and any other specialist disciplines play an important role in achieving the desired BREEAM-NL qualification.

The responsibility for orienting the assignment towards sustainability must first and foremost come from the client. To make this possible, DGBC recommends that clients and their project teams start working with a BREEAM-NL Assessor and/or Expert no later than phase 02 Project Definition (STB 2014). Ideally, this should happen sooner. In this way, you set and achieve realistic goals, define appropriate responsibilities and, where possible, apply cheap or free solutions for environmental impacts.

With BREEAM-NL New construction and Renovation Residential it is possible to assess housing concepts. Projects using these concepts sometimes have different phases than those outlined in Figure 1. The assessment guideline clearly indicates in the issues what the criteria are in the case of housing concepts. See also Chapter 2.2.5 which deals with the possibility of type-approval

Figure 1 BREEAM-NL assessment and certification phases per scheme and the Standard description 2014

<table>
<tr><td>STB 2014</td><td colspan="6">BREEAM-NL assessment and certification phases per scheme</td></tr>
<tr><td></td><td colspan="5">BREEAM-NL New construction BREEAMNL</td><td>In- Use</td></tr>
<tr><td>01 Initiative</td><td rowspan="3">Self assessment</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>02 Project definition</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>03 Structure design</td><td rowspan="4">Design assessment</td><td></td><td></td><td></td><td></td></tr>
<tr><td>04 Preliminary draft</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>05 Final design</td><td></td><td>Design Certification</td><td></td><td></td><td></td></tr>
<tr><td>06 Technical design</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>07 Price- and contract formation</td><td></td><td></td><td></td><td rowspan="3">Delivery assessment</td><td></td><td></td></tr>
<tr><td>08 Execution - implementation-ready design</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>09 Performance - Management</td><td></td><td></td><td></td><td>Delivery Certification</td><td></td></tr>
<tr><td>Handover*</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>10 Usage / exploitation</td><td></td><td></td><td></td><td></td><td></td><td>Assessment and Certification</td></tr>
<tr><td colspan="7">* Handover is no phase in STB 2014</td></tr>
</table>

1.6. How to use BREEAM-NL New construction and Renovation Residential

With this BREEAM-NL Technical manual:

- Qualified and licensed BREEAM-NL Assessors can complete a BREEAM-NL assessment and determine a final qualification.
- Can DGBC have a Quality Assurance (QA) assessment carried out on an Assessor's assessment report, 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 in their hands, how the intended building is tested with BREEAM-NL.

The Technical manual is divided in seven parts:

- Introduction: Introduction to BREEAM.
- The application of BREEAM-NL New construction and renovation Residential "scope"
- The score and qualification.
- Evidence for BREEAM-NL New construction and renovation residential 2023.
- Reading guide.
- Assessment criteria.
- Attachments

The section 'Application of BREEAM-NL New Build Homes 2023' describes the types of homes and residential functions, and stages of assessment to which you can apply this BREEAM-NL quality mark. Clients and BREEAM-NL Assessors can use this scope to check whether the correct BREEAM-NL quality mark has been applied for the specific project.

The 'Score and qualification' section illustrates how to measure and assess the assessed performance of the home(s) or residential building. It outlines the weighting percentages per category, the minimum scores per final qualification, Prerequisite and the minimum standards. It also includes a description of the Exemplary Performance capabilities. Then you can see how the performance against this is calculated and expressed in the BREEAM-NL qualification.

You assess the project, the realized house (s) or residential building, and building plot in the development and delivery phases, based on topics in the following categories:

- Management
- Health
- Energy
- Transport
- Water
- Materials
- Waste
- Land use and ecology
- Pollution

Each category and each topic in a category (called 'credit') is detailed in this assessment guideline. For each credit, sustainability objectives have been defined and criteria that must be met. When the criteria are demonstrably and traceably met, the Assessor can award points.

The sustainability objectives exceed the legal minimum as laid down in the Building Decree or other laws and regulations. BREEAM-NL certification is therefore 'extra-legal' and is therefore a voluntary choice of the client. The objectives are based on current practice guidelines (best practices). There is freedom of choice in most subjects (issues). For example, development and construction teams can choose which issues they want to achieve 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 if you want to achieve a certain total score. These are Prerequisite and mandatory points.

Every BREEAM-NL credit is structured the same. This describes the criteria and goals that a project must meet in order to be eligible for the issues associated with the credit. For a further description of the structure of a credit: see Chapter 5 Reading guide.

If all issues within a category have been graded, the reviewer can establish a category score. It then applies a category weighting (see below). The weighted category scores are added together. These give a total score, with possibly additional scores for awarded innovation issues and so-called 'exemplary performances'. This total score ultimately leads to a qualification: for example Good, Excellent or Outstanding.

The assessment of a project results in a final report and a BREEAM-NL certificate if you have met all the conditions in the BREEAM-NL User Manual. In the final report you will find the sustainability performance of the assessed home(s), ranked by category.

For the certification process of a project, you are obliged to use the BREEAM-NL User Manual. It states that an independent assessment must be carried out by a BREEAM-NL Assessor, and that DGBC then carries out a quality assurance (QA) on the report submitted by the Assessor. The user manual can be found under 'Downloads - Manuals'.

2. Application BREEAM- NL New construction and Renovation Residential 2023

The assessment guideline BREEAM-NL New construction and Renovation Residential 2023 can be used to assess the sustainability performance of homes and residential buildings. This always involves an assessment of the design and construction phase and the final delivered object. In the case of this assessment guideline, new construction projects can be assessed and large-scale renovations. Construction projects consist of a wide range of activities to ensure the performance, function and general condition of a building.

2.1. Project types

With the assessment guideline BREEAM-NL New construction and Renovation Residential 2023 you can assess the environmental effects of the life cycle of new construction projects. Construction projects consist of a wide range of activities to ensure the performance, function and general condition of a building. The assessment guideline provides a set of indicators and criteria for sustainability. The extent to which these apply can differ per housing type.

The types used in this directive are:

- Land-based dwellings
- (houses in) residential buildings/apartments

Anothers form of characterization is:

- Rental properties
- Owner-occupied Residential

For each credit, it is indicated whether different or additional requirements apply

to a characterization. With the above types, four variants can be assessed

judge:

1. Land-based owner-occupied homes
2. Land-based rental properties
3. Residential building of owner-occupied homes
4. Residential building of rental properties

It is necessary that the project team and the BREEAM-NL Expert and Assessor properly record which housing type certification pursues. Note that a project can consist of several variants. The assessment guideline only contains adjustments to criteria based on characterisation.

Below is An Overview included by usage functions That of this directive assessed be able to become, this be able to on each by the above variants/characterizations by application are.

2.1.1. Relevant usage functions

New construction and Renovation Residential 2023 enables projects to be certified that hav a 'residential function'.

These are:

- Residential function for private property
- Residential function in a temporary building
- Residential function in a floating building
- Residential function in a caravan (abbreviated until caravan)
- Residential function for students
- Residential function for care
- Residential function for room by room Rental
- Residential function for 24 hour care
- Residential function for care on call
- Residential function for concern on appointment
- Residential function in a residential building
- Residential function that is not in a residential building

In all cases, these are structures intended for permanent residence..

In addition, holiday homes (for the building decree “accommodation function, not located in an accommodation building”) can also be certified with this scheme.

In the assessment guideline, the requirements are only described by type (land-based or residential building). The table below is not exhaustive.

TYPE HOUSES	ELEMENT BY THE SCOPE
Ground level houses	For example: Terraced houses, bungalows, villas, semidetached, holiday homes, houseboat, tiny houses.
Residential buildings	For example: Apartments, student housing, residential care, housing for the elderly. Not: Short stay, hotels, etc.

Additionally, a distinction can be made at credit level between owner-occupied and rental properties. The assessment guideline is divided into these project types. This allows a distinction to be made between the building aspects that belong to the responsibility of the lessor, and the aspects that belong to the responsible party.
The project team and the Assessor must agree together which parts of the building are assessed. In case of doubt, DGBC can be contacted via helpdesk@dgbc.nl.

2.2. Scope of the assessment

2.2.1. At building level

In this section you will find information about the building parts that need to be assessed and you can see when this differs per project type.

To certify with BREEAM-NL New Construction and Renovation Homes 2023, a complete assessment is always assumed. Table 1 below with NL-SfB codes provides insight into what must be included in the assessment. If other requirements apply to a specific characterization or variant, this is always included in the credit.

NL-SfB is the most commonly used method in the Netherlands for the classification of building parts. The table below shows which building parts are part of the assessment. This always applies “if present” or “with specific requirements/changes in the credit".

Table 1 Scope by Assessment

CODE	DESCRIPTION	AT ASSESS .	EXPLANATION
1-	FOUNDATIONS		
11	Soil facilities	✓	
13	Floors on basis	✓	
16	Foundation construction	✓	
17	Pile foundation	✓	
2-	STRUCTURE		
21	Outside walls	✓	
22	Interior walls	✓	
23	Floors, galleries, balconies, etc.	✓	
24	To kick and slopes	✓	
27	Roofs	✓	
28	Main supporting structures	✓	
3-	Structure finishing		
31	Wall openings, outside	✓	
32	Wall openings, inside	✓	
33	Floor openings	✓	
34	Balustrades and handrails	✓	
37	Roof vents	✓	
38	Installation packages otherwise than 31 to 37	✓	
4-	FINISHES		
41	Exterior wall finishes	✓	
42	Interior wall finishes	✓	
43	Floor finishes	✓	
44	Staircase and slope finishes	✓	
45	Ceiling finishes	✓	
47	Roof finishes	✓	
48	Finishing packages	✓	
5-	INSTALLATIONS MECHANICAL ENGINEERING		
52	Dispose of	✓	
53	Drinking water	✓	

54	Gases	☑ !	Homes with a (collective installation with) natural gas connection are not eligible for certification. See credit POL 02.
55	Refrigeration	☑	
56	Heating	☑	
57	Air conditioning	☑	
58	Measuring and control systems	☑	
59	Mechanical fire safety	☑	
6-	**Installations electrical engineering**		
61	Central electrical installations	✓	
62	Power supply user connections	✓	
63	Lighting	✓	
64	Communication	✓	
65	Security	✓	
66	Transport	✓	
67	Building management system	✓	
68	Asset management system	✓	
7-	**Fixed facilities**		
71	Fixed traffic facilities	-	
72	Fixed user services	-	
73	Fixed kitchen facilities	✓	Keukenvoorzieningen zoals kranen en vaatwassers zijn altijd onderdeel van de scope. Zie paragraaf 2.2.4 hoe om te gaan met 'koperskeuze'.
74	Fixed sanitary facilities	✓	Sanitaire voorzieningen zoals douches en toiletten zijn altijd onderdeel van de scope. Zie paragraaf 2.2.4 hoe om te gaan met 'koperskeuze'.
75	Fixed maintenance facilities	-	
76	Fixed storage facilities	-	
77	Fixed functional facilities	-	
8-	**Loose inventory**		
81	Separate traffic inventory	-	
82	Separate user inventory	-	
83	Separate kitchen inventory	-	
84	Separate sanitary inventory	-	
85	Separate cleaning inventory	-	
86	Loose storage inventory	-	
9-	**Terrain**		
90.1	Ground facilities	✓	
90.2	Buildings	✓	
90.3	Fences	✓	
90.4	Terrain finishes	✓	
90.5	Site installations, mechanical	✓	
90.6	Off-road installations, electrical engineering	✓	
90.7	Site design standard	✓	
		✓	

2.2.2. At project level

The starting point is that all homes in the project are part of the Assessment. It is expressly not permitted to exclude a single home within a project from certification.
If a project consists of several housing variants (see section 2.1), it may be chosen to certify one variant or to set a different ambition per housing variant. However, all homes within the variant(s) must then be assessed.

- Example: a residential building contains both owner-occupied and rental properties. Certification may then be pursued for only the rental properties. General facilities (e.g. lifts) should be included in the assessment.
- Example: a residential building with both owner-occupied and rental homes strives for a BREEAM-NL Excellent qualification for owner-occupied homes and a Good qualification for rental properties. These are two separate assessments. The assessment of the shared facilities, for example an elevator, is then reflected in both Assessments.

If a building contains another function in addition to the residential function, they both pursue BREEAM-NL certification, two Assessments are necessary. Shared facilities and construction site issues will then be reflected in both Assessments.
If a project consisting of different building types within the variant of land-based owner-occupied dwellings, a different qualification may be pursued per building type. The assessment then takes place in various Assessments.

- Example: A project builds four two-under-one hairdressers and eight terraced houses connected to each other. This may be assessed in one or two Assessments.

The main goal is that there is no ambiguity about which homes are or are not certified. The future buyer or tenant must be clearly informed about this. The impression should never be created that the BREEAM-NL assessment contains more (homes) than is actually included in the Assessment.

2.2.3. Maximum project size

A single assessment can vary in size, from a single home to a large apartment block.
There are a number of basic rules for the maximum project size that you can assess in one assessment.
• Each assessment may contain a maximum of 500 homes or housing units. Projects with more than 500 units must contact DGBC, but are usually better assessed as several smaller assessments.
• The houses are located in the same planning area and the front doors are a maximum of 250 meters apart.
• The assessment of residential buildings should also include the common areas within the building.
• An assessment cannot normally cover more than one residential building. The only exception is when several buildings meet the following criteria:
a. All buildings are located in the same plan area.
b. All buildings deliver comparable performance and have a comparable design and are (almost) delivered simultaneously.
If you have any doubts about the project size or demarcation, always contact DGBC via helpdesk@dgbc.nl.

2.2.4. Buyer's choice

With owner-occupied homes, buyers often have some freedom to make adjustments to their future home. This happens often of An prior to established buyer's selection list. Dependent by the offered options be able to buyer choices influence to have on BREEAM-NL criteria. Think of an extension, dormer window or adjusting or dropping the project kitchen.

The buyer's choice is always part of the assessment of owner-occupied homes according to BREEAM-NL New Construction and Renovation Residential 2023.

If the buyer's choices have not yet been determined at the time of the design certificate, the delivery certificate may require updated calculations or burden of proof.

If homes are delivered within a project without a kitchen and / or bathroom, standard values must be counted for these homes within a number of issues.

If a client makes commercial statements on the basis of a design certificate (for example to recruit buyers), it must be made clear that the actual score on delivery partly depends on the choice of the buyer.

2.2.5. Type approval

The housing challenge requires an enormous effort from the market. Many homes that are being built are based on a (standardized) living concept. With BREEAM-NL New Construction and Renovation Homes 2023 it is possible to provide a standard residential concept with type approval. This assesses a number of location-independent, building-related aspects. After approval, you can add the relevant issues in any project in which that specific type of living concept is applied. This way you can build up the file for the design certificate more quickly, especially in the design phase. A separate type approval must be obtained for each variant of a residential concept.
The instructions explaining the type approval can be found at www.breeam.nl

2.3. Expansion projects, transformation projects and major renovation projects

BREEAM-NL New construction and Renovation Residential 2023 can be used for the judgement of extensions of existing (residential) buildings, transformation projects and major renovation projects.

In all cases, the regular criteria requirements always apply. No other limit values have been set for these project types: the final quality must be equal to 'regular new construction'. If necessary, the relevant issues state how this project type should be handled.

EXTENSIONS

The homes with which an existing (residential) building is expanded can be certified independently. Any facilities that are used from the existing (residential) building and that are part of the scope of the project must be included in the assessment.

For example: a gallery flat is topped up. Only the new homes are BREEAM-NL certified. The (existing) lifts and lighting in the common areas of which the new homes are shared are part of the assessment.

TRANSFORMATION PROJECTS

Transformation projects are understood to mean: an existing building, with, in most cases, a function other than living, is radically changed into a residential building. Often these buildings are stripped down to the construction. This makes it possible to adjust the façade image.

MAJOR RENOVATION PROJECTS

Only major renovation projects can be certified with this assessment guideline. A renovation is radical as soon as more than 25% of the surface of the building envelope changes, this is done in an integral way, a permit for construction is required and the installations (if necessary) have been adjusted.

2.4. Included life cycles, design- and delivery certificate

For the next phases in the development and construction process you can carry a BREEAM-NL New construction and renovation Residential assessment:

- Design phase - leads until An provisional BREEAM-NL Design certificate
- Delivery phase - leads until An final BREEAM-NL Delivery certificate

DESIGN PHASE

requirements in the design phase represent the sustainability ambitions for the homes, not the actual performance. The assessment in this phase is therefore not the final BREEAM-NL assessment of the homes as they are delivered and put into use.

Do you want to do a formal BREEAM-NL assessment in the design phase? Then the design process must be so advanced that sufficient evidence is available. Is there still insufficient verifiable evidence? Then there are too many uncertainties, which increases the risk of too large differences between design and delivery. Moreover,

you then 'force' executing parties to make choices too early in the process. This can harm both the flexibility of the execution and the design process. DGBC emphasizes that it is wise to include BREEAM-NL early in the process, in order to make a good assessment possible later. Preferably already in the initiative phase, the sketch design, or the VO phase (preliminary design).

It is very important for the client that the evidence for the design certificate is also good and clear for the executing parties. This minimizes the risk of failure in execution. The greater the uncertainties in the design phase, the greater the chance of differences in the outcomes between the temporary and final certificate.

The temporary certificate expires as soon as the building has been assessed after completion and has received a final certificate. The owner/developer can use the temporary certificate for, for example, communication with investors, tenants, permit providers, users and financial institutions. Explicitly state in the communication that it is a draft certificate, so that it is not suggested that it is a delivery certificate.

There is no validity period for the temporary certificate. However, the design and construction team must realize that assessment criteria become stricter over time. Moreover, as there is more time between the design and delivery phase, it is less certain that a project will achieve the same score after delivery as in the design phase.

DELIVERY PHASE

The final assessment focuses on the sustainability performance of the homes after completion. To be precise, at the time of commissioning, after the construction work has been completed. An Expert documents sustainability aspects that can only take place during construction, after which the Assessor carries out the final inspection. This mainly concerns issues within the Management category.

The assessment of the remaining issues takes place after completion of the construction work, but before commissioning of the houses. The Assessor can check these issues during the construction phase on the construction site. You can still obtain a delivery certificate up to 12 months after commissioning a project. Then BREEAM-NL talks about an existing building. By commissioning, BREEAM-NL means the actual occupancy of the houses. The assessment for the final certificate contains the condition of the houses at commissioning.

You can carry out the assessment in the delivery phase in two ways:

1. A delivery assessment based on a design assessment
2. An independent delivery assessment

Ad. 1. In a delivery assessment of a building for which a provisional BREEAM-NL certificate has been issued in the design phase, it is checked whether the building has actually been realized in accordance with the design. Deviations from the design must be substantiated. The final assessment applies to the completed building.

Ad. 2. If there has been no previous design assessment, a full acceptance assessment shall be carried out. If a credit states that deviations from the design phase must be identified, while there is no design phase assessment, it must be demonstrated that all requirements have been met.

A delivery assessment takes place on the basis of the current BREEAM-NL assessment guideline at the time of project registration. The delivery assessment provides the final BREEAM-NL certificate that gives the developer and/or owner the right to use the BREEAM-NL quality mark for the building in question. When issuing a design certificate, it must be explicitly stated in the communication that it is a design certificate.

Building LIFE CYCLES BY BUILDINGS NOT INCLUDED

The BREEAM-NL New **Construction and Renovation Residential** Scheme is not developed and not suitable for assessing the sustainable impact of buildings within the following phases of the life cycle:

- The new construction by utility buildings. You use BREEAM-NL New construction.
- The (re)development by areas. Yuo use BREEAM-NL Area.
- Existing buildings in usage and management. You use BREEAM-NL In- Use.
- Existing houses in usage and management. You use BREEAM-NL In-Use Houses.

See www.breeam.nl for the current guidelines and the explanation when which directive by application is.

2.5. BREEAM-NL New construction and Renovation Residential 2023 and EU Taxonomy

The development of this guideline has been aligned as much as possible with the requirements of the EU Taxonomy. This European regulation sets the sustainability criteria for when financial activities are considered sustainable.
Because the EU Taxonomy and BREEAM-NL have different goals and principles, full alignment is not desirable.
At www.dgbc.nl you will find information about how new-build housing projects can comply with the rules of the EU Taxonomy. This partly concerns obtaining points for specific issues from this guideline, and partly about additional requirements from the EU Taxonomy. These additional requirements are included in the assessment tool for the relevant credit. The additional requirements are not part of the BREEAM-NL score determination, but are solely intended to ensure and check all requirements from the EU Taxonomy for the EU Taxonomy statement..

3. Score and qualification

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:

- Prerequisite
- Minimum standards (mandatory issues)
- Thresholds per qualification
- Weighing
- Innovation credits (Exemplary Performance)

3.1. Thresholds per qualification

According to the table below, the final score is converted into a BREEAM-NL qualification

Table 2 Thresholds final score for the BREEAM qualification

BREEAM-NL-Qualification	Stars	SCORE
Pass	★	≥ 30%
Good	★ ★	≥ 45%
Very good	★ ★ ★	≥ 55%
Excellent	★ ★ ★ ★	≥ 70%
Outstanding*	★ ★ ★ ★ ★	≥ 85%

* Additional requirements are mandatory for the 'Outstanding' qualification. You can read more about this in section 3.4. The finally achieved score see you on It certificate.

To obtain a qualification, the Prerequisite must always be met, as well as the minimum standards per qualification level. See for this section 3.2

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.

Broadly speaking, each BREEAM-NL qualification corresponds to a part of the Dutch building stock as shown in the overview below:

- Outstanding: top qualification; less than 1% by the building stock (innovator)
- Excellent: 10% of the building stock (best practices)
- Very Good: 25% of the building stock (advanced good practices)
- Good: 50% of the buildings (intermediate good practices)
- Pass: 75% of the buildings (standard good practices)

A project receives an 'Unclassified BREEAM-NL qualification' if the building performance does not meet BREEAM-NL. This may be because the minimum and/or mandatory requirements of the most important sustainability issues have not been met, or the general threshold score required for a so-called 'Pass score' has not been achieved.

3.2 Special issues

In order to maintain a flexible system, BREEAM-NL uses a 'balanced scorecard' approach for the assessment and assessment of a project. This means that, to achieve a certain level of performance, you can trade the most BREEAM-NL points. This means that you can compensate building performance in one area by performance in another area, in order to achieve the intended BREEAM-NL score.

BREEAM-NL sets minimum performance standards in important areas such as energy, waste, materials, pollution and so on. In this way, the Directive ensures that the project, which seeks a particular assessment, does not overlook performance against fundamental environmental issues. Keep in mind that these are minimum acceptable performance levels, so not necessarily levels that are representative of a BREEAM-NL qualification.

In order to obtain a certain BREEAM-NL qualification, the project must always meet all "Prerequisites", the "minimum standards" associated with the qualification level and meet the threshold.

PREREQUISITE

Prerequisites apply to different issues. They set out the minimum criteria that a building must achieve in order to qualify for a BREEAM-NL qualification. No points can be obtained by meeting these requirements. In the issues you will find the Prerequisite as a separate part. We always start with the minimum requirement:

Table 3, Prerequisite

PREREQUISITE	
Issue	Element
MAN 03	Sustainable wood onn construction site
MAN 04	Commissioning plan
ENE 01	Elaborated energy concept
ENE 01	Energy needs reduced: -10% energy needs or better insulation/more airtight
MAT 01	Application of sustainable wood
WST 05	Flood risk assessment
LE 02	Ecological quick scan
POL 02	No combustion appliances

MINIMUM STANDARDS

In order to obtain a BREEAM-NL qualification, a standard must be met per level (from 'pass' to 'outstanding'). This means that a minimum number of credits must be obtained for a number of issues per qualification level. See the Table 7 Issue details.

Table 4 Minimum standards per qualification

Minimum standards					
	Pass	Good	Very good	Excellent	Outstanding
MAN 03, answer option E or F – Conscious builders			1p / 2p	1p / 2p	1p / 2p
MAN 03, answer option C – report water/ energy				1p	1p
MAN 03, answer option D – reporting transport					1p
MAN 04, answer option B – commissioning of the installations			1p	1p	1p

MAN 04, answer option D - user manual				1p	1p
HEA 01, answer option A - daylighting				2p	2p
HEA 02 answer option A and C - capacity + concentrations				3p	3p
ENE 01, question 3 (reduction BENG 2), minimum number of points			3p	6p	10p
ENE 10, answer option B - DMS demand and supply energy					1p
WAT 01, question 1, water efficiency, number of points achieved			1p	1p	2p
MAT 01, answer option A - MPG reduction				1p	1p
MAT 07, answer option C – Building passport			1p	1p	1p
WST 01, answer option A - waste management plan construction site			1p	1p	1p
WST 01, answer option B - 80% waste separation					2p
WST 05, answer option B - risk assessment + measures					2p
LE 02, answer option C, protect ecology during construction			1p	1p	1p
LE 04, number of points achieved - add habitat				1p	2p
POL 02, Question 2 answer option B answer option C				1p	2p
POL 03, answer option B, dispose					2p

DEFAULT ISSUES

In some cases, the points linked to issues can be awarded automatically (by default). See also Table 7 Credit details..

Table 5 Cases whereby default issues become applied

DEFAULT ISSUES	
WST 04, design and finish	If it is demonstrated that none of the finishes and furnishings mentioned in the criteria are included in the project, the point for answer option A can be achieved.

FILTER ISSUES

The list of issues on which the homes are assessed depends on the type of housing to be assessed and certain building components and components used, such as elevators, or communal facilities. When entering the building data in the assessment tool, the relevant ISSUE list is automatically generated. See also Table 7 Particularities issues for An Overview.

The assessor should validate the chosen filters in the project data.

Tabel 6 Filterissues die bij selectie niet worden meegenomen in de berekening:

FILTER ISSUES	
ENE 02	If the project has no common user groups, answer option B can be filtered from the assessment.
ENE 03	If there is no communal outdoor space where lighting is necessary, answer option B can be filtered.
ENE 06	If there are no elevators in the project, this entire credit can be filtered from the assessment.
ENE 08	If there are no communal household appliances available, answer option B can be filtered..
TRA 03	If there are no parking spaces on the plot of the house or residential building, answer option C can be filtered from the assessment.
TRA 06	If there are no common areas in the project, answer option B can be filtered from the assessment..
WAT 01	If there are no communal water-using facilities (indoor or outdoor), answer option D can be filtered from the assessment.
WAT 01	If the project only concerns rental properties, answer option E can be filtered from the assessment..
WAT 03	If the project only includes ground-level homes, answer option B can be filtered from the assessment.
WAT 03	If no communal showers and/or toilets are included in the project, answer option C can be filtered from the assessment.
POL 03	If the project has no parking spaces, or these do not pose a pollution risk, then answer option C can be filtered.

INNOVATION POINTS OF INNOVATION CREDITS AND EXEMPLARY PERFORMANCE

Innovation points offer the opportunity to additionally value innovations that increase the sustainability performance of a building, on top of the performance that is already valued in BREEAM-NL. Innovation points encourage clients and construction and design teams to make their building extra sustainable and also to increase the knowledge, techniques and applications in the market.

For each innovation point awarded, 1% can be added to the total score, with a maximum of 10% and up to a final score of up to 100%. Innovation points are independent of the BREEAM-NL qualification level and can therefore be awarded for each qualification. A building can earn innovation points if Exemplary Performance is met, i.e. the exemplary performance criteria in a BREEAM-NL credit. Innovation points and Exemplary Performance are only awarded as whole percentage points.

An innovation credit offers the possibility to reward a sustainable innovation that is not currently rewarded in a way in the assessment guideline. See the Innovation Procedure on www.breeam.nl.

ISSUE	QUESTION	ANSWER-OPTION	NUMBER of POINTS	EP	PREREQUISITE	MINIMUM STANDARD	FILTER
MAN 01 - Project design			5	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
		C	1				
	2	D	1				
		E	1				
MAN 02 - Life cycle cost analysis			4	n/a	n/a	n/a	n/a
	1	A	2				
		B	1				
		C	1				
MAN 03 - Responsible construction site			5	n/a	Yes	Yes	n/a
	1	A	-		Prerequisite		
	2	B	1				
		C	1			Excellent	
		D	1			Outstanding	
	3	E	1			Very Good	
		F	2			Very Good	
MAN 04 - Commissioning and manual			3	n/a	Yes	Yes	n/a
	1	A	-		Prerequisite		
	2	B	1			Very Good	
		C	1				
		D	1			Excellent	
MAN 05 - Aftercare			2	Yes	n/a	n/a	n/a
	1	A	1				
		B	1				
		C	1%	✓			
MAN 06 - Social risks and chances			2	Yes	n/a	n/a	n/a
	1	A	1				
		B	2				
		C	1%	✓			
HEA 01 - Visual comfort			4	Yes	n/a	Yes	n/a
	1	A	2			Excellent	
	2	B	1				
		C	1%	✓			
	3	D	1				
HEA 02 - Ventilation			5	n/a	n/a	Yes	n/a
	1	A	1			Outstanding	
		B	1				
		C	1			Outstanding	
		D	1				
		E	1				

ISSUE	QUESTION	ANSWER-OPTION	NUMBER OF POINTS	EP	PREREQUISITE	MINIMUM STANDARD	FILTER
HEA 03 - Healthy indoor air			4	Yes	n/a	n/a	n/a
	1	A	1				
		B	2				
		C	1				
		D	1%	✓			
	2	E	1				
HEA 04 - Thermal comfort			2	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
HEA 05 - Acoustic			3	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
		C	1				
HEA 06 - Accessibility			2	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
HEA 08 - Outdoor space			3	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
		C	1				
HEA 10 - Biofilic desigb			2	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
HEA 11 - Safety			2	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
HEA 12 - Smart home			2	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
ENE 01 - Energy-efficiency			15	n/a	Yes	Yes	n/a
	1	A	-		Prerequisite		
	2	B	-		Prerequisite		
		C	-		Prerequisite		
	3	D	1				
		E	2				
		F	3			Very Good	
		G	4				
		H	5				
		I	6			Excellent	
		J	7				
		K	8				
		L	9				
		M	10			Outstanding	

ISSUE	Question	ANSWER-OPTION	NUMBER POINTS	EP	PREREQUISITE	MINIMUM STANDARD	FILTER
ENE 01 - Energy efficiency	4	N	1				
		O	2				
		P	3				
		Q	4				
		R	5				
ENE 02 - Energy monitoring			3	n/a	n/a	n/a	Yes, answer option
	1	a	2				
		b	1				Ans, not by application if none mean-reasonable spaces
ENE 03 - External lighting			2	n/a	n/a	n/a	Yes, answer option
	1	a	1				
		b	1				Place text at B : Ans. not from apply if no ge-common outdoor space
ENE 04 - Passive design and environmental impact installations			5	Yes	n/a	n/a	n/a
	1	a	2				
		b	2				
		c	1				
		D	1%	✓			
ENE 06 - Energy efficient elevators			2	n/a	n/a	n/a	Yes, filtercredit
	1	a	1				
		b	2				
ENE 08 - Energy-efficient household appliances			3	n/a	n/a	n/a	Yes, answer option
	1	a	2				
		b	1				Ans. not by application if none mean-reasonable equipment
		c	1				
ENE 10 - Matching supply and demand electricity (DSM)			4	n/a	n/a	Yes	n/a
	1	a	2				
		b	1			Outstanding	
		c	1				
TRA 01 - Proximity to public transport (OV)			4	n/a	n/a	n/a	n/a
	1	a	1				
		b	2				
		c	3				
		D	4				
TRA 02 - Proximity to basic amenities			2	n/a	n/a	n/a	n/a
	1	a	1				
		b	2				

ISSUE	QUESTION	ANSWER-OPTION	NUMBER OF POINTS	EP	PREREQUISITE	MINIMUM STANDARD	FILTER
TRA 03 - Alternative transport			5	n/a	n/a	n/a	Yes, answer option
	1	A	1				
		B	1				
		C	2				Filtered if there is no parking space
		D	1				
TRA 04 - Safe traffic in the residential area			3	n/a	n/a	n/a	n/a
	1	A	2				
		B	1				
TRA 06 - Home office			2	n/a	n/a	n/a	Yes, answer option
	1	A	1				
		B	1				Filtered for communal space
WAT 01 - Reduce drinkwater consumption			5	n/a	n/a	Ja	Yes, answer option
	1	A	1			Very Good	
		B	2			Outstanding	
		C	3				
	2	D	1				Filtered for communal water usage
		E	1				Filtered for rental
WAT 03 - Leak detection and prevention			4	n/a	n/a	n/a	Yes, answer option
	1	A	2				
		B	1				Filtered for residential building
		C	1				Filtered for communal sanitary

ISSUE	QUESTION	ANSWER-OPTION	NUMBER POINTS	EP	PREREQUISITE	MINIMUM STANDARD	FILTER
WAT 04 - Water efficiency and reuse			4	Yes	n/a	n/a	n/a
	1	a	1				
		b	1				
		c	2				
		D	1%	✓			
		E	1%	✓			
MAT 01 - Life cycle impacts			6	Yes	Yes	Yes	n/a
	1	a	-		Prerequisite		
	2	b	1			Excellent	
		c	2				
		D	3				
		E	4				
	3	G	1				
		H	1				
		I	1%	✓			
MAT 02 - Embodied and Whole Life Carbon			5	Yes	n/a	n/a	n/a
	1	a	2				
		b	1%	✓			
		c	1%	✓			
	2	D	1				
		E	3				
MAT 05 - Robust designs			1	n/a	n/a	n/a	n/a
	1	a	1				
MAT 07 - Design for disassembly and building passport			2	Yes	n/a	Yes	n/a
	1	a	1				
		b	1%	✓			
	2	c	1			Very Good	
WST 01 - Construction-waste management			3	Yes	n/a	Yes	n/a
	1	a	1			Very Good	
		b	2			Outstanding	
		c	1%	✓			
WST 03 - Storage space for recyclable waste			2	n/a	n/a	n/a	n/a
	1	a	1				
		b	1				
WST 04 - Furnishings and finish			2	n/a	n/a	n/a	Default credit
	1	a	1				
		b	1				
WST 05 - Adaption to climate change			2	Yes	Yes	Yes	n/a
	1	a	-		Prerequisite		
	2	b	2			Outstanding	
		c	1%	✓			

ISSUE	QUESTION	ANSWER-OPTION	NUMBER OF POINTS	EP	PREREQUISITE	MINIMUM STANDARD	FILTER
WST 06 - Adaptive capacity			4	n/a	n/a	n/a	n/a
	1	A	1				
		B	2				
		C	3				
		D	4				
LE 01 - Site selection and healthy soil			4	n/a	n/a	n/a	n/a
	1	A	1				
		B	2				
	2	C	1				
		D	2				
LE 02 - Ecological value of site protecting ecological values			2	n/a	Yes	Yes	n/a
	1	A	-		Prerequisite		
	2	B	1				
		C	1			Very Good	
LE 04 - Natuurinclusive location			2	n/a	n/a	Yes	n/a
	1	A	1			Excellent	
		B	2			Outstanding	
LE 05 - Long term use ecological value			3	n/a	n/a	n/a	n/a
	1	A	1				
		B	1				
		C	1				
POL 01 - Impact of refrigerants			3	n/a	n/a	n/a	n/a
	1	A	1				
		B	2				
		C	3				
POL 02 - Reducing air pollution			2	n/a	Yes	Yes	n/a
	1	A	-		Prerequisite		
	2	B	1			Excellent	
		C	2			Outstanding	
POL 03 - Surface water run-off			5	Ja	n/a	Yes	Yes, answer option
	1	A	1				
		B	2			Outstanding	
		C	2				Filtered if there is no parking space
		D	1%	✓			
POL 04 - Reduction of light pollution			1	n/a	n/a	n/a	n/a
	1	A	1				
POL 05 - Reduction of noise			1	n/a	n/a	n/a	n/a
	1	A	1				

3.3 Weighing

The final total score is determined by adding up the achieved scores per sustainability category. These scores are multiplied by a weighting percentage for each category.

The weighing factors are based on a consensus from the research within various stakeholders and organizations, such as 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 own research or stakeholder analysis has yet been carried out, so this is a consensus based on qualitative research and no scientific weighting. The weighting rates could change over time if social developments so warrant. This will always lead to a new version of the assessment guideline.

Table 8 Weighting percentage per category

CATEGORY	NEW CONSTRUCTION AND RENOVATION HOUSES
Management	11.00%
Health	19.00%
Energy	19.00%
Transportation	6.00%
Water	7.00%
Materials	12.00%
Waste	7.00%
Land use and ecology	10.00%
Pollution	9.00%
Total	100.00%
Innovation	Maximum 10.00%

3.4 How to achieve a BREEAM-NL qualification

The final BREEAM-NL qualification (from 'pass' to 'outstanding') is calculated by the DGBC assessment tool on the basis of the data entered and checked by the assessor. This does not alter the fact that the assessor and the expert himself must also be able to calculate the qualification. To arrive at the correct qualification, one proceeds as follows (see also the calculation example below):

1 Determine the number of points earned per category.
2 Set the percentage per category based on the maximum number of points to be earned
3 Multiply the category percentages by the weighting factors; This provides the category score.
4 Add up the category scores, including the innovation credits if applicable; This results in a draft final score.
5 Check that the Prerequisite and the minimum standards for the provisional qualification have been achieved. If so, the draft qualification is equal to the final qualification.

Example calculation

BREEAM-NL CATEGORY	POINTS OBTAINED	AVAILABLE ITEMS	% BY POINTS ACHIEVED	CATEGORY WEIGHTING	CATEGORY SCORE
Management	11	21	52.38%	11%	5.76%
Health	17	29	58.62%	19%	11.14%
Energy	21	34	61.76%	19%	11.74%
Transportation	8	16	50.00%	6%	3.00%
Water	7	13	53.85%	7%	3.77%
Materials	9	17	52.94%	12%	6.35%
Waste	10	13	76.92%	7%	5.38%
Land use & Ecology	7	11	63.64%	10%	6.36%
Pollution	7	12	58.33%	9%	5.25%
Exemplary performance and Innovation credits					2%
Total score					60.76%
BREEAM-NL qualification					Very Good

Note that the number of points available may vary depending on building properties.

3.5BREEAM-NL qualification 'outstanding'

In order to obtain a BREEAM-NL qualification 'outstanding' for a building (and building plot), the following requirements must be met:

1. The BREEAM-NL score must be ≥ 85%.
2. The minimum standards must be achieved.
3. A case study must be delivered according to guidelines below.

CASE STUDY

One of the most important aspects of a BREEAM-NL qualification 'outstanding' is the exemplary role of these projects for the rest of the industry. It is therefore very important that design teams in construction have access to a good case study.

The design team and the client who have achieved the BREEAM-NL qualification 'outstanding' must therefore provide a ready-made case study. This information shall be submitted together with the assessor's final report for the delivery phase.

Once approved, DGBC will be allowed to use the case study freely on its websites and for various publications. If no case study is provided, the building will receive the BREEAM-NL qualification 'excellent'.

GUIDELINES FOR A CASE STUDY

The 'outstanding' project has an exemplary function, so that others can learn from it. As a guideline, leaving the actual implementation to the project team, the following can be considered:

- Detailed description of the project, including building plot and surroundings
- Design principles and innovations
- Sustainability aspects (techniques, processes and measures)
- Details in the BREEAM-NL certification process - scores
- Costs and benefits of the sustainability objective
- Key figures (per m2 GFA, FTE, etc.)
- What can others learn from this project?
- Recommendations for further sustainability in the future.

4. Evidence for BREEAM-NL New Construction

BREEAM-NL is an independent certification method for buildings whose assessment guideline (BRL) is in accordance with national and international guidelines. The working method according to the international guideline ensures that BREEAM-NL functions in a consistent and reliable manner. The assessment report drawn up by the Assessor and the quality assurance by the DGBC are fundamental to the confidence in BREEAM-NL and the score achieved.

To ensure consistency and reliability, all assessments within the BREEAM-NL certification must be based on reliable and verifiable information relevant to the project to be assessed. In addition, the assessments of the issues must be in accordance with the international BREEAM standards. Also from the point of view of risk management towards the customers and the Assessors, the consistency of the assessments is important, for example if the outcome of a certification is disputed.

THE ROLE OF THE ASSESSOR AND EXPERT IN BREEAM- NL

Where BREEAM International has 'accredited professionals' and 'assessors', in the Netherlands a distinction is made between Experts and Assessors. These roles are further described in the BREEAM-NL User Manual. It also explains the working method, responsibilities and powers in more detail, as well as the submission of assessment reports, version numbering, registration, etc.

In the event of any inconsistencies in procedures, the BREEAM-NL User Manual goes beyond the assessment guideline and can be consulted and downloaded on the BREEAM-NL website. The user of the assessment guideline is deemed to be aware of the content of the BREEAM-NL User Manual.

4.1 Type evidence

The proof for the issues is preferably not specially drawn up for a BREEAM-NL certification. In many cases, available building information and an on-site check can be used to demonstrate compliance with the requirements of the Assessment Directive. Therefore, this assessment guideline does not provide a specific description of the evidence required, although some issues still require specific documents and sometimes require multiple types of evidence. In some cases, the evidence may be useful for multiple issues. General burden of proof at organisational level must demonstrably relate to the project being assessed.

To support customers, experts and assessors in collecting information, we describe below the different forms of evidence that can be used for each component to be assessed. The types of evidence can be divided into three categories:

- Generic evidence
- Specifically evidence
- Other evidence

Some issues require a combination of these types of evidence.

Generic evidence consists of evidence that is normally already available for a building or an organization. Examples of generic evidence are included in Table 10 Generic evidence is not mentioned under the heading 'Evidence' accompanying the issues, but may be additionally required to demonstrate that the requirements are met. Not all examples listed in Table 9 apply to all issues. Moreover, it is the responsibility of the BREEAM-NL Assessor to determine whether the correct evidence has been provided.

Specifically evidence includes information that must in any case be provided to demonstrate that requirements within a credit are met. The specific evidence is defined with the relevant credit under the heading 'evidence'.

Other evidence is information that differs from what is described in Table 9 or under 'proof' with the issues. In order to prevent this type of evidence from being non-compliant, thereby delaying certification, it must be credible, robust and traceable to at least the same level as the specific or generic evidence. In case of doubt, it is advisable to contact the DGBC in advance, i.e. before providing (or accepting) the evidence.

EVIDENCE DESIGN PHASE

During the assessment for the BREEAM-NL design certificate, letters or e-mails may in some cases be used to demonstrate the intention to meet the BREEAM-NL criteria. This 'letter of intent' describes the actions to be carried out and the evidence to be provided to ensure that the criteria are met. The design team is not allowed to copy and paste the BREEAM criteria into an official commitment. In particular, the commitment should specify how criteria will be met in the context of the assessment and copied and pasted BREEAM criteria will not provide this information.

While letters of intent can play a role in demonstrating that the requirements are met, they are not a substitute for original project information. The Assessor may not award points if there is reason to question the written commitments, or if it is likely that official design information or specifications are available to confirm compliance with the criteria.

EVIDENCE DELIVERY PHASE

For the burden of proof during the delivery phase, a design certificate is required when the issues are awarded. If this is not the case, the Assessor shall assess the evidence of both the design phase and the delivery phase under Table 9.

The evidence provided during the delivery phase must apply to the completed building and demonstrate what work has actually been carried out. For example, if submeters are specified at the design stage, information from the delivery phase should show that they were actually installed. Adequate evidence in such a situation consists, for example, of an inspection report of the construction site with supporting photos or construction drawings (*as-built*) showing the placement of the submeters.

Letters of intent are not suitable for demonstrating that criteria are met during the final delivery phase of the assessment. The only exception to this is when the criteria require actions in the delivery phase, i.e. after transfer and possibly during use of the building. An example is a written commitment by the building owner or user that indicates that he will carry out an evaluation after commissioning. As with written commitments during the design phase, the BREEAM-NL Assessor may not award points if there is reason to question the commitments, or if it can be assumed that official documentation is available (e.g. a schedule of installations and/or a professional service agreement).

PRINCIPLES FOR EVIDENCE

In determining the appropriateness and robustness of the evidence for each credit, the Assessor must use the principles set out in Table 9. If the evidence complies with these principles, it is admissible for assessment. The principles below are not in a hierarchical order, they are all equally important in approving the evidence.

Table 9: BREEAM evidence principles

	RESUME	PRINCIPLE	GOAL	AT COUPLES ASK
1	Evidence provided for all criteria for all at earn points	Evidence must show that ALL relevant criteria and sub-criteria for the point achieved are met..	Integrality	Are all criteria and sub-criteria covered? Have all relevant definitions been adressed?
2	Unambiguously assessment	The assessment must demonstrate that compliance is unambiguous. Evidence (and explanations) must make it clear to the reviewing party that the requirements are met.	Comparability of independent judgement	If a third party reviews my report with the attached evidence, is it 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 shall contain all relevant basic information (see section 4.4 for further explanation).	The evidence is demonstrably robust and of a reliable source.	Is this the most robust form of evidence available to demonstrate compliance with the requirements? Does the evidence contain all the relevant basic information? Is it fully controllable?
4	Make use of existing and available evidence .	Make use of available and existing information to demonstrate compliance. In most cases, evidence will not need to be 'created'.	By using existing and available proof, I minimize time and costs.	Is evidence that complies with the earlier principles already present and useful? If I have to ask for more evidence, does the project look for points that they cannot sufficiently demonstrate to be satisfactory?

ROBUSTNESS BY EVIDENCE

Any evidence used in a BREEAM-NL assessment must be robust and reliable, both in terms of source and traceability. Below is an overview of the minimum data that an assessor must receive for certain types of evidence:

- **Communicative expressions**: e.g. on newsletters and posters and in conversation reports, e-mail conversations or any other form of media, the name of the location, the identity and role of the author, the date and the identity of the recipient must clearly state.
- **Formal letters or correspondence**: must be written on paper with a letterhead of the organization (the company) and signed (electronic is also allowed). Ideally, digital letters are a secure document.
- **Minutes:** contain date, location and an overview of the attendees (name, organization and role), along with a record of the meeting and the agreed actions.
- **Construction drawings, floor plans, technical installation drawings** are provided with the name of the project and/or the construction site, title of the drawing, date, revision number and scale.
- **Specification(s):** it must be clear that they are related to the project to be assessed and provided with a date and revision number. Where parts of a specification have been made available (e.g. a datasheet), at least the table of contents and the cover page must have been submitted. It should contain the name of the project, the revision number and the date. Specifications must always be related to the actual designed and/or built situation.
- **Inspection report:** Must include the building or project location name, date, and author. The inspection report also consists of a project description, supported by photos of what was observed on the construction site.

For different types of evidence, the table below (Table YY) can be used as a guide. The evidence used should always include at least the basic information: project name, author, date, and revision number (if applicable).

Table 10: Evidence types

REF	DOCUMENT/EVIDENCE TYPE	DESCRIPTION/NOTE
E1	As built information	As-built information, drawings, investigations of (specialist sub) takers.
E2	Building information model (BIM - Building information fashion model)	BIM files for It project of relevant information and/or evidence, as long as Good readable for testing parties (e.g. converted Unpleasant pdf).
E4	Inspection report from BREE-AM-NL Assessor	A officially report based on It research by the construction site that the BREEAM-NL Assessor itself has carried out to confirm that it meets the criteria is becoming met. It inspection report distinguishes himself by It corresponding official BREEAM-NL assessment report. It serves as An self-contained proof that there On the criteria is becoming met. It report can photos contain That taken are Through the Assessor as element by It research.
E5	Construction contract(s)	The construction agreement (or passages and provisions thereof) between the client and the contractor for the construction of a project, or sub- agreements for the execution of parts. The contracting agreement can also design tasks contain.
E6	Recognized quality marks and certificates	Examples such as ISO 14001, FSC (Forest Stewardship Council), EPD (environmental product declaration), Conscious Builders.
E7	Communicative expressions	Formal pieces of communication with stakeholders and/or third parties from which a agreement, outcome or action appears. This can be in the form of a letter, minutes, e-mail, An publication or An Others form by communication.
E8	Communication agreements	The strategy that specifies when the project team will meet, how members communicate with each other, and that contains the protocols for providing information between the various parties, both informal and formal.
E9	Results from modeling software	Examples are software for thermal modeling, life cycle assessment, life cycle costs, ventilation modelling, and so on.
E10	Specifications by It work	The specification for It project, as for example specifications texts
E11	Data and information from the construction phase	For example, purchase orders, measurement data, logbooks, construction schedules, delivery reports, and so on.
E12	Structure diagram of the project	A graph that clarifies the contractual relationship between the client and the parties That the tasks to carry out inside An project.
E13	Cost accountability	Project costs, cost estimates and life cycle costs.
E14	Design drawings	Design drawings of the project from the different phases for both the urban, architectural and installation design.
E15	Design planning	A schedule of in there the strategic dates by It design process. It is linked On It project planning, but is focused on the strategic choices in the consecutive phases by It design process.
E16	Design responsibility matrix	A matrix in which is recorded Who there responsible is for It design of which aspect of the project and also when and at what level and in what phase the design was developed.
E17	Feasibility study(s)	Research into the feasibility of the PoE or into certain applications the location in question.
E18	Sketch design	The first design in which the requirements from the PoE and the results of the feasibility studies have been adopted.
E19	Others information by third parties	For example maps, timetables, product specifications, law- and regulations, product labels.
E20	Professional service agreement	An agreement regarding professional advice and services such as: design, feasibility, legal or technical advice.

E21	Specialist reports	Reports by specialist to research (test results) drawn up Through a skilled specialist, proven by CV and accompanying work experience.
E22	Project execution or quality plan	The project execution plan describes the processes, protocols and planning described for the performance by It work.
E23	Project plan	A plan that describes how the construction of the project will take place to by It PvE until commissioning at come.
E24	Project function table	A table showing the functions required during a project, including a description of the phases where those functions are required and the parties that perform the functions.
E25	Project strategy	The strategies That are developed in the design phase ter support by It design. Examples are: strategies for sustainability, acoustics, transfer, maintenance and usage, fire management, building control, technology, health and safety, build, transport information, durable tender plan.
E26	Risk analysis	The risk analysis contains an assessment of the various design risks (and other risks) during a project, how these risks are managed and which side for this responsible is.
E27	Service schedule	A list of specific services and tasks performed by a party who is involved in the project. These services and tasks are then added to the agreement of the regarding side.
E28	Program by To demand (PvE)	The Program of Requirements is drawn up after discussions with the customer the project goals and sustainability ambitions, the business case by the customer, and in some fallen An reference Unpleasant the feasibility studies for the construction site.

5. How to read

In It light green right stands general information about the credit such as how many points are available and whether it is a minimum requirement.

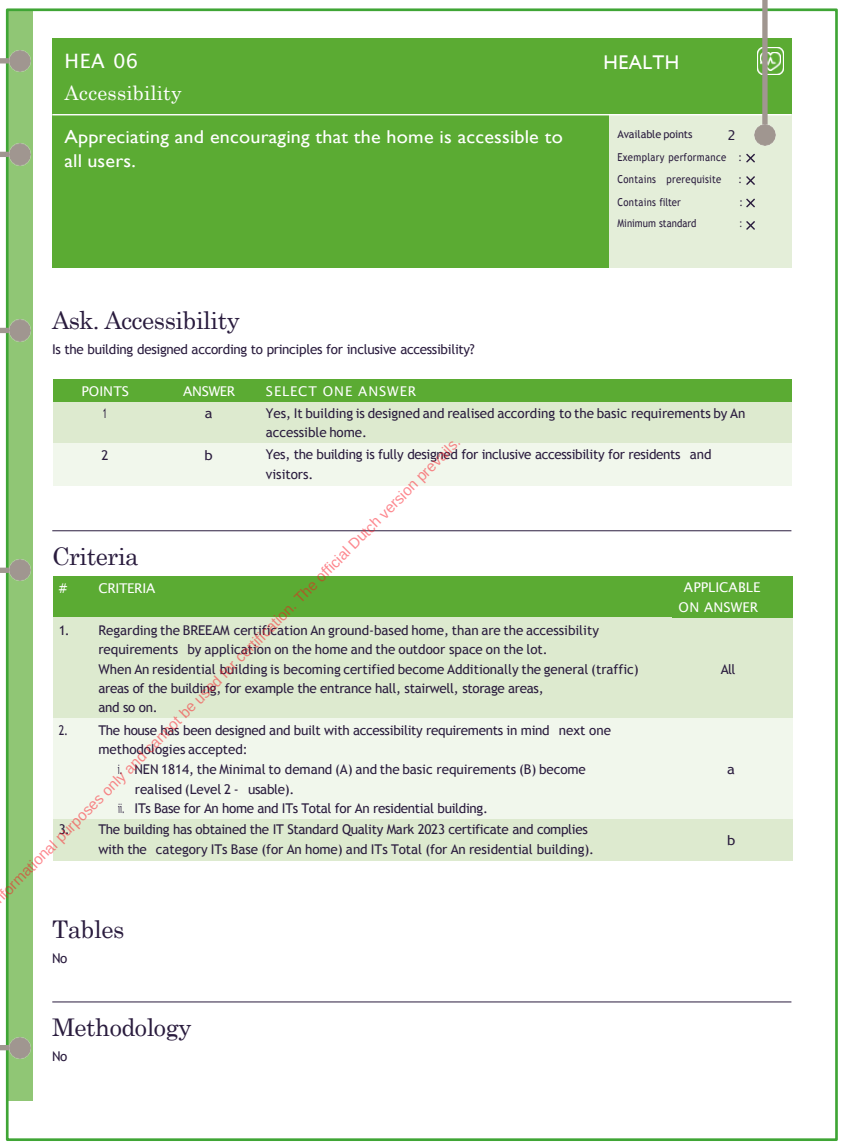
Code and name by the credit.

In this right stands It goal by the credit.

A question is asked with each credit 1 or multiple answer options.
The answer options always say whether or not 1 or multiple options possible are.

Most answer options have criteria associated with them. In the last column by this table is weather-
which answer options the criteria apply to.

Methodology stands described on which how the criteria must be determined, for example with calculations.



HEA 06 HEALTH

Accessibility

Appreciating and encouraging that the home is accessible to all users.

Available points	2
Exemplary performance	: ×
Contains prerequisite	: ×
Contains filter	: ×
Minimum standard	: ×

Ask. Accessibility

Is the building designed according to principles for inclusive accessibility?

POINTS	ANSWER	SELECT ONE ANSWER
1	a	Yes, It building is designed and realised according to the basic requirements by An accessible home.
2	b	Yes, the building is fully designed for inclusive accessibility for residents and visitors.

Criteria

#	CRITERIA	APPLICABLE ON ANSWER
1.	Regarding the BREEAM certification An ground-based home, than are the accessibility requirements by application on the home and the outdoor space on the lot. When An residential building is becoming certified become Additionally the general (traffic) areas of the building, for example the entrance hall, stairwell, storage areas, and so on.	All
2.	The house has been designed and built with accessibility requirements in mind next one methodologies accepted: i. NEN 1814, the Minimal to demand (A) and the basic requirements (B) become realised (Level 2 - usable). ii. ITs Base for An home and ITs Total for An residential building.	a
3.	The building has obtained the IT Standard Quality Mark 2023 certificate and complies with the category ITs Base (for An home) and ITs Total (for An residential building).	b

Tables

No

Methodology

No

HEA 06 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.

Definities

TOEGANKELIJKHEID

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

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

Referenties

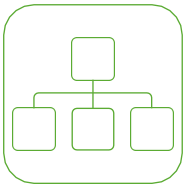
- NEN 1814:2001 nl -Toegankelijkheid van buitenruimten, gebouwen en woningen
- Integrale Toegankelijkheid Standaard 2018. https://www.pbtconsult.nl/itstandaard-2023/213/1280/

Specifieke bewijslast staat omschreven bij elke credit. In de eerste kolom staat aangegeven voor welke criteria het bewijsmateriaal van toepassing is.

Bij definities staat omschreven op welke wijze belangrijke begrippen worden geïnterpreteerd.

Onder referenties staan stukken weergegeven waar je meer informatie kunt vinden over het desbetreffende onderwerp

Management



RESUME
This category encourages sustainable management practices in the design and construction phases of development. Additional attention is paid to the commissioning, transfer and aftercare activities to ensure proper use of the home. The influence and role of local residents, stakeholders and future
users are central here.

CONTEXT
The level of sustainability achieved upon delivery starts early in the process. It is important that the sustainability ambitions are known early and are fully adapted by the project team and stakeholders. The Management category focuses on safeguarding sustainability performance. Attention is paid to the design, construction and delivery process. Not only sustainability plays a role here, but also social aspects such as the influence of development on the local community.

By having a clear focus on the sustainability ambition, making demonstrably good choices, involving everyone and delivering what has been promised, a high-quality and sustainable project is ultimately realized (which can also be used as).

Assessment issues

MAN 01	Project design	5 points
Value:	- Consultation with interested parties contributes to support and alignment with their needs. - Hiring a BREEAM-NL Expert ensures that stated ambitions become feasible.	

MAN 02	Life cycle cost analysis	4 points
Value:	- Recognizing and encouraging the use of life cycle cost analysis and lifespan planning and data sharing to increase awareness and understanding.	

MAN 03	Responsible construction site	5 points
Value:	- The (main) contractor applies sound environmental management practices on the construction site and appropriate attention to the immediate environment. - Construction site-related energy, water and transport impact on the environment is monitored and reported.	

MAN 04	Commissioning and aftercare	3 points
Value:	- Ensure that the installation operates as designed through a process of checking design, specifications and commissioning. - Ensuring that users can operate the installation easily and with a view to sustainability and comfort.	

MAN 05	Aftercare	2 points + 1 EP
Value:	- With care and attention after delivery, ensure that optimal conditions of use are possible..	

MAN 06	Social risks and chances	2 points + 1 EP
Value:	- - Ensuring that there is an understanding of the social impact of the home on the environment. - - Emphasizes how the home can maximize social opportunities and minimize social risks (which can also include climate risks).	

MAN 01 MANAGEMENT
Project design

Recognising and encouraging an integrated design process involving all relevant stakeholders, in order to optimising the project and housing performance to better meet their needs.

Available points	5
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✕

Question 1. Stakeholders

Are the relevant stakeholders sufficiently involved in the realization of the project (design)?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, local area stakeholders are involved in the planning
1	B.	Yes, directly involved stakeholders are involved in the design
1	C.	Yes, an independent participation expert is involved in the process and this process is guaranteed in a participation plan.

Question 2. Secure performance goals

Is a BREEAM-NL Expert involved in the development and construction of the house(s)/building?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	D.	Yes, a BREEAM-NL Expert has been appointed to determine and achieve BREEAM-NL performance targets for the project in the design phase.
1	E.	Yes, a BREEAM-NL Expert has been appointed to realize the progress of the BREEAM-NL performance targets during the Execution Design phase, construction phase and delivery.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1		
1.	Stakeholders are involved in the planning and /or design, for this purpose a Plan of Action explains how the participation process takes place and the degree of participation of the stakeholders.	A, B
2.	Stakeholders from the area are, for example, local residents, the municipality, local (basic) facilities, sports clubs, nature organizations, surrounding owners'associations, local communities, etc.	A
3.	In addition to members of the project team, people from the intended target group(s) or end users for the project are directly involved in the design and have been consulted at a time when their contribution can still influence the design.	B

Project design

4.	Before the final design of the preliminary design, the relevant stakeholders have been identified and their role and possible input have been defined for each phase of the project.	A, B
5.	The minimum scope of the consultation consists of: a. Functionality, build quality and impact (including design); b. Outdoor c. Effects on the local community, for example for local traffic and transport; d. Opportunities for shared facilities and infrastructure with the environment and relevant stakeholders; e. Complete and accessible design; f. Ecological integration; i.	A, B
6.	The project should demonstrate how the contributions of the stakeholders and the results of the consultation influenced or modified the initial programme ofrequirements, plan design, preliminary design and final design, including the rejected contributions. This can be done by means of a note on the action plan and the results achieved.	A – C
7.	In the case of housing concepts, it must be demonstrated that the logical stakeholders were consulted during the development of the concept. These are, for example: - Potential buyers of the concept - Potential audiences - Tenant interest groups - Evaluation of previous projects (e.g. MAN 05) Stakeholders from the environments where the concept is actually realized in a project should always be consulted when answer option A is selected.	A – C
8.	An independent participation expert is involved in setting up the stakeholder analysis and setting up a participation plan. The expertise, experience and involvement of theparticipation expert must be demonstrated.	C
9.	The participation plan follows logically from an inventory of the stakeholders and includes the following elements/themes, if applicable: i. End-user requirements (target group) ii. Sustainability objective(s) iii. Frameworks and preconditions (legal, organisational, political-administrative, financial, capacity, etc.) iv. Strategy per stakeholder (type) v. Decision-making milestones vi. Forms of participation vii. Participation questions viii. Form of work(s) ix. Results and anchoring x. Communication xi. Organization xii. Planning and budget	C
CRITERIA FOR QUESTION 2		
10.	One BREEAM-NL Expert is preceded by The design phase Appointed to BREEAM-NL determine and achieve performance targets for the project.	D

Project design

11.	BREEAM-NL performance targets relate to the BREEAM-NL qualification and the required minimum standards. When agreeing on a BREEAM-NL goal, it is advised to pursue or prioritize individual BREEAM-NL issues, points and criteria. In this way, it can be trusted that the agreed goal is achievable and will be achieved without having to make potentially expensive adjustments to the design during a later phase.	D
12.	The defined BREEAM-NL performance targets are officially defined in the Programma of Eisen between the client and the design or project team.	D
13.	If the BREEAM-NL related performance targets set for the project have not been met in the delivery assessment, the point awarded in the draft assessment for appointment of the BREEAM-NL Expert may not be awarded in the final assessment.	D
14.	A BREEAM-NL Expert is a person who has been trained by DGBC in the operation of BREEAM-NL and its process guidance. Only Experts who have been trained and recognized by DGBC are included. It is essential that the Expert in question has also met the annual training during the duration of the project. A list of trained BREEAM-NL Experts can be found on breeam.nl.	D, E
15.	A BREEAM-NL Expert is appointed to monitor progress against the agreed BREEAM-NL performance targets during the execution design, construction phase and delivery, and to report progress to the client and the design and constructionteam.	E
16.	The BREEAM-NL Expert participates in design team and construction team meetingsduring the design and construction phase.	D, E
17.	Performance targets have been set in the design phase on the qualification and the issues and points to be obtained, these have been officially laid down in the Programma of Eisen. If no performance targets have been set in advance or if the performance targets prove to be unattainable during the execution design, construction and delivery phases, the points for this criterion cannot be awarded.	E
18.	The aim is to stimulate and reward project teams that appoint a BREEAM-NL Expert and thus ensure that the sustainability goals are continued during the construction phase on the one hand and that the BREEAM qualification for the building is achieved on the other hand. The responsibilities of the BREEAM-NL Expert are included in a contractual agreement that shows that the person has sufficient resources and time to monitor, assess and realize the objectives.	D, E

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

Knowledge node Participation has various guidelines to be able to set up the participation process. Including drawing up the right stakeholders, researching and analyzing data. Guide Participation #5 (kennisknooppuntparticipatie.nl). With the introduction of the Environmental Planning Act, the role for developers will in organizing participation processes, where previously this was a role for the municipalityn was seen. Involving stakeholders in the development offers many opportunities to come up with better plans, if properly executed.

References

No

MAN 02 MANAGEMENT

Life cycle cost analysis

To deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation, and through the dissemination of capital cost reporting to promote economic sustainability

Available points	: 4
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✕

Question. Life cycle cost analysis

Are life cycle cost analyses carried out during the design phase that have a proven impact on the design?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
2	A.	Yes, a lifecycle cost analysis at a strategic level was carried out for the entire design prior to the Preliminary Design.
1	B	Yes, a detailed life cycle cost analysis was performed in the design phase prior to submitting the environmental permit for the build activity.
1	C	The investment costs for the project are reported in the assessment tool.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	A first life cycle cost analysis, based on ISO 15686-5:2017, was carried out for the entire design prior to the completed Preliminary Design, in which various proposals and variants of the structural design of the building were analysed in full.	A
2.	The life cycle cost analysis shows that the following residential and/or buildingcomponents have been integrally investigated at a strategic level: A. Structure B. building envelope C. Installations	A
3.	The analysis at strategic level concerns matters such as location, external environment, maintenance sensitivity and internal environment (Level 4 – Elements from NEN 2699:2017).	A
4.	The detailed life cycle cost analysis based on ISO 15686-5:2017 was carried out in the design phase prior to the completed Final Design.	B
5.	The life cycle cost analysis shows that the following residential and/or building components have been integrally examined at a detailed level: A. (main) support structure B. building envelope C. Installations D. finishes, including tenant amenities E. Arrangement of the plot.	B
6.	The analysis at the detailed level is at Level 5 – Technical solutions from NEN	B

Life cycle cost analysis

	2699:2017.	
7.	The results of the analysis are shared in an understandable way with the residents and owner of the house and contain at least: the considerations, substantiation of the choices and the maintenance expectations for the choices with financial forecast	A, B

8.	The life cycle cost analysis has been carried out and all cost types from NEN 2699:2017 have been included during the entire life cycle of the building . A lifespan of 75 years should be taken into account.	A, B
9.	The life cycle cost analysis involves a project-specific integral assessment at building and residentiallevel, taking into account the relationship between any different building components. For example, the effect of a different building envelope on the installations and supporting structure, taking into account construction costs, maintenance costs and operational costs.	A, B
10.	All realistic variants (at least 2) per building component in conjunction with other building components must be considered in the LCC.	A, B
11.	If there are no realistic variants to analyze, this can be deviated from. It must then be well substantiated why this is the case.	A, B
12.	Demonstrate by at least two appropriate examples from the design process that the LCC has been used to reduce life cycle costs by influencing the design of the building and installations. The appropriate examples should show what impact they have on the entire project, what problems have been solved, and what benefits they have. The option(s) with the lowest discounted life cycle cost is preferred, provided that that option(s) produces one of the following results: A. The lowest energy consumption over the entire life of the building. B. A decrease in maintenance needs/frequency; C. Extending the life of installations and materialization. If a solution is chosen in the project that does not have the lowest life cycle costs, it must be explained why this choice is preferred and insight into the (increased) costs must be made known to the future residents or maintenance manager.	A, B
13.	Both LCC analyses should be carried out at the earliest possible stage of the design process, so that decisions do not adversely affect the (initial) budget or the time schedule of the design.	A, B
14.	In the case of residential (building) concepts, it must be demonstrated that a strategic and/or detailed analysis of the concept has taken place.	A, B
15.	Report the investment costs for the project in the assessment tool.	C
16.	Investment costs are understood to mean the initial costs for the development of the building. These are the following components: A. Construction costs, including preparation work, materials and labor B. Construction site costs C. Development financing costs D. Insurance and taxes during the construction period E. Performing inspections and tests. Costs related to obtaining the land, preparing it for construction, designing, obtaining permits and aftercare should not be taken into account.	C

Life cycle cost analysis

17.	Where the final information is not available at the time of the design assessment, the criterion may be assigned when the predicted net present value is used. Including unforeseen circumstances, and undertaking to provide this information for the delivery assessment. This data will be used anonymously for future BREEAM performance benchmark purposes.	C

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

Responsible construction practices

To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner

Available points	: 5
Exemplary performance	: ✗
Contains prerequisite	: ✓
Contains filter	: ✗
Minimum standard	: ✓

Question 1 (prerequisite). Durable wood

Are the basic requirements for a responsible construction site met?

POINTS	ANSWER	SELECT ONE ANSWER
N/A	A	Yes, all wood that is (temporarily) used on the construction site iscertified

Question 2. Environmental impact construction site

Is contamination on the building site minimized by proper measures and monitoring, and has a responsible person been appointed here?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	B.	Yes, an environmental management system is used and pollution from activities on the construction site is prevented.
1	C.	Yes, the environmental impact of energy and water use on the construction site is monitored (mandatory from Excellent)
1	D.	Yes, the environmental impact of transport of building materials, earthworks and waste is monitored (mandatory from Outstanding)

Question 3. Responsible construction site management

Is the construction site managed in a responsible manner? (required from Very Good)

POINTS	ANSWER	SELECT ONE ANSWER
1	E.	Yes, the construction site is well managed with checklist A1 or Considerate Contractors
2	F.	Yes, the construction site is very well managed with checklist A1 or Considerate Contractors

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1 PREREQUISITE		
1.	**Temporary construction site wood** All wood used (temporarily) on the construction site is certified by a certification system approved by the Timber Procurement Assessment Committee. Wood that is reused on the construction site must also comply with this. Wood for the construction site is considered wood used to facilitate construction. Including formwork, construction site fencing, scaffolding boards, construction housing and other temporary wood used on the construction site. Construction wood, wood used for finishing are not assessed here (this is already included in MAT 01). Packaging material such as stop wood is also excluded.	A
CRITERIA FOR QUESTION 2		
2.	A sustainability manager has been appointed during the work on the construction site who has the responsibility to set, monitor and report on sustainability goals with regard to the workon the construction site and the activities to minimize pollution or nuisance. To do this, the person responsible is ideally employed at the site or will visit the construction site regularly to be able to carry out frequent monitoring. It is expected that theseproblems will be addressed and non-compliance with activities or agreements will be kept to a minimum. Reporting and reporting on progress takes place at meetings of the project team by carrying out spot checks. Action must also be taken if shortcomings in compliance are found. Examples of thisreporting must be demonstrated for the delivery certificate.	B - D
3.	The main contractor works with a third-party certified EnvironmentalManagement System that includes the main constructionwork with the scope. Accepted systems are: - ISO14001 - EMAS - VCA - Csr performance ladder level 3 or higher.	B
4.	If a company is still in the process of obtaining an Environmental Management Certificate, but this has not yet been obtained, one can meet for a design certificate if it can be demonstrated that one is in the procedure. The burden of proof is the registration or contract with a certifying body, which demonstrates that the procedure has been initiated. The certificate must be obtained for the delivery certificate.	B
5.	Pollution from construction site activities is minimized.Checklist MAN3.1 is used for this purpose . In order to demonstrate application of the checklist, it will be necessary to demonstrate that actions are performed and/or how the purpose of each section has been met (if not all actions have been performed).	B
6.	The environmental impact of transport to and from the construction site, energy consumption and water consumption is monitored and reported. Responsibility is assigned to the sustainability manager for monitoring, recording and reporting of energy consumption, water consumption and transport data (where measured) as a result of all on-site processes (and specific off-site monitoring) throughout the project.	C, D

7.	**Energy** A. The components for 'Energy use' from checklist A11 are met. B. Report the total CO2 emissions (total kg CO2/house) of the construction phase in the assessment tool.	c
8.	**Water consumption** A. The components for 'Water consumption' from checklist A11 are met. B. Report the total net water consumption (m3), as the consumption minus the recycled water consumption in the assessment tool.	c
9.	**Transport of building materials, earthworks and waste** A. The parts for 'Transport to the construction site' from checklist A11 are met. B. Report separately for material, earthwork and waste, the total transport-related CO2, NOx and particulate matter emissions in the assessment tool.	D
CRITERIA FOR QUESTION 3		
10.	A sustainability manager has been appointed during the work on the construction site who has the responsibility to set, monitor and report on sustainability goals with regard to the work on the construction site and the activities to minimize pollution or nuisance. To do this, the person responsible is ideally located on the site or will visit the construction site regularly to be able to carry out frequent monitoring. Shortcomings are expected to be addressed and non-compliance with activities or agreements to be kept to a minimum. Reporting and reporting on progress takes place during project team meetings, sampling and will have to act if compliance deficiencies are identified.	E, F
11.	One point can be awarded if the main contractor has met the requirements in Checklist A1, where the construction site has been independently assessed by the assessor and where six items from each of the four categories of checklist A1 are met. OR One point can be awarded if the project to be assessed is recognized by Considerate Contractors Version 4 or other currentversion with a total score of at least 6/10 points.	E
12.	Two points can be awarded if the main contractor has met the requirements in Checklist A1, where the construction site has been independently assessed by the assessor and where all items from each of the four categories of checklist A1 are met. OR Two points can be awarded if the project to be assessed is recognized by Considerate Contractors Version 4 or other current version with a total score of at least 8/10 points.	F

Tables

Table MAN03.1 Checklist procedures and measures ter prevention by pollution Through activities on the construction site

ELEMENT	ACTION	EXECUTED (Y/N)
Sound and vibration	Goal: to minimize the impact of noise and vibration on the environment.	
a	Plan work that causes a lot of noise pollution, at times of the day when it causes the least inconvenience to the environment.	
b	Use soundproofing features.	
c	Use noise barriers for activities involving shocks and/or explosions.	
D	Avoid transportation through residential areas.	
Air quality	Objective: prevent (fine) dust, No_x or other air pollution on the construction site and surroundings.	
a	Minimize (fine) dust from materials by using coverings, lids, storage (containers), control equipment and humidification.	
b	Minimize (fine) dust from transport and transport by means of, for example, water spraying if this is efficient.	
c	Prevent the burning of materials on the construction site.	
D	Place dust barriers where a lot of (fine) dust is released by material processing.	
Water management	Goal: prevent water pollution Through construction activities.	
a	Make a drainage plan for the construction site in advance. Mark the places where the water flows to provide insight into risks. (Plan may change during construction.)	
b	If applicable, plan work so that it does not take place in periods of high rainfall. Take into account weather and times of the year.	
c	Minimize the length and steepness of slopes.	
D	Provide a protective ground cover to stabilize/retain soil at slopes, canals and gullies. For example, by jute mats.	
E	Provide planting as soon as possible.	
F	Prevent erosion/ washing away of soil by settling ponds, silt fences or water treatment.	
G	Separate dirt and clean water drainage.	
H	Ensure adequate drainage.	
I	Make sure that activities that can cause water pollution take place in a protected place so that rivers, surface water and water sources are not polluted.	
Dangerous substances	Goal: prevent the contamination of local water sources by hazardous substances.	
a	Provide adequate secondary leakage collection for fuel and oil storage. For example for lubricating or hydraulic oil.	
b	Ensure adequate training of workers on how to handle fuels and chemicals and how to respond in the event of leakage.	
c	Ensure a liquid-tight surface, where refueling or liquids are processed.	

Responsible construction practices

D	Provide anti-leakage and cleaning equipment. And train employees in how to use it.	
E	Provide plumbing for all employees.	

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

SUSTAINABILITY MANAGER

The sustainability manager does not have to be a specific role, there is a person as responsible (for example within the project team or from the client) for achieving the sustainability goals by providing appropriate expertise during the preparation and design phases of the project

Additional information

No

References

No

Responsible construction practices

MAN 04 MANAGEMENT

Commissioning and handover

To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants

Available points : 3

Exemplary performance : ✗
Contains prerequisite : ✓
Contains filter : ✗
Minimum standard : ✓

Question 1 (prerequisite). Base commissioning

Has a commissioning file and plan been drawn up that meets the Prerequisite?

POINTS	ANSWER	SELECT ONE ANSWER
N/A	A	Yes, the Prerequisite for a commissioning file and plan have been met.

Question 2. Commissioning

Is becoming An good way by commissioning and Handover by building and installations stimulated?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	B.	Commissioning of the installations and control systems takes place (mandatory from Very Good).
1	C.	Commissioning of the structural shell takes place
1	D.	For the delivery and handover, a user manual has been drawn up for the residents and/or building managers (mandatory from Excellent

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1 PREREQUISITE		

Aftercare

1.	A commissioning plan has been drawn up that is ready before the completed final design of the installations. The purpose of this commissioning plan is to ensure that the detailed installation design, execution and operation of the installations meets the qualities and expectations as defined by the client. Commissioning explicitly goes beyond the work for the energy label. The commissioning file as a minimum requirement focuses on: - The review of design or installation choices in relation to the defined performance. By means of a commissioning plan, ensuring that the executing party has sufficient time for commissioning and testing the installation and (control) systems, in accordance with which norms / standards this must be done and ensuring that the responsibilities regarding adjustment or repair work are laid down	a
2.	The commissioning plan takes into account the different norms and standards that apply to all parts of the project. This plan is in line with ISSO 107 or ASHREA.	A
3.	The commissioning plan consists of the parts on which commissioning must be carried out and the demarcation and scope of the work is clearly defined. The commissioning shall cover the following installations, if any: - Heating systems; - Water distribution systems; - Sanitary - Lighting systems; - Ventilation systems; - Cooling systems; - Automated control systems. - And further on all other systems where there is a relationship with points in the BREEAM-NL assessment (E.g. HEA 03). The commissioning plan shall have an appropriate timetable for: - Examining and inspecting the construction site for control of the execution; - The commissioning and (re)commissioning of the installations and control systems; - Testing the structural shell. The plan describes the roles of the parties and individuals involved in the Commissioning, and what tasks and responsibilities each person has. The desired performance and starting points for the building and installations are described, with references to the standards and measurement methods used on which this performance must be demonstrated. This includes references to best practice commissioning values, commissioning procedures or other appropriate standards.	A
4.	The plan and design review has been prepared by an expert from the project team or by an expert commissioned by the project team.	A
5.	It must be determined who is responsible for demonstrable compliance with the commissioning plan and the completion of the commissioning file in the execution and delivery.	A

Aftercare

6.	If the commissioning plan is not ready when applying for the draft certificate, a draft must be handed over or a formal confirmation from the person who will draw it up.	A
CRITERIA FOR QUESTION 2		
7.	In addition to the minimum requirement (answer option A), for answer option B, the commissioning must be done by an independent expert.	B
8.	The appointed expert checks whether the control systems are set up and functioning correctly. The report shall report that: A. Commissioning of air and water systems is carried out when all control devices are installed, wired and functional (HEA 02 and WAT 01 respectively) B. Commissioning of lighting systems is carried out when all control devices are installed, connected and functional (Ref. HEA 01) C. The commissioning report is present and includes the results of the air and water flow, the results of physical measurements of room temperatures, outside temperature and other important parameters, as applicable. D. The BMS or control installation before performing the seasonal test in auto mode works with acceptable internal climate conditions in accordance with the requirements. E. The user interface of the delivery control systems is fully installed and functional; so including all GBS schematics and graphics and dashboard settings. F. The users of the control systems are fully trained in the operation of all systems.	B
9.	The expert responsible for commissioning should, after completion of the commissioning work, check the energy performance calculation against the actual situation. With the credit ENE01, the expert must provide a statement that the NZEB calculation is technically satisfactory.	B
10.	A thermographic examination has been carried out which shows that the thermal insulation has been correctly applied and no thermal irregularities are detected. The thermographic examination was carried out during the completion phase of the building.	C
11.	The thermal examination is carried out on the basis of NEN-EN 13187 Thermal properties of buildings – Qualitative detection of thermal irregularities in the building envelope – Infrared method, which shows that: A. no significant thermal leaks are present; B. there are no excessive thermal bridges; C. no significant air infiltration takes place, except where it is deliberately designed and fitted (e.g. vents).	C
12.	An air permeability measurement was carried out in the delivery phase which shows that the air permeability meets the values as included in the energy performance calculation.	C
13.	The air permeability measurement was carried out on the basis of NEN 2686:1988/A2:2008 nl. A sample cf. ISSO publication 82.1 may suffice.	C
14.	Any defects identified through the thermal inspection or air permeability test are corrected, after which the building is re-examined to confirm that it meets the requirements. All repair work of defects resulting from the investigations is carried out in a robust and durable manner. The repair work has the same performance as the newly performed work	C
15.	The examinations and tests shall be carried out by a sufficiently qualified person in accordance with the applicable standards.	C

Aftercare

16.	If the weather conditions during the delivery of the building are not favourable for a reliable thermographic measurement (e.g. during the summer for heated functions and during the winter for cooled functions), it is permitted to carry out the thermographic measurement later. It should be substantiated that no time frame was available for meaningful thermographic measurement during the period of application for the certificate.	C
17.	For rental properties: A user manual has been drawn up for managers/facility managers of the residential building. A draft version of the manual is discussed with the intended administrator(s) so that it best suits their needs.	D
18.	A user manual has been drawn up for residents of the houses. A draft version of the manual is discussed with the intended residents so that it best suits their needs. At a minimum, the user manual contains information about: - the operation of (installation) components - Tips for use - periodic maintenance to ensure intended operation - References to further manufacturer sources of information - Contact Information The manual shall contain at least information on the following systems, if any: - Heater - Ventilation system - LE 05 management plan - The meter cupboard, incl. group cupboard and all (main) connections. - Water filtration systems incl. storage - And further on all other systems where there is a relationship with points in the BREEAM-NL assessment (E.g. HEA 03). i.	D
19.	The manual should be accessible to all users in an appropriate manner, with special attention to people with disabilities.	D

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

Aftercare

No

Additional information

No

References

No

Aftercare

MAN 05 MANAGEMENT

Aftercare

Stimulating a good transfer of the construction of the project to the residents and managers, and the aftercare during the first year, so that optimal operation under conditions of use is guaranteed.

Available points	2
Exemplary performance	✓
Contains prerequisite	✗
Contains filter	✗
Minimum standard	✗

Question. Aftercare

Is a good transfer of construction to the residents and good aftercare stimulated?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, there are facilities and resources available to provide aftercare support.
1	B.	Yes, one year after commissioning, a first-year evaluation is carried out by an independent third party and this information is published in an appropriate manner.
EP	C.	The client or building user certifies the building with a building management certification system recognized by BREEAM-NL

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	Facilities and resources are available to provide aftercare support to the building owner and/or manager and the residents. For this purpose, an aftercare team or aftercare manager is appointed as a contact person.	A
2.	For building owners and/or managers of residential buildings , aftercare support consists at least of: A. Before commissioning, a meeting is organized with the aftercare team or manager and the building manager to: I. Introduction of the aftercare team or aftercare manager and which aftercare facilities are available, the user manual (if available). II. Presentation of important information, including the design principles. III. E and tour of the building and getting acquainted and familiarizing yourself with the existing installations and how they should be operated in view of the design principles and operational requirements.	A
3.	For residents of all types of homes, aftercare support consists of at least: A. The first month after commissioning , aftercare support is available through weekly presence of the aftercare team or aftercare manager on site B. Long-term aftercare support is available for residents for at least the first year after commissioning. For example, via a helpdesk, a designated person or another suitable system to support users and management of the building.	A

4.	Residential building: Facilities and resources are available for the collection and monitoring of energy and water consumption data for at least the first 12 months that the building is in use. This is done to make an analysis of differences between actual and predicted performance, with the aim of adjusting systems or user behavior accordingly.	A
5.	The client, building manager or VVE undertakes to carry out a first-year evaluation by an independent third party one year after commissioning.	B
6.	The first-year evaluation is aimed at finding out the user experiences and satisfaction of residents on the facilities and measures that are part of the assessment in the BREEAM-NL certification and therefore focus on, among other things, the use, degree of comfort and safety, performance, facilities and consumption. The results of the evaluation are used to create opportunities for improvement for the client or developer, management for administrators and knowledge sharing for stakeholders.	B
7.	Contracts demonstrate that the installer and technical managers will actively work in the building with the results of the external evaluation.	B
8.	The sponsor undertakes to publish the information from the first-year evaluation in an appropriate manner. The purpose of this is to share good examples and opportunities for improvement and to inform about changes in user behavior, control techniques and procedures. This is shared via, among other things: - As part of anexternal newsletter or magazine to direct stakeholders such as residents and managers. - As an online publication for externaln for the purpose of knowledge sharing. -	B
9.	Relevant information for publication is at least resident satisfaction, energy and water consumption, generation of renewable energy and use of grey and recycled water.	B
10.	The independent of the third party must be demonstrated in one of the following ways: 1. The evaluation was carried out by a party that did not contribute to the design process or use and that fully implements the method of the first-year evaluation. OR 2. If the first-year evaluation is done by an organisation involved in the design or use of the building, for example the project architect or building manager, this organisation must be able to demonstrate to the Assessor the independence of the evaluation process from the design process. BREEAM-NL has not defined what form this proof should take. The design team or the relevant person is obliged to clearly prove and convince the Assessor that there is a credible level of independence.	B
11.	The client or building user certifies the building with a building management certification system recognized by BREEAM-NL.	C

Aftercare

12.	The following quality marks are currently recognised: 1. BREEAM-NL In-Use Homes v6, certification of part 1 and part 2 together, obtaining the following issues: A. MAN01: User Manual – 2 points B. MAN02: Engagement and feedback – minimum 5 points C. ENE22: Energy research – at least 3 points D. ENE23: Use of information on energyuse – 4 points E. WAT13 Waterconsumption: Monitoring and reporting – 2 points NB: If the certificate cannot be submitted after two years after commissioning the building, the status of the BREEAM-NL New Construction certificate will be evaluated.	C
13.	To apply BREEAM-NL In-Use Homes V6 for Management, use must be made of Instruction 120. This can be found under the heading 'instructions' on the Downloads page of www.breeam.nl	C
14.	Managers of quality marks who believe that their quality mark should also fit in the list can contact DGBC. These should include at least the following components: A. Conducting a user satisfaction survey and collecting energy and water consumption data B. Analysis of the consumption data and the satisfaction survey to determine whether the building is functioning correctly and to adjust this if necessary C. Setting and monitoring targets for water and energy consumption.	C

Tables

No

Methodology

The evaluation focuses on a resident satisfaction survey, the evaluation can be drawn up in an accessible way and shared with the residents. Elements that may be highlighted in the evaluation are the following elements indiand relevant:

- The assessment of the design intent and the construction process (assessment of design, procurement, construction and delivery processes)
- Feedback from a large number of building users, including the manager, on the design and environmental conditions of the building:
- Internal environmental conditions (light, noise, temperature, air quality)
- Control, operation and maintenance
- Facilities and amenities
- Access and layout
- Other relevant issues
- Sustainability performance (energy consumption, water consumption, performance of all sustainable functions or technologies, e.g. materials renewable energy, rainwater harvesting, etc.).

Aftercare

- Feedback is given to the design team and developer to use for future projects.

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

Social risks and opportunities

Strengthening social accessibility and the sense of community in the neighborhood

Available points	: 2
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✗

Question. Neighborhood analysis

Has it been investigated how the development can contribute to the social structures in the neighborhood?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, a neighborhood analysis has been carried out into social aspects and a follow-up strategy is covered
2	b.	Yes, a neighborhood analysis has been carried out into social aspects and a follow-up strategy of this analysis is covered. The follow-up strategy complies with at least step 4 of the participation ladder.
EP	c.	Yes, and all criteria requirements from Table MAN06.1 are met

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The neighborhood analysis shall include at least: i. Socio-economic characteristics of the neighborhood ii. Socio-economic strengths and weaknesses, as well as opportunities and threats in the neighborhood iii. The degree of social cohesion in the neighborhood iv. The added value of the building for the social accessibility and sense of community of/in the neighborhood v. The relevant stakeholders that are important to achieve the added value of the building for the social accessibility and the sense of community of/in the neighborhood If a neighborhood analysis is already available and it is not older than 3 years - with the Environmental Permit application as reference date - this analysis can be used as a basis. If numbers and percentages are retrieved, the most recent ones must be used.	A, B

2.	Based on the neighborhood analysis, recommendations have been drawn up to strengthen the accessibility and sense of community in the neighborhood. The proposed recommendations are substantiated as to how they have been included in the follow-up strategy for the project. This follow-up strategy covers at least the following aspects: - How the relevant stakeholders are regarded as advisors. The follow-up strategy shows how the relevant stakeholders are included in both the preparation and implementation of the strategy. - How relevant stakeholders have a say in both the design and decision-making. - How the outcomes of the strategy will be monitored, and how unachieved goals will be addressed with the stakeholders in the neighborhood - A contact and information point is available in the neighborhood, where stakeholders can ask questions about the ambition and goals of the development. This ambition and goals are kept up to date and made public. - For recommendations that are not selected, the project organization substantiates why they are not applicable to the project. It must also be demonstrated that these rejected recommendations have been communicated to the relevant stakeholders.	A, b
3.	The project must demonstrate that the neighborhood analysis has been carried out by an expert person, based on their study/work background, experience, and involvement in projects. The person has at least 2 years of work experience in the social spatial domain and works at a research or consultancy firm in the field of the social spatial domain or at the municipality of the project. This may be the same person as the participation expert at MAN 01.	A, b
4.	The criteria for answer option A are met. In addition, the follow up strategy complies with at least step 4 of the participation ladder. This requires demonstrating how relevant stakeholders are collaborative partners in both the design and decision-making of the strategy.	b
5.	The criteria for answer option A are met.	c
6.	To achieve the EP point, all criteria requirements listed in Table MAN06.1 must be met.	c
7.	The recommendations from the neighborhood analysis and the issues from Table MAN 06.1 are both part of an integral design of the development and the follow up strategy. This shows how the social components influence the criteria and credits mentioned in Table MAN 06.1.	c

Tables

Table MAN06.1 Overview by the credit points and criteria That necessary are for It achieve by It EP point

REFERENCE	SUBJECT	ANSWER OPTIONS
MAN 01 Project design	Participation by stakeholders in It design process	Answer options A, B and C
HEA 01 Visual comfort	Free view on landscape or cityscape	Answer option B
HEA 08 Outdoor spaces	Common outdoor space	Answer option B
HEA 11 Safety	(Social) safety in and all around the home/ It building	Answer option B
LE 05 Ecological management	The landscaping become Good managed.	Answer option A or B

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..
1, 2, 3, 4	Report of the neighborhood analysis, including naming of the author of the report
6, 7	Integral report or design in which the link is made between the neighborhood analysis and the issues from MAN 06.1
2, 3, 4, 7	Follow up strategy, including naming of the author and a link between the follow strategy and the issues from MAN 06.1
2, 4	Participation documents, such as meeting agendas, attendance lists of meetings, notes of consultation groups, notes and photos of work ateliers, information brochures, etc.

Definitions

Socio-economic characteristics
Relevant socio-economic characteristics in the neighborhood include the age, origin and level of income 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 and accessibility to commercial facilities. CBS op Kaart, among others, can be used to collect this information.

Accessibility
Accessibility specifically refers to the accessibility of the housing stock in the neighborhood. To what extent residents with a small, medium and large wallet have access to a home in the neighborhood.

Social cohesion
Social cohesion can be measured using the Leefbarometer. The following indicators are tested: diversity of life stage, population density, mutation rate, household development and social cohesion.

Social risks and opportunities

Relevant stakeholders

The relevant stakeholders emerge from the neighborhood analysis and are important to implement the follow up strategy and make it successful. Relevant stakeholders include future residents and local residents in the neigborhood (if applicable). The definition of the relevant stakeholders may differ from the definition in MAN 01. For both issues, other stakeholders may be relevant to achieving the goal of the credit.

Additional information

PARTICIPATION LADDER

The way in which stakeholders are involved in the follow up strategy can be divided into different steps, as further explained below. These steps form the participation ladder. The degree of participation can vary from informing (step 1) to (joint) decision-making by the stakeholders (step 5).

The participation ladder has a total of five steps:

Step 1: Inform
The project organization itself determines the agenda for decision-making and keeps the stakeholders informed. Stakeholders don't have input into the development. The stakeholders are listeners. Examples of resources: information evenings, door-to-door newspaper, campaigns, excursions.

Step 2: Consult
The project organization largely determines the agenda for decision-making itself, but regards stakeholders as discussion partners in the development. The project organization does not have to commit to the results of the conversations. The stakeholders will be consulted. Examples of resources: consultation evenings, hearings, digital polls, surveys, competitions, debates and group discussions.

Step 3: Advising
In principle, the project organization sets the agenda, but stakeholders are given the opportunity to raise problems and formulate solutions, with these ideas playing a full role in the follow up strategy. In principle, the project organization commits itself to the results, but may deviate from this (substantiated) in the final decision-making process. The stakeholder is an advisor. Examples of resources: advisory councils, district and village councils, expert meetings, round table discussions.

Step 4: Co-producing
The project organization jointly agrees on an agenda with stakeholders, after which solutions are sought together. The project organization commits to these solutions with regard to the final decision-making. The stakeholder is a collaboration partner. Examples of resources: consultation groups, covenants, workshops, project groups.

Step 5: Participate in decision-making
The project organization leaves the development and decision-making to the stakeholders, with the project organization fulfilling an advisory role. The project organization adopts the results after testing against the predetermined preconditions. The stakeholder is a co-decision maker. Examples of resources: steering committee, participation council, (binding) referendum.

References

Livabilityometer - https://www.leefbaarometer.nl _
CBS Numbers on card - https:// www.cbs.nl/nl-nl/visualisaties/figures-op-de-kaart
Wijkkopmpass - https://wijkkompas.nl/tools?page=2

Health

RESUME

This category encourages improving the health, well-being and safety of residents. The issues within this category encourage the design and application of homes that are healthy, safe and comfortable for all residents, including the immediate environment.

CONTEXT

" Good health and well-being" is Goal 3 of the United Nations Sustainable Development Goals (SDGs).

On average, people spend more than 90 percent of their lives in and around buildings, with the remaining time often spent traveling between buildings. The built environment therefore plays a major role in the well-being and health of its users. The World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or other infirmity" and that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being
without distinction as to race, religion, political opinion, economic or social condition".

Evidence shows that the indoor climate of buildings, including visual comfort, air quality, thermal comfort and acoustic comfort, can have a significant impact on our physical and mental health. Health consequences associated with time spent in buildings include lung problems, allergies, cardiovascular disease and a range of psychological complaints. Individuals at higher risk, including young children, the elderly, the disabled and the sick, may experience a range of other health effects arising from their environment. Many health effects can have a major impact and can sometimes be life-threatening..

Assessment issues

HEA 01	Visual comfort	4 points + 1 EP
Value:	- Encourages connection with nature to improve the mood of building users. Helps regulate the biological clock based on the circadian rhythm.	

HEA 02	Ventilation	5 points
Value:	- Supports the physical health of residents by reducing the risk of health problems due to air pollution in the home. - Encourages homes with good indoor air quality by taking good air exchange into account.	

HEA 03	Healthy indoor air	4 points + 1 EP
Value:	- Reduces It risk on health issues Through air pollution Through exposure to harmful ones volatile substances and legionella at prevent. - Control by harmful emissions by construction products Through Products and finishes at specify That are tested according to suitable standards.	

HEA 04	Thermal comfort	2 points
Value:	- Reduces the risk of health problems from air pollution by preventing exposure to harmful volatile substances and legionella. - Controlling harmful emissions from construction products by specifying products and finishes tested to appropriate standards.	

HEA 05	Acoustics	3 points
Value:	- Minimizes inconvenience that residents may experience due to noise pollution between rooms, between homes and from installations..	

HEA 06	Accessibility	2 points
Value:	- Encourages building design with safe and inclusive access to and use of the home for all residents and visitors.	

HEA 08	Outdoor spaces	3 points
Value:	- Increase residents' well-being by providing access to both personal and shared outdoor space. - Encourages activities that have physical, mental and social benefits for residents..	

HEA 10	Biophilic design	2 points
Value:	- Stimulates the well-being of residents through building design with visible and tangible natural elements.	

HEA 11	Safety	2 points
Value:	- When designing the building and its immediate surroundings, security needs are taken into account to guarantee the safety and well-being of the residents	

HEA 12	Smart home	2 points
Value:	- Gives residents more control over their home so it can be customized to their needs. - Improves well-being through the use of smart devices, including monitoring and controlling temperature and light..	

Visual comfort

To ensure daylighting, view out and occupant controls are considered at the design stage to ensure best practice in visual performance and comfort for residents.

Available points	: 4
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✓

Question 1. Daylighting

Does the design ensure that daylight can enter the home properly?

POINTS	ANSWER	SELECT ONE ANSWER
2	A.	Yes, the design ensures good daylight entry into the home (Required for Excellent).

Question 2. View out

Is adequate view out provided for the residents of the building?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	B.	Yes, there is adequate view out at landscape and sky.
EP	C.	Yes, there is adequate view out at landscape, sky and ground.

Question 3. Connection point for lighting

Are relevant rooms prepared for contact points for lighting?

POINTS	ANSWER	SELECT ONE ANSWER
1	D.	Yes, each relevant room has enough contact points to ensure lighting.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1		
1.	A residential area has a daylight factor determined in accordance with NEN-EN 17037 on at least 50% of the usable area that is not less than the numerical value indicated in Table HEA01.1.	A
2.	If present, the requirements are applicable for communal occupied rooms..	A

Visual comfort

CRITERIA FOR QUESTION 2		
3.	75% of the rooms to be assessed (see criterion 2) must meet the criteria per living space for the level of view out according to NEN-EN 17037:2018+A1:2022 Daylight in buildings and as defined in table Hea 01-02.	B, C
4.	The view out should be assessed from eye level for a seated person, i.e. 1.2 m from the floor surface (see Methodology).	B, C
CRITERIA FOR QUESTION 3		
5.	Each occupied room has at least one ceiling-connection point for lighting (artificial light). A living room has one connection point per 15m2, with at least 4 connections for rooms larger than 45m2.	D
6.	If present, the requirements are applicable for communal occupied rooms..	D

Tables

Table HEA01.1 Requirements for daylighting

TYPE	REQUIREMENTS
Residence area	Residential dwelling: >1.9% D.T Residential building: >1.2% D.T
Building standard	NEN-EN 17037:2018+A1:2022
Specific conditions	
Height 'calculation plane'	Horizontal plane 0.85m above floor according to NPR 4057
Obstacles	Each occupied room has at least one ceiling-connection point for lighting (artificial light). A living room has one connection point per 15m2, with at least 4 connections for rooms larger than 45m2.

Table HEA01.2 Requirements for prospect

VIEW LEVEL	HORIZONTAL VIEWING ANGLE	DISTANCE FROM THE VIEW OUTSIDE	Number of layers visible from at least 75% of the space to be assessed:
Minimum (1p)	≥ 14º	≥ 6.0 m	There is a view of at least landscape or cityscape.
High (EP)	≥ 54º	≥ 50.0 m	There is a view of the sky, ground and landscape or cityscape.

Methodology

VIEW – METHODOLOGY ACCORDING TO NEN- EN 17037:2018+A1

The Prerequisite from NEN-EN 17037:2018+A1 Daylight in buildings Table A.5 must be met. In Table A.5 visibility is described in three layers: sky, landscape (urban or natural) and soil (soil, water). The standard describes additional information related to view in section C, including the methodology for assessing through multiple viewports and a verification method. Included here are tables with window size guidelines for different room types and horizontal viewing angles.

Evidence

CRITERIA	REQUIREMENTS EVIDENCE

Visual comfort

All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

DAYLIGHT FACTOR (DT)

The average daylight factor is the average indoor illuminance (from daylight) on the working plane within a room, expressed as a percentage of the simultaneous outdoor illuminance on a horizontal plane under an unobstructed CIE Standard Overcast Sky.

Additional information

No

References

- NEN 2057:2011/C1:2011 NL Daylight openings by buildings - Determination by the equivalent daylight surface by An room
- NEN 17037:2018+A1:2022 NL Daylight in buildings

To recognise and encourage a healthy internal environment through the specification and installation of appropriate ventilation.

Available points	: 5
Exemplary performance	: ✗
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✓

Question. Ventilation

Is a healthy living environment in the home promoted by adequate air exchange and ventilation??

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A	Yes, the ventilationsystem is designed for a good air quality with adequate ventilation
1	B	Yes, the cooking installation has an effective exhaust to prevent particulate matter and odor pollution
1	C	Yes, unhealthy concentrations in the air are monitored and ventilate the air if needed.
1	D	Yes, natural ventilation is possible in the building
1	E	Yes, there are no external sources of pollution near the air intakes

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	All living areas have an air exchange facility, consisting of a component for the supply of fresh air and a component for the exhaust of indoor air (exhaust air grid or overflow grille). In all living areas and these areas, the indoor air is refreshed at least to the extent indicated in Table HEA02.1, depending on the room, the floor area and the maximum number of persons present. The amount of air exchange is determined in accordance with the provisions of the current standard NEN 1087 Ventilation of buildings - Determination methods for new construction.	A
2.	AIR EXHAUST KITCHEN The exhaust capacity of the cooking extractor system meets the requirements set out in Table HEA02.1 during cooking. To provide good air quality, the extraction system is equipped with: i. Direct discharge to the outside with supply via façade grilles, or ii. Exhaust via ventilation has an integrated cooking extractor with separate drain, or iii. Drain with recirculation, grease and fine dust filters with a filter efficiency of >84% are applied	B
3.	Future residents are advised and informed to properly maintain the cooker hood and replace the necessary filters in a timely manner.	B

4.	Air quality monitoring takes place to prevent concentrations of unhealthy air quality in the home. The monitoring ensures that the system is controlled for concentrations of CO2 and humidity. CO2 monitoring takes place per room, humidity is monitored in the bathroom.	C
5.	In living areas, mechanical ventilation controls the air exchange rate so that the CO2 concentration does not exceed the maximum permitted concentration. In naturally ventilated homes, the monitoring system ensures: i. Visibly or audibly warn residents or building managers when the CO2 concentration exceeds the limit value. OR ii. Be linked to controls, with the ability to adjust the amount of fresh air. For example, a system that automatically opens windows or a roof grille.	C
6.	CO_2 CONTROLLED SYSTEM: The system is equipped with sensors to prevent CO2 concentrations, whereby the flow rate of the air exchange is controlled in such a way that the CO2 concentration in living areas is up to 800 ppm.	C
7.	HUMIDITY IN BATHROOM: The system provides an effective (automatic) control with which the humidity can be brought below 70% RH within two hours after using the bathroom.	C
8.	The building ventilation strategy is designed to be as flexible and adaptable as possible for future building users and climate scenarios, so that living areas of the building can be supplied with fresh air via a natural ventilation strategy. This can be demonstrated by: i. Living areas can be ventilated by means of exhaust ventilation. ii. Each living space contains at least one openable window. iii. The openable windows provide at least a capacity for purge ventilation for a living space determined in accordance with NEN 1087 as stated in Table HEA02.1. The windows must be easy to operate by the user. This control provides a stepless control or a control with at least three fixation positions, including one ajar position and one fully openable window surface so that ventilation can be provided on at least two levels.	D
9.	In order to prevent the intake of polluted or used air, a residential building which is mechanically ventilated shall: i. All air intakes of the mechanical ventilation are at least 10 meters horizontally away from 'external sources of air pollution', this includes the exhaust air supply of the building itself and other buildings. In enclosed spaces, such as courtyards, where there are also air intakes, there are no exhaust air or other sources of air pollution. OR The dilution factor for the air supply has been determined in accordance with 0.0075 for air exchange with the current standard NEN 1087. ii. At building level, no system of 'recirculation' is used within the central mechanical ventilation system. OR If the building or rooms are naturally ventilated, the following applies: iii. All ventilation grilles and all windows to be opened are at least 10 meters away from external sources of air pollution	E

10.	Service and access roads with limited and irregular access (e.g. waste collection roads only) are unlikely to be a major source of external pollution. These roads can therefore be ignored when assessing this issue.	E

Tables

Table HEA 02.1 Prerequisite ventilation capacity for air exchange and/or spray ventilation by living areas

USER FUNCTION	MINIMAL REQUIRED VENTILATION CAPACITY	MINIMUM CAPACITY PUMP VENTILATION PER LIVING SPACE (DM ^{3}/S PER M ^{2} FLOOR AREA LIVING ROOM)
Living area	1.5 dm ^{3}/s per m2 -	6 dm ^{3}/s per m2 -
Type room	Minimal required ventilation capacity	
kitchen	300 m ^{3}/h	

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

EXTERNAL SOURCES OF AIR POLLUTION

External sources of air pollution are, but are not limited to:

- Highways and the main access roads on the assessed location
- Parking lots
- Other external building exhausts, including building installations and factory-, industrial or agricultural processes

LIVING ROOM

Space intended for the accommodation of people for at least a continuous period of 30 minutes per day, or in which activities characteristic of the respective use function take place. A living space meets the minimum criteria with regard to surface area and height from the Building Decree.

Additional information

No

References

- Lente akkoord Zeer Energiezuinige Nieuwbouw (2020) Better cooking extractor in New construction homes.
- Platform Healthy Inside (2022) Program by To demand (PVE) Healthy Houses.
  Through: https:// www.binnenklimaattechniek.nl/
- NEN1087:2020 - ventilation by buildings - determination methods for new construction

Healthy indoor air

To encourage a healthy living environment through minimal air pollution from building products, finishing materials and water systems

Available points	: 4
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✗

Question 1. Volatile organic compounds

How is a healthy indoor climate guaranteed?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	At least four of the five groups of construction products and finishing materials included comply with the limit values set for this purpose.
2	B.	All included groups of construction products and finishing materials comply with the limit values set for this purpose
1	C.	Air quality is measured before putting into service to comply with the limit values for formaldehyde and total volatile organic compounds.
EP	D.	All included groups of construction products and finishing materials comply with the limit values set for the EP.

Question 2. Legionella prevention

Has the building's water system been delivered legionella-safe and clean and are there measures in place to prevent the risk of exposure to legionella?

POINTS	ANSWER	SELECT ONE ANSWER
1	E.	Yes, all water systems in the building are legionella-safe and residents are made aware of the risks.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1		
1.	At least four of the five groups of construction products and finishing materials included in Table HEA03.1, which are applied to the inside of the building, must comply with the set emission limit values, determination conditions and other additional conditions set out in the table..	A
2.	All groups of construction products and finishing materials included in Table HEA03.1, which are applied to the inside of the building, must comply with the set emission limit values, determination conditions and other additional conditions set out in the table	B, D

Healthy indoor air

3.	The assessment of construction products and finishing materials only concerns those products whose emissions influence the quality of the indoor air. This means that the criteria only apply to the construction products and finishing products that are located on the inside of the vapor barrier layer and are integral to the building. Consider, for example, interior walls, acoustic cladding and built-in cupboards. Loose furniture such as chairs, cupboards and desks are excluded from this credit.	A - D
4.	Products that do not naturally emit VOCs, such as brick, natural stone, concrete, ceramic tiles, glass, metals, by definition meet the emission requirements.	A - D
5.	The regulations for testing and measuring emission limits are based on standardized emission test chambers. Hole punch, vial, dehydration and other withdrawal testing methods are expressly excluded. Alternative methods are only permitted provided that the conditions associated with the standardized test chambers correspond to the methods described in table HEA03.1. For alternative methods, permission must be requested prior by the BREEAM Expert.	A, B, D
6.	The organisations engaged for the analysis of indoor air with regard to emissions from construction products and finishing materials must be accredited according to NEN-EN-ISO/IEC 17025 with the following specific description of accreditation: Sampling: air sampling of formaldehyde in the air; sampling of VOCs in the air; chemical analysis to determine formaldehyde and/or VOCs. The organisations engaged for sampling must have demonstrable experience.	A, B, D
7.	The evidence should include that the paint, grout and sealant used in wet rooms protects against mold growth. This can be demonstrated by means of tests carried out or with product information or manufacturer's declaration. The European standard for such tests are NEN-EN15457 and NEN-EN15458.	A, B, D
8.	Overview of approved alternative health labels is available on the help page of the online guideline and BRE Guidance Note 22.	A, B, D
9.	Self-declarations, by manufacturers, of emission levels of their construction products and finishing materials are accepted provided that they have been granted by an accredited laboratory in accordance with Criterion 4, or that a manufacturer declares that his product does not contain formaldehyde or VOC emissions..	A, B, D
10.	If only 4, or fewer products, from Table HEA03.1 have been used in the building, the number of products to comply shall be determined as follows: For 4 products, 3 must comply; With 3 products, 2 must complyWith 2 or fewer products, all products must comply	A, B, D
11.	The formaldehyde concentration has been measured before commissioning and is ≤ 30 µg/m3 (average over 30 minutes) and no work is carried out indoors after commissioning.	C
12.	The concentration of total volatile organic compounds (TVOS) is measured before commissioning and is ≤500 µg/m3 (average over 8 hours) and no work is carried out indoors after commissioning.	C
13.	If values are found to exceed the limits, a plan should be drawn up to bring the concentration of formaldehyde and TVOS within the prescribed limits before commissioning. Retesting must then be carried out to show that the limits are met after taking measures.	C

14.	Testing, measuring and reporting of the emissions referred to in criteria 10 and 11 shall, where applicable, be carried out in accordance with the following standards: i. NEN-ISO 16000-2: Indoor air - Part 2: Sampling strategy for formaldehyde ii. NEN-ISO 16000-3: Indoor air - Part 3: Determination of formaldehyde and others carbonyl compounds in indoor air and test chambers - Active sampling iii. NEN-ISO 16000-5: Indoor air - Part 5: Sampling strategy for volatile organic connections iv. NEN-ISO 16000-6: Indoor air - Part 6: Determination of volatile organic compound content in indoor air and test chambers by active sampling on TENAX TA,® thermal desorption and gas chromatography using MS/FID	C
CRITERIA FOR QUESTION 2		
15.	During the design and implementation of the water installations, a legionella-safe situation is assumed, based on the NEN 1006 and Water worksheets. Quality control of the installation is part of the commissioning plan (MAN 04).	E
16.	All water systems that pose a potential risk are delivered legionella safe, this includes but is not limited to: i. Storage and distribution systems for hot and cold water. ii. Evaporative cooling systems (e.g. cooling towers and evaporative condensation). iii. Spa baths, hot tubs and hot tubs iv. Fountains and water features v. Humidifiers A water system includes all the equipment and components associated with that system. For example, all associated pipes, pumps, supply tanks, valves, sww, showers, heat exchangers, water softeners, chillers, etc.	E
17.	The residents receive a manual on preventing the risk of legionella infection.	E
18	The manual should cover the following: i. What is legionella? ii. The health risks by legionella infection. iii. Simple measures that a resident can take to reduce the risk of infection minimalize. The manual is included as element by the "user manual" (MAN 04), the manual is becoming executed in agreement of ISSO publication 30.5.	E

Tables

Table HEA3.1: Limit values emissions construction products and finishing materials.

PRODUCT TYPE	MAXIMUM CONCENTRATION FORMAL-DEHYDE	MAXIMUM TOTAL CONCENTRATION VOLATILE ORGANIC SUBSTANCES (TVOS)	MAXIMUM CONCENTRATION CATEGORY 1A AND 1B CARCINOGENE _ SUBSTANCES	DETERMINATION METHODS**	ADDITIONAL REQUIREMENTS
1. Interior paint and coatings	≤ 0.06 mg/m³	≤ 1.0 mg/m³	≤ 0.001 mg/m³	NEN- EN 16402:2019 Or NEN-EN 16000-9:2016 Or NEN- EN 16516:2017	Meet TVOS content limits (see table HEA03.2)
Exemplary performance	≤ 0.01 mg/m³	≤ 0.3 mg/m³ as well as Total Semi-VOC: TSVOS < 0.1 mg/m³			
2. Woody sheet materials, inclusive chipboard , wood fiber plate, MDF, OSB, cement-bound fiberboard, plywood, massive wooden panels and acoustic tic plates. This also includes wooden floors, such as parquet, as well as wooden constructions such as laminated wood	≤ 0.06 mg/m³ (Exclusive MDF) MDF: ≤ 0.06 mg/m³	≤ 1.0 mg/m³	≤ 0.001 mg/m³	NEN-EN 16000-9:2016 Or NEN- EN 16516:2017 Or NEN-EN 717- 1:2004 (only formaldehyde)	
Exemplary performance	≤ 0.02 mg/m³	≤ 0.3 mg/m³ as well as Total Semi-VOC: TSVOS < 0.1 mg/m³			
3. Floor finishing, inclusive vinyl, linoleum, Cork, rubber, carpet and wooden laminate flooring- floors and cast floors.	≤ 0.06 mg/m³	≤ 1.0 mg/m³	≤ 0.001 mg/m³	NEN-EN- ISO 10580:2012 Or NEN-EN 16000-9:2016 Or NEN- EN 16516:2017	
Exemplary performance	≤ 0.01 mg/m³	≤ 0.3 mg/m³ as well as Total Semi-VOC: TSVOS < 0.1 mg/m³			

4. Suspended ceilings, partitions plus acoustic and insulation technical materials.	≤ 0.06 mg/m³	≤ 1.0 mg/m³	≤ 0.001 mg/m³	NEN-EN 16000-9:2016 Or NEN- EN 16516:2017 NEN-EN 717-1:2004 (wood only – formaldehyde)	
Exemplary performance	≤ 0.01 mg/m³	≤ 0.3 mg/m³ as well as Total Semi-VOC: TSVOS < 0.1 mg/m³			
5. Adhesives and sealants, including floor adhesive.	≤ 0.06 mg/m³	≤ 1.0 mg/m³	≤ 0.001 mg/m³	NEN-EN 13999-(1-4)- 2013 Or NEN-EN 16000-9:2016 Or NEN- EN 16516:2017	
Exemplary performance	≤ 0.01 mg/m³	≤ 0.3 mg/m³ as well as Total Semi-VOC: TSVOS < 0.1 mg/m³			
* After 28 days in the test chamber, the material must comply with the emission limits or earlier if this is prescribed in the relevant test standard.					
** alternative for this allowed An general recognized health label become consulted, see the help text by the credit on directive online for the list of alternative health labels. Or alternative see GN 22 BREEAM International					

Table HEA03.2: Maximum TVOC emissions for to paint and lacquer. Determination method hereby is NEN-ISO 11890-2 or NEN-ISO 17895 or Through calculations based on the ingredients and rough materials.

PRODUCT CATEGORY	CONTENT LIMITS TVOS FOR FINISHED PRODUCT (G/L)
Interior paint matt for wall and ceiling (gloss<25@60°)	10
Interior paint shine for wall and ceiling (gloss>25@60°)	40
Interior paint for decorative frames and wall coverings by wood or metal	90
Interior paint for decorative frames and wood stain, inclusive opaque wood stain	65
Inside wood stain minimally opaque	50
Primer	15
Binder	15
One-component lacquer	100
Two-component lacquer for special usage as floors	80
Colored lacquer	80
Lacquer for decorative effects (for example marble)	80

Methodology

MEASUREMENTS AIR QUALITY

The measurements for compliance with air quality requirements are carried out after completion of finishing work and before handover to the residents.

The measurements are taken in living areas that are used for a long time, such as bedrooms and living rooms.

A measurement is carried out in at least one room per home floor, with a minimum of two rooms per home.

It is permitted to apply a representative sample to the indoor air measurements if there are multiple homes on a site that contain the same building products or material specifications. In that case, at least 1 in 10 homes must be sampled.

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

SKILLED PERSON

A person who has sufficient authority, competence and knowledge of the asset to ensure that all operational procedures are carried out in a timely and effective manner, and who has competence, experience, instruction, information, training and resources to enable them to carry out their activities competently and safely. In particular, this person should know:

a. What the potential sources of legionella bacteria are and the health risks.
b. What measures should be taken, including precautions to protect residents.
c. What measures should be taken to ensure that control measures remain effective.

LEGIONELLA

Legionella is the name of the bacterium that can cause Legionellosis. People who become infected with Legionella bacteria can suffer permanent health damage or death. Contamination occurs by inhaling the bacteria via very small droplets of water (aerosols) that can enter the air by misting water.

OCCUPIED AREA

Space intended for the accommodation of people for at least a continuous period of 30 minutes per day, or in which activities characteristic of the respective use function take place. A living space meets the minimum criteria with regard to surface area and height from the Building Decree..

CATEGORY 1A AND 1B CARCINOGENS

Carcinogens detectable in the VOC emissions tests, as listed in table HEA03.3 and classified as categories 1A and 1B according to the Globally Harmonized System (2009)..

VOLATILE ORGANIC DUST (FOX) AND SEMI- VOLATILE ORGANIC DUST (SVOS)

Any organic liquid or solid that spontaneously evaporates at the prevailing temperature and atmospheric pressure with which it comes into contact (source: EN ISO 11890). In addition to VOCs, you also have semi-volatile organic compounds (SVOCs). These are volatile organic compounds that are only released over a longer period of time. These semi-volatile organic compounds become stored in house dust or adhere to surfaces.

Additional information

VOLATILE ORGANIC SUBSTANCES

VOCs are emitted by a wide range of products. Examples are: paints and varnishes, strippers, cleaning agents, pesticides, building materials and furnishings, adhesives and adhesives, urea-formaldehyde foam insulation, pressed and glued wood products (hardwood plywood, wall coverings, chipboard, fiberboard) and furniture made from these pressed wood products.

Most average paint manufacturers also supply paints without VOCs or with a low concentration of VOCs. The emission of VOCs from paints and varnishes is regulated by Directive 2004/42/CE. In addition, products with a high organic solvent content should be avoided.

Analysis of the risk of exposure to chemicals released from products, and the possible consequences for health and the environment, is an important requirement in the European directives. The possible effect of a building product on indoor air quality is part of the European Construction Products Directive, 89/106/EEC. The updated Directive 93/68/EEC lays down criteria for the CE marking of products.

Products installed in buildings must not contain substances regulated by the Dangerous Substances Directive 2004/42/CE, as these substances can cause bodily injury if inhaled or in contact. Materials containing heavy metals (e.g. antimony, barium, cadmium, lead and mercury) or other toxic elements (e.g. arsenic, chromium and selenium) or regulated biocidal products (e.g. pentachlorophenol) should be avoided.

Different labelling methods indicate products that have been tested and are shown to release a small amount of the substance. These substances are described in various publications such as:

- ECA (European Collaborative Action, Urban Air, Indoor Environment and Human Exposure) (2005): Harmonization by labeling systems for emissions Through interior materials in the EU, Inventory by existing systems.
- ECA (European Collaborative Action, Urban Air, Indoor Environment and Human Exposure) (2012): Harmonization plan for labeling systems for interior materials in the EU.
- Dangerous substances are in the Directive Dangerous Substances (67/548/EEC) organized.

References

- Platform Healthy Inside (2022) Program by To demand (PVE) Healthy Houses. Through: https://www.binnenklimaattechniek.NL/
- ISSO publication 55.3 Legionella prevention in cooling towers and humidifiers
- Regulations legionella: https :// www.rijksoverheid.nl/onderwerpen/legionella/content/rules-voor-legionellaprevention#/
- NEN-ISO 16000-2: 2016 Indoor air - Part 2: Sampling strategy for formaldehyde
- NEN-ISO 16000-3: 2011 Indoor air - Part 3: Determination by formaldehyde and Others carbonyl compounds in indoor air and test chambers - Active sampling
- NEN-ISO 16000-5: 2007 Indoor air - Part 5: Sampling strategy for volatile organic connections.
- NEN-ISO 16000-6: 2011 Indoor air - Part 6: Determination by It degree On volatile organic components in inside-sky and test chambers Through active sampling on TENAX TA®, thermal desorption and gas chromatography of use of MS/FID
- EU Directive 2004/42/CE ('Paint Directive')
- NEN-EN-ISO 11890-2:2013 - To paint and varnish - Determination by It degree On volatile organic substances (FOX), Part 2 - Gas Chromatographic Method
- NEN-EN 16402:2019 - Paint and varnish - judgement by the emissions by substances from coatings in the indoor air - sampling, conditioning and trial.
- NEN-EN-ISO 16000-9:2006/C1:2007 and -Indoor air - part 9: provision by the emission by volatile organic compounds from construction products and furnishing materials - emission test for room method.

Healthy indoor air

- NEN-EN 16516:2017 and - Construction products - Judgement by the issue by dangerous substances - provision by emissions to indoor air.
- NEN-EN 13986:2004+A1:2015 and Woody sheet materials for usage in the build - Properties, conformity assessment and brands
- NEN-EN 14342:2013 Wooden floors and parquet - Characteristics, conformity assessment and to notice
- NEN-EN 14080:2013 Wood constructions - Glued laminated wood and glued massive wood
- NEN-EN 10580:2012 Resilient, textile and laminate floor coverings - Test methods for emission of volatile organic compounds
- NEN-EN 717-1:2004 and- Woody sheet materials - Determination by the formaldehyde emission - Part 1: Formaldehyde de-emission according to the room method OR part 2 according to the gas analysis method.
- NEN AND 14041:2018 (cor.2018-02) Resilient floor coverings, carpets, laminate floor coverings and multi-layer modular floor coverings - Essential characteristics
- NEN - AND 13964:2014 Reduced ceilings - To demand and testing methods.
- NEN-EN 13999:2013 (part 1-4) Glue - ephemeral method for It to measure by the emission characteristics of little or no solvent after therapy.
- NEN-EN 17895:2005 - To paint and varnish -Determination by It degree On volatile organic connections (in-can VOC) of on water based emulsion paints.
- NEN-EN ISO 16017-2:2003, Indoor air, outside air and workplace atmosphere. Sampling and analysis by volatile organic connections of usage by adsorption tubes, thermal desorption and capillary gas chromatography - Share 2: Diffuse sampling

Thermal comfort

Ensuring optimal thermal comfort for the occupants thanks to well-founded design measures, and a correct choice of temperature control

Available points	: 2
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Thermal comfort

Does the dwekkubg offer thermal comfort for the resident?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS .
1	A	Yes, A good winter comfort is guaranteed in all living areas.
1	B	Yes, A good summer comfort is guaranteed in all living areas.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The operative temperature in the individual living areas can be manually set between 16 - 24 °C during the heating season. The desired temperature can be within a bandwidth of 0.5 K can be controlled. The temperature control must be simple and understandable for the average user. The temperature change effect should be minimal: i. Living room and kitchen 1 °C per hour after adjustment up to 21°C, above that 1°C per 2h. ii. Others spaces 2 °C per hour after adjustment up to 21°C, above that 2°C per 2h.	A
2.	Summer comfort: A (BENG) calculation approved by the competent authority demonstrates that the TOJuly requirement of 1.10 is met. The calculation is in accordance with NTA 8800 section 5.7 and Appendix VII of the Building Decree Regulations 2012. An alternative route is to make a weighted temperature excess calculation with the principles in accordance with ISSO 32. The weighted temperature excess per home is a maximum of 300 GTO..	B
3.	If criterion 2 is achieved with the help of active cooling, it will have to ensure that good summer comfort is guaranteed, this can be done in two ways: i. The calculation by criterion 2 is also sufficient without including the active cooling. ii. Outside the heating season, the operative temperature inside all living areas is manually adjustable by the users between 23 - 26 °C. he desired temperature can be controlled within a bandwidth of +/- 0.5 K. The control of the temperature must be easy and comprehensible for the average user to operate and with a temperature change effect of 1 °C per hour after adjustment.	B

Thermal comfort

4.	Temperature regulation can of help by below systems: i. Wall thermostats ii. Thermostatic valves on radiators and convectors. iii. Control buttons on electric heaters and heating appliances. iv. Control buttons by air conditioners and Others cooling appliances. v. Sliders or adjustable air breakers on heating or cooling appliances or ventilation systems. vi. Temperature regulation of at to open Windows. vii. Control application on An telephone or tablet.	A, B
5.	When using active cooling, control of heat and cold is integrated in 1 system so that heating and cooling cannot be active in a living room at the same time.	A, B
6.	In common areas, only occupied areas must comply. If there are no living areas, the common areas automatically comply.	A, B

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

APPLICATION ACTIVE COOLING

Condensation problems can arise when using active cooling. This credit only assesses whether thermal comfort is sufficiently regulated. Take condensation into account if active cooling is used.

References

No

HEA 05 HEALTH
Acoustics

Securing that the home offers a good acoustic indoor environment, so that residents have a high level of sound comfort.

Available points	: 3
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Acoustics

Is the acoustics optimized in terms by sound insulation and internal noise level?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A	Yes, all living areas comply with the limit value for internal sound insulation.
1	B	Yes, the exterior façade complies with the limit value for external noise protection
1	C	Yes, the limit value of the installation noise level has been reached.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	An appropriately qualified acoustic consultant shall carry out sound insulation measurements with calibrated measuring equipment to establish that the relevant rooms comply with the limit values. In rooms where the limit value is exceeded, additional measures are required to meet the criteria before taking measurements again before delivery and commissioning. When determining the noise levels achieved in practice, the following standard is used: NEN 5077	All
2.	Both the airborne noise insulation (DnT,A) and the impact sound pressure level (LnT; (A) between dwellings and between adjacent and superimposed living quarters comply with the limit values set out in Table HEA05.1.	A
3.	he characteristic noise protection of the façade (GA,k) against external noise pollution within all residential areas complies with the limit values set out in Table HEA05.1.	B
4.	The noise protection of the façade must be determined in accordance with the provisions of NEN 5077. The sound insulation shall be determined in the case of closed windows, on the basis of the intended amount of air exchange..	B
5.	The noise exposure is based on the the calculation in accordance with the Noise Pollution Act of noise pollution from all relevant sources outside (traffic, industry, etc.).	B
6.	The installation noise level in the living room and bedroom shall comply with the limit values set out in Table HEA05.1. .	C
7.	The requirements for installation noise apply to the mode in which the ventilation system meets the requirements for "CO_2 concentration and air exchange (HEA 02)".	C
8.	The installation noise level Li,A must be determined in accordance with the provisions of NEN 5077 or BRL 8010.	C
9.	In order to lower the threshold for performing installation noise measurements, the measurement method from BRL 8010:2019 is also permitted	C

Acoustics

Tables

Table HEA05.1 Limit values acoustics

ELEMENT	LIMIT VALUE	POINT
The airborne sound insulation (DnT,A) between dwellings is at least:	>57 dB	1
The impact sound pressure level (LnT; (A) between dwellings shall not exceed:	<49 dB	
The airborne noise insulation (DnT; (A) between adjoining and superimposed accommodation shall be at leaste::	>42 dB	
The impact sound pressure level (LnT; (A) between adjacent and superimposed accommodation shall not exceed:	<63 dB	
The characteristic soundproofing of the facade (GA,k)	GA,k ≥ outdoor noise level - 27 dB, with An minimum by 20 dB.	1
The noise level in the residential and bedroom due to installations (Li,A) is maximum:	<25 dB	1

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

QUALIFIED ACOUSTIC COUNSELOR:

A person who meets all of the following points is considered a "qualified person" for the purposes of this assessment:

1. A person who holds a recognized acoustic qualification and a membership of a professional body.
2. Has at least three years of relevant experience (in the last five years). The experience must demonstrate that the person in question has practical experience and knowledge of factors that influence acoustics. This includes acting as an advisor to make recommendations for appropriate acoustic performance levels and mitigation measure.

If an acoustic consultant verifies measurements or calculations performed by a person who is not considered a qualified person, he/she must at least have read, reviewed, and confirm in writing that he/she has determined that the report:

i. Conforms to the defined standards.
ii. Appropriate for the building to be assessed and the extent of the proposed work.
iii. Does not contain invalid, biased and exaggerated recommendations.

WEIGHTED IMPACT NOISE LEVEL (LnT,A)

Quantity representing the sound level, standardized for the reference reverberation time and the corresponding spectrum, in a single number.

INSTALLATION SOUND LEVEL (Li,A)

Quantity that represents in one number the noise level in the reception room caused by an installation in operation and reduced to standardized dimensions of the reception room.

AIRBORNE NOISE LEVEL DIFFERENCE (DnT,A)

Quantity representing the difference between two sound levels, normed for the reference reverberation time, the relevant spectrum and reduced to normed dimensions of the receiving space, in one number.

CHARACTERISTIC SOUNDPROOFING OF AN EXTERNAL SEPARATION STRUCTURE (GA,k)

Quantity representing in one number the difference between the sound level of the incident sound on the outside of an external separation structure and the noise level in a room behind this separation structure, reduced to the standardized dimensions of the receiving space.

Additional information

No

References

- NEN 1070 (1999) Soundproofing in buildings - specification and judgement by the quality. NEN 1070:1999 NL, Delft
- Platform Healthy Inside (2022) Program by To demand (PVE) Healthy Houses. Through: https:// www.binnenklimaattechniek.nl/
- NEN 5077 (2019) Soundproofing in buildings - Determination methods for the greats for soundproofing from external separation constructions, airborne sound insulation, impact sound insulation and noise levels causes Through installations NEN 5077:2019 NL, Delft
- BRL 8010 (2012) Judge by ventilation facilities by houses, schools and daycare centers. KvINL

Acoustics

To recognise and encourage effective measures that promote safe and secure use, and access to and from the building

Available points	: 2
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✕

Question. Accessibility

s the building designed according to principles for inclusive accessibility?

POINTS	ANSWER	SELECT ONE ANSWER
1	A	Yes, the building is designed and realized according to the basic requirements of an accessible home..
2	B	Yes, the building is fully designed for inclusive accessibility for residents and visitors

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	If the BREEAM certification concerns a ground-based home, the accessibility requirements apply to the house and the outdoor space on the plot. When a residential building is certified, the general (traffic) areas of the building are additionally included, for example the entrance hall, staircase, storage rooms, etc.	All
2.	he house has been designed and realized with accessibility requirements as a starting point, for this the following methods are accepted: i. NEN 1814, the Minimal to demand (A) and the basic requirements (B) become realised (Level 2 - Usable). ii. ITs Base for An home and ITs Total for An residential building.	A
3.	It building has It IT standard Quality mark 2023 certificate achieved and meets the standard of the category ITs Basic (for a home) and ITs Total (for a residential building).	B

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

ACCESSIBILITY

Providing buildings, building areas or outdoor spaces that are accessible and usable by all users, regardless of disability, age or gender..

ITSTANDARD

The Integral Accessibility Standard (IT standard) provides a practical building standard for inclusive building design. The requirements that are applied for design and realization ensure an integrally accessible project, in which the requirements arise from general guidelines, laws and standards and are in line with regular architectural practice. ITstandaard does not only focus on residents with a physical disability, it makes projects integrally accessible to the elderly, parents with children, etc. The IT standard 2023 has the addition for Living. For this, the categories basic and total are the requirements for a ground-based home and residential building.

NEN 1814

The standard provides a method for determining the accessibility performance of outdoor spaces, buildings and homes. It has a subdivision by the levels in the scope to which the measures apply. Level 2 - Usable is aimed at both the residents and visitors of a home and focuses on both the own home (Prerequisite) and the general building parts when they apply (such as in a residential building). Level 2 - Usable shows that a home with minor adjustments, without architectural interventions, is integral accessibility.

Additional information

No

References

- NEN 1814:2001 NL -Accessibility by outdoor spaces, buildings and houses
- Integral Accessibility Standard 2018. https:// www.pbtconsult.nl/itstandard- 2023/213/1280/

HEA 08 HEALTH
Outdoor spaces

Valuing the presence of relaxation areas, which promote social cohesion, activities and the well-being of residents .

Available points	: 3
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✕

Question. Outdoor spaces

Are outdoor spaces present for the residents for relaxation and meeting

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A	The houses are provided with private outdoor spaces.
1	B	There is a communal outdoor area for the residents of the building/the home.
1	C	In the neighbourhood of the building is a recreation spot.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	Ground-based houses have a privately outdoor space of minimal 25m ^{2}. A space that is only accessible to the residents of an individual home and directly accessible from the home. For residential buildings with private balconies or roof terraces applies: i. Per apartment a minimal surface of 6m ^{2}. ii. Be accessible to all relevant residents, including wheelchair users or disabled people. iii. Per private balcony only accessible for the residents of the dwelling.	A
2.	A communal outdoor area serves as a relaxation, meeting and/or green outdoor space. Where the outdoor area covers at least 20% of the total terrain area with a minimum size of 50m^2.	B
3.	The space has been designed in such a way as to make it clear that the space may only be used by residents of designated dwellings, a space that is accessible to the occupants of multiple dwellings and clearly linked to the development..	B
4.	A communal outdoor space can have a different design for a residential building compared to a ground-level residential development. To stimulate social bonding, the space is aimed at the residents, an example of a suitable space is: a roof terrace, a roof garden, a vegetable garden, a community garden, neighborhood playground, park or other (green) facility.	B

5.	An external recreation spot is accessible within distance of the house via a safe walking route. This can be via: i. A playground located within 650 meters of the home. A playground can include: - A Playground - Sports fields - Tennis-, football-, basketball- or other sports field. - Is not the same room as for criterion 2. OR ii. A recreational spot is more than 1 hectare in size and is located within a distance of 1 kilometer from the home via a safe walking route. A recreation spot can be: - Parks: An area of grass, trees, or other vegetation set aside for recreational purposes or aesthetic purposes that audience is becoming managed and during the day for everyone accessible is. - Forest area - Natural areas or comparable	C
6.	A facility cannot be rewarded twice for both a communal outdoor space and a park. Both parts differ from each other by the way they are available are for the residents and environment.	C
7.	A safe walking route runs via footpaths that are separated from other traffic and safe crossings. For a building, with several houses, the communal entrance of the building can be used. For individual homes, the average distance to each dwelling can be determined, for example, by taking the middle of a row of terraced houses..	C

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

Outdoor space

No

Additional information

No

References

No

Outdoor space

HEA 10

Biofilic design

HEALTH

The inclusion of natural elements in the building and the immediate surroundings to accentuate the connection of man with nature and to realize a positive effect on our health and well-being.

Available points	2
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Biophilic design

Are natural elements incorporated in the design of the building?

POINTS	ANSWER	SELECT ONE ANSWER
1	A	Yes, there are 4 out of 14 natural elements included in the building.
2	B	Yes, there are 7 out of 14 natural elements included in the building.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	From all 3 categories of Biophilic Design, at least one element is included in the building. Of the elements applied, therefore, it is indicated what advantages they offer.	All
2.	An integral design of the elements used has been made for the building and the immediate surroundings. For all 14 elements, a consideration is made in advance of how they can be integrated into the building and the immediate surroundings. The mere use of stand-alone elements does not create a biophilic design.	All
3.	The residents can experience or observe the applied elements (minimum 2) for 50% of the living areas of the house without taking action. For example, an apartment complex with only the use of elements in the gallery and central hall gives an insufficiently integrated approach to biophilic design.	All
4.	The 14 elements by Biophilic Design can be divided in 3 categories: i. Direct contact with nature or natural elements. ii. Indirect contact with nature trough representation of nature. iii. Experiencing place and space - natural spatial conditions. See table HEA10.1 for details per category and a checklist.	All

Tables

Table HEA10.1 Checklist categories and elements biophilic design.

Y/N	ELEMENT	DESCRIPTION
A. DIRECT CONTACT WITH NATURE OR NATURAL ELEMENTS		
	1. Direct visual connection: view of natural, living ecosystems and natural elements, materials and processes.	
	2. Non-visual connection to nature. This connection is made with the other senses, such as auditory tangible, smell or taste stimulating reference to nature, living ecosystems or natural elements, materials and processes.	
	3. Non-rhythmic sensory stimuli: stimuli from nature that can be statistically analyzed, but cannot be predicted precisely.	
	4. Heat and air variability: subtle changes in air temperature, relative humidity, airflow over the skin that mimics natural environments.	
	5. Presence of water: seeing, hearing or touching (moving) water.	
	6. Dynamic and diffused light: varying intensity of light and shadow that create and/or mimic natural conditions.	
	7. Natural systems: awareness of natural processes, seasonal and temporary changes of an ecosystem.	
B. INDIRECT CONTACT WITH NATURE THROUGH REPRESENTATIONS OF NATURE		
	8. Biomorphic shapes and patterns: symbolic references to the contours, patterns, textures or numerical order that persist in nature.	
	9. Materials: natural materials that reflect local ecology and geology.	
	10. Complexity and order: sensory information similar to the spatial hierarchy in nature.	
c. EXPERIENCE PLACE AND ROOM – NATURAL SPATIAL CONDITIONS		
	11. Refuge: An place Where you you can retreat and find protection.	
	12. View: an unobstructed view over a distance, giving you the experience of overview and thus suggesting a sense of security.	
	13. Unfamiliarity: the promise of more discoveries and information, by wanting to go deeper into the environment.	
	14. Risk and danger: An identifiable threat combined with reliable security.	

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Biofilic Design

Definitions

BIOPHILIA

Biophilia means 'love of life or living systems' and is inherent in the human connection with nature. Biophilic Design recognizes the importance of this connection with nature for human well-being. See the manual page for additional information and examples of the 14 elements.

Additional information

No

References

No

Encouraging measures to improve safety in and around the building/home

Available points	: 2
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Safety

Have measures been taken to guarantee a safe home and living environment??

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A	Yes, current safety standards in accordance with the PKVW are part of the design and delivery of the house.
1	B	Yes, measures have been taken in the area to create a safe living environment.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The building has a PKVW Safe Home Certificate or PKVW Safe Complex Certificate achieved. For a ground-based home, the PKVW Safe Home certificate applies. For a residential building, the PKVW Safe Complex certificate applies.	A
2.	In the Structure Design phase (STB 2014), all principles of the Police Quality Mark Safe living are implemented included in the design.	A
3.	The PKVW Certificate Safe Home or Safe Complex has been carried out and obtained by a PKVW inspection body in accordance with the certification requirements.	A
4.	For large-scale projects where more than 20 homes are realized, a PKVW building plan consultant is involved in the project to assess a thorough project design in advance.	A
5.	The project has obtained the PKVW certificate for Safe Neighborhood or Safe Environment for the project design or is located in a neighborhood for which the PKVW certificate has been obtained.	B

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

POLICE MARK SAFE LIVING

The Safe Living Political Brand has been drawn up by the CCV and is specifically aimed at creating safe homes, complexes and neighbourhoods. The PKVW requirements work preventively against home burglary, nuisance and vandalism. The manuals are divided into a quality mark for Homes and for Residential Buildings through the manual PKVW Certificate Safe Living for new construction ground-based or homes on free plot and the PKVW Certificate Safe Complex for new-build residential buildings or group homes. The directive is tailored to the new construction of homes and provides efficient design measures to obtain a safe situation. .

Additional information

No

References

- Police quality mark safe live. https :// www.politieeurmerk.nl/politieeurmerk-veilig-wonen-voor-projectontwikkelings/

Smart Home

Assisting residents in living more cost-efficiently, healthily and environmentally friendly through a smart home system.

Available points	: 2
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Smart home

Is there an integrated Smart home system?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A	Yes, the home has Smart home Services.
1	B	Yes, there are additional Smart functions.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The installed sensors monitor the indoor temperature in the main rooms (living, dining and sleeping areas) and the outdoor temperature of the home..	A
2.	There is a good connection for telecommunications network through: i. Broadband connection up to the meter cupboard of the house ii. 4G or 5G, predicted coverage confirmed using coverage map of 3 largest providers in the Netherlands. iii. Each living room has an Ethernet connection to the meter cupboard	A
3.	There is a display with control panel in the home or via an application for a smartphone for: i. Show indoor and outdoor temperature levels in real time. ii. Show CO2 level and humidity in real time (HEA 02). iii. Show in real time water use, electricity, other energy sources and electric vehicles (according to ENE 02). iv. Operation of heating, cooling, ventilation and tap water systems.	A
4.	The system has the ability to generate customizable reports. It also has access to historical data (for example via a downloadable CSV of usage data at weekly, monthly and annual levels).	
5.	The operating measures are included in the User manual (see MAN 04)	A
6.	Criteria 1 to 5 are achieved.	B
7.	Additional smart institutions: i. Separate monitors and operate by the temperature by each living space. ii. Adjustable controls for heating and cooling as weather-dependent control, absence arrangement, geo-location service, presence detection.	B

8.	There is a display in the home or via a smartphone application for: i. Control of indoor and outdoor lighting (for example with preset lighting for certain times) as well as the levels of energy savings and comfort (for example by remotely controlling or dimming the resident lighting). ii. Security systems (for example, connection with security cameras, door and window controls and alarm system), if applicable. iii. Other systems. These may be tailored to the needs of the users. This means it should always be possible to link new plug-ins to the system.	B
9.	Connected smart home devices must become protected Through an IoT security solution (from device to cloud). For an IoT security solution, the following are: possibilities available: i. Two-step verification ii. Multi-factor authentication iii. End to end encryption iv. Encryption by facts v. VPN	All
10.	To meet the criteria for basic solutions, devices connected to a web or mobile interface that meet WCAG2.1 (ISO/IEC 40500) accessibility standards must be installed (http://www.w3.org/; http : //www.iso.org/). If the above is not met (e.g. only a visual display unit is installed), a device that meets an equivalent level of accessibility must be installed. This ensures that it can be used by people with disabilities..	All
11.	Installed devices related to this credit (e.g., displays, sensors, transmitters, signal boosters, hubs, etc.) must not reduce the minimum number of electrical outlets required by law or design for occupants. In addition, installed devices must not interfere with access to or the operation of other switches or control devices.	All

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

- Police quality mark safe live. https :// www.politieeurmerk.nl/politieeurmerk-veilig-wonen-voor-projectontwikkelings/

Energy

RESUME

This category encourages the design and implementation of energy-efficient building solutions, energy systems and equipment that support the sustainable use and management of energy for residents. The topics in this section assess measures to improve the inherent energy efficiency of the home, encouraging reductions in CO2 emissions and efficient management to prevent unnecessary energy use.

CONTEXT

Climate change is one of the biggest challenges the world is currently facing. Climate change is already resulting in higher temperatures, a higher risk of flooding and extreme weather conditions. One of the causes is the high concentration of carbon dioxide and other greenhouse gases, such as methane, which causes global warming. Greenhouse gas emissions have increased by about 45% since the industrial revolution and are almost entirely attributable to human activities. The observed increases in greenhouse gas emissions are mainly caused by the burning of fossil fuels, agriculture, deforestation and industrial processes. Globally, the construction and real estate sectors are jointly responsible for 39% of energy-related CO2 emissions, with the majority of energy use coming from the use phase. The impact of climate change on the population must be recognised. Poorer communities are disproportionately affected by the negative effects of climate change. This contributes to poor health, higher mortality rates and higher risks of serious damage from extreme weather events..

The Paris Agreement reflects the desire to accelerate a global response to the threat of climate change. It has been agreed to limit global warming this century to a maximum of 2ºC, but preferably to 1.5ºC. In October 2018, the urgency to tackle climate change was highlighted by a special IPCC report. It indicates that it is necessary to limit climate change to 1.5ºC to prevent serious consequences of climate change. The report concludes that to limit the temperature increase to 1.5ºC, CO2 emissions must be reduced by 45% in 2030 compared to 2010. Moreover, CO2 emissions must be reduced to virtually zero by 2050. The United Nations has included affordable and sustainable energy as one of the 'Sustainable Development Goals'. The goals include 'doubling the global rate of energy efficiency improvements' and 'significantly increasing the share of renewable energy in the global energy mix by 2030'. This size and scale of emissions reduction requires a rapid and far-reaching transition of all energy systems, including buildings.

It is essential to substantially reduce energy use in buildings and increase the generation of renewable energy sources where possible. Tackling climate change and changing the way energy is produced and used can help address issues such as energy poverty. Additionally, this can help provide a healthy environment for all demographic and economic populations. Particularly for groups that are part of less prejudiced or disadvantaged communities.

Assessment issues

ENE 01	Energy efficiency	15 points
Value:	- Encourages the construction of homes with the lowest possible energy use and CO_2 emissions..	

ENE 02	Energy monitoring	3 points
Value:	- Encourages residents to reduce energy use by gaining insight into the energy use of the home.	

ENE 03	External lighting	2 points
Value:	- Minimizes the energy use of outdoor lighting by using efficient lighting.	

ENE 04	Passive design and environmental impact installations	5 points + 1 EP
Value:	- Reducing the building's energy use by applying passive design solutions, free cooling and energy with a low environmental impact.	

ENE 06	Energy efficient lifts	2 points
Value:	- Reducing the building's energy consumption through the optimal number and size of energy-efficient elevators.	

ENE 08	Energy efficient household appliances	3 points
Value:	- Encourages energy saving equipment to help reduce residents' energy consumption.	

ENE 10	Matching electricity supply and demand (DSM)	4 points
Value:	- Stimulates smart systems to match the supply and demand of electricity.	

Energy efficiency

Encourage all homes to be designed and constructed with the lowest possible CO2 emissions as a result of building-related energy demand and primary energy use.

Available points	: 15
Exemplary performance	: ✗
Contains prerequisite	: ✓
Contains filter	: ✗
Minimum standard	: ✓

Question 1 (prerequisite). Energy techniques

Are there energy techniques of low CO_2 emissions considered and applied for the home?

POINTS	ANSWER	SELECT ONE ANSWER
N/A	A.	Yes, there is a fully developed energy concept with low CO_2 energy emissions techniques considered and applied (according to NTA 8800).

Question 2 (prerequisite). Low energy needs

Does the house have a lower energy requirement compared to the reference value for the residential function?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
N/A	B.	Yes, according to an energy performance calculation in accordance with NTA 8800, a reduction of 10% of the energy requirement (BENG 1) has been determined compared to the reference value.
N/A	C.	The thermal shell is better insulated and more airtight (see criterion 4 in the table of Criteria).

Question 3. Reference primary fossil energy consumption

Does the house have a lower primary fossil energy consumption (BENG 2) compared to the reference value for the residential function?

POINTS	ANSWER	SELECT ONE ANSWER
1	D.	Yes, the home has a reduction in Primary fossil energy consumption of at least 10%
2	E.	Yes, a reduction of at least 20%
3	F.	Yes, a reduction of at least 30% (Minimum standard Very good)
4	G.	Yes, a reduction of at least 40%
5	H.	Yes, a reduction of at least 50%
6	I.	Yes, a reduction of at least 60% (Minimum standard Excellent)
7	J.	Yes, a reduction of at least 70%
8	K.	Yes, a reduction of at least 80%
9	L.	Yes, a reduction of at least 90%
10	M.	Yes, a reduction of 100% (Minimum standard Outstanding)

Question 4 low primary fossil energy consumption

Is It primary fossil energy consumption (BENG 2) smaller than 0 kWh/ m2 years?

POINTS	ANSWER	SELECT ONE ANSWER
1	N.	Yes, the primary fossil energy consumption is -10 kWh/ m2 yr
2	O.	Yes, the primary fossil energy consumption is -20 kWh/ m2 yr
3	P.	Yes, the primary fossil energy consumption is -30 kWh/ m2 yr
4	Q.	Yes, the primary fossil energy consumption is -40 kWh/ m2 yr
5	R.	Yes, the primary fossil energy consumption is -50 kWh/ m2 yr

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1 AND 2: PREREQUISITE		
1.	On the basis of the full elaboration of the energy concept of the house, it is demonstrated that all energy techniques (see criterion 2) with low CO_2 emissions have been considered. If these energy techniques have been applied in the home, then it must be demonstrated where they have been applied in the home. See also Methodology	A
2.	Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of energy from renewable sources etc. etc." See definition "energy from renewable sources" in the directive, all other additional requirements set out in the EU directive also apply, supplemented by directives 2001/77/EC and 2003/30/EC. i. The energy generation must be part of the building. ii. The contribution of techniques has been determined in accordance with NTA 8800 and, if necessary, statements issued by CBRG are available for the relevant application.	A
3.	The energy requirement (BENG 1) for the home is at least 10% lower than the reference value the residential function (Guidance Note NBW-ENE01).	B
4.	The thermal shell of the house or residential building meets the values as in Guidance Note NBW-ENE01.	C
CRITERIA FOR ALL ANSWER OPTIONS		
5.	An energy performance calculation with BENG 1 and BENG 2 for the home has been carried out in accordance with the applicable version of NTA 8800 when applying for an environmental permit or a newer version.	A- R
6.	The calculation has been drawn up by an organization certified in accordance with BRL9500. The software used must be certified in accordance with BRL9501..	A- R
7.	An energy label (in accordance with NTA 8800) was issued for the home upon completion.	B- R
CRITERIA FOR QUESTION 3		
8.	The primary fossil energy consumption (BENG 2) of the home(s) has (have) a reduction compared to the reference value for the residential function (GN 41). The percentage of the reduction determines the points achieved.	D- M
CRITERIA FOR QUESTION 4		
9.	Based on the answer to question 3, points can be awarded if the primary fossil energy consumption (BENG 2 - determined in accordance with the current version NTA 8800 when applying for an environmental permit or a newer version) is less than 0.	N – R

Tables

No

Methodology

ENERGY CONCEPT OF LOW CO_2 EMISSIONS ENERGY TECHNIQUES

For the minimum requirement, it must be demonstrated that techniques with low CO2 emissions have been considered.

- The energytechniques that are considered are relevant concepts that are applicable to the type of building.
- A cost balance is made of different energy concepts.
- It shall be argued which choice for one or more specific renewable energy technologies and/or why other applicable techniques for renewable energy generation have not been chosen.
- It is not necessary to prepare a complete study or report of the recital. On the basis of, for example, minutes and calculations, it should be clear that the consideration process has taken place.

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

ENE 02
Energy Monitoring

ENERGY

To recognise and encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption.

Available points	: 3
Exemplary performance	: ✗
Contains prerequisite	: ✓
Contains filter	: ✓
Minimum standard	: ✗

Question. Energy monitoring

Are usage groups equiped with submeters and monitoring?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
2	A.	Yes, the user groups in the homes are made visible.
1	B.	Er is submetering for all common usage groups.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTION		
1.	FILTER If no common use groups are present, answer B is filtered .	B
CRITERIA BEE THE QUESTION		
2.	The following user groups are submetered in the home: i. kitchen ii. Laundry room (washing machine and tumble dryer) iii. Heat, cold iv. Ventilation v. Renewable energy vi. Other potential large usage groups (as sauna, swimming pool, etc.)	A
3.	All relevant energy sources are submetered as: i. Electricity ii. Heat iii. Cold iv. Other fuels	A, B
4.	The data from the Energy Monitoring System can be read for at least 12 months. This happens with an app, display or system as described in the credit HEA 12.	A, B
5.	All common usage groups are submetered as: i. Communal facilitiesas (outdoor) lighting, space heating general areas, ventilation etc. ii. Communal areas(s) iii. Internal transportation such as lifts iv. Other potential large usage groups (as sauna, swimming pool, etc.)	B

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

ENE 03
External lighting

ENERGY

Reducing energy use in the use phase, and thus CO2 emissions, through energy-efficient outdoor lighting.

Available points	: 2
Exemplary performance	: ✗
Contains prerequisite	: ✗
Contains filter	: ✓
Minimum standard	: ✗

Question. Energy efficient outdoor lighting

Are the facilities for outdoor lighting energy-efficient and are they prevented from being switched on unnecessarily?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, the outdoor lighting has an energy label B or better and is equipped with energy saving regulation.
1	B.	Yes, the communal outdoor lighting has an energy label B or better and is provided by energy saving regulation.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTION		
1.	**FILTER** If there is no common lighting as mentioned in criterion 5, answer option B is filtered..	B
CRITERIA BEE THE QUESTION		
2.	All outdoor lighting has an energy label B or better. The energy label has been drawn up in accordance with EU-ELR 2019/2015	A,B
3.	The outdoor lighting is switched with a timer (11:00 PM - 7:00 AM) or twilight switch with motion sensor..	A, B
4.	The outdoor lighting concerns the ground-level home (if applicable): • Lighting at the front at the front door. • Lighting at the rear near the back door. • Lighting in the garage, storage room and/or garden entrance. The outdoor lighting concerns a residential building (if applicable): • Lighting at the entrance to the private outdoor area or balcony. • Lighting at the front door. • Lighting of individual storage space.	A
5.	The communal outdoor lighting concerns (if applicable)): i. Lighting of galleries of residential building. ii. Lighting of parking facilities for bicycles and/or cars. iii. Lighting of communal outdoor space. iv. Lighting at all entrances to the residential building..	B

6.	The communal outdoor lighting has an average specific power density of a maximum of 0.1 W/lux/m2. If the communal outdoor lighting consists exclusively of a single light point, it must comply with energy label B..	B

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	One or more pieces of evidence as mentioned in chapter 4.0 BREEAM-NL Evidence must be used to demonstrate that the project meets the criteria..
All	An overview of the type of fixtures and specifications of the energy-saving control.
All	For the delivery phase: Visual inspection and verification by photographic evidence that all fixtures have been installed and meet the requirements..

Definitions

No

Additional information

No

References

No

ENE 04

ENERGY

Passive design and environmental impact installations

Reducing building-related energy demand and encouraging energy with a low environmental impact

Available points	: 5
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✗

Question. Passive design and environmental impact installations

Is the energy requirement of the building reduced by passive design techniques and is energy with a low environmental impact stimulated?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
2	A.	Yes, the energy requirement is reduced with passive design techniques.
2	B	Yes, the energy requirement is also reduced with free cooling.
1	C.	The environmental impact of the building-related energy demand is a maximum 0.90 €/m2 / per year.
EP	D.	Yes, energy requirements are further reduced with passive design techniques and free cooling.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The first point of HEA04 Thermal Comfort has been achieved, demonstrating that the building has good thermal comfort.	A and D
2.	During the design phase, an analysis was carried out into how passive design techniques can be incorporated into the design to reduce energy requirements.	A and D
3.	Passive design techniques are applied that significantly reduce the energy requirement of the building The building-related energy requirement (BENG 1 - in accordance with NTA 8800) is at least 20% lower than the reference value for the residential function fromGN NBW-ENE01.	A
4.	In the analysis by the passive design techniques are the next one factors minimal included: i. Location ii. Weather on location iii. Microclimate iv. Layout of the building v. Building orientation vi. Building shape vii. Building mass viii. Thermal mass or other thermal storage in materials ix. Daylight strategy x. Ventilation strategy xi. Green strategy xii. Amendment to climate change	A,B
5.	The expert responsible for commissioning (see credit MAN 04) checks upon delivery whether the energy performance calculation corresponds to the achieved.	A - D
6.	The criteria requirements of answer A are met	B

7.	In the analysis of passive design techniques from criterion 2, an analysis is also included on the application of free cooling and the possibility of integrating this into the design.	B
8.	Applications of free cooling cover all living areas in the building.	B
9.	In the free cooling analysis must the following appropriate technologies must be considered: i. (Summer) night cooling (required An high thermal mass) ii. Cold storage (WKO system) iii. Balance ventilation (not linked On An active cooling system) iv. Cooling of groundwater v. Cooling of surface water	B
10.	The environmental impact of the building-related energy demand is determined wtih the ENE 04 tool (see Methodology) and the shadow price is a maximum 0.90 €/m2 / year.	C
11.	The criteria requirements of answers A and B are met	D
12.	Passive design techniques are applied that significantly reduce the energy requirements of the building. The building-related energy requirement (NZEB 1 - in accordance with NTA 8800) is at least 40% lower than the reference value for the residential function fromGN NBW-ENE01.	D

Tables

No

Methodology

DETERMINATION OF THE ENVIRONMENTAL IMPACT OF ENERGY DEMAND

The ENE 04 tool is used to calculate the environmental impact of the building-related energy demand. In this tool, the following values are entered:

- Surface area in GFA and GA
- Lifespan of the building (established 75 year for housing)
- Data from the energy performance calculation:
  a. Reduced primary energy consumption per energy type (gas, heat, electricity)
  b. Generation systems for renewable energy on the own plot (for example solar panels, solar collectors, wind turbines)

After completing the tool completely, the annual environmental impact per m2 is determined in the form of shadow costs. The methodology is based on the "Determination method Environmental performance of buildings and civil engineering works". This also includes the various environmental indicators and the associated shadow costs.

The environmental impact of most standard energy supplies is included in the database of the ENE 04 tool and can therefore be chosen 'standard'. However, it is also possible to include specific product data in the calculation. However, it must be demonstrable that the energy savings by the generation systems are guaranteed and a life cycle analysis (LCA) must then be drawn up for the entire system, which meets the requirements of the current version of the Determination method Environmental Performance of Buildings and Civil Engineering Works.

LCA FOR ELECTRICITY GENERATION:

For sustainable electricity generation, only systems that are applied to the plot are eligible. If electricity is purchased from the grid - even if renewable electricity is purchased for this purpose - the standard mix on the electricity grid is assumed.

Passive design and environmental impact installations

LCA FOR HEAT- AND/OR COLD NETWORKS:
This is set up for the entire heat and/or cold network to which it is connected. This means that in the event that several generation installations are connected, the efficiency of all installations is taken into account and not only 1 installation can be assigned to this project. In addition, this LCA also includes the distribution system, up to the delivery to the building.

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..
All	Delivery phase: Structural passive techniques must be assessed on site by the Assessor..

Definitions

No

Additional information

No

References

No

ENE 06

ENERGY

Energy efficient transport systems

Valuing and encouraging energy-efficient transport systems.

Available points	: 2
Exemplary performance	: ✗
Includes minimum requirement	: ✓
Contains filter Minimum standard	: ✗

Question. Energy efficient transport systems

Is the energy use of present lifts taken into account?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, the lifts have an economical energy consumption..
2	B.	Yes, the lifts have an energy label B or better.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTION		
1.	FILTER/SCOPE This issue does not apply to lifting platforms, wheelchair stair lifts, stairlifts, similar facilities for disabled persons or when there is no lift. Lifts with a speed of >0.15m/s, including goods, vehicle and passenger lifts are part of the assessment. If there are no elevators in the project, this issue can be filtered.	All
CRITERIA		
2.	An analysis of the building's access, transport needs and usage patterns was carried out to determine how many lifts are optimal and how large they should be. In the case of one elevator in a residential building, the analysis does not have to be extensive and a written statement is allowed.	A, B
3.	Energy consumption shall be estimated in accordance with ISO 25745-2: 2015 Energy performance of lifts, escalators and moving walkways - Part 2 and/or Part 3 for at least two transport system variants	A, B
4.	The application of regenerative drives should be considered. A regenerative drive should only be considered if the energy savings are greater than the additional standby energy for the drives. Regenerative drives are suitable for elevators in high-rise buildings that are heavily used.	A, B
5.	Specified is the transportation system with the lowest energy usage.	A, B
6.	The criteria of Answer A have been achieved.	B
7.	Applied lifts meet the energy label B in accordance with ISO 25745-2, measured in accordance with ISO 25745-1 by an independent party.	B
8.	For each newly used lift, regenerative drive is used if criterion 4 shows that it saves energy.	B

ENE 06
Energy efficient lifts

Tables
No

Methodology
No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions
No

Additional information
No

References
No

ENE 08

ENERGY

Energy efficient household appliances

Encourage the purchase of energy-saving equipment for optimal usage-related energy performance and energy savings.

Available points	: 3
Exemplary performance	: ✗
Contains prerequisite	: ✗
Contains filter	: ✓
Minimum standard	: ✗

Question. Household appliances

Are energy-efficient equipment used or are future residents informed about sustainable choices in energy-efficient equipment??

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
2	A.	Yes, household appliances have a low average energy consumption which corresponds to a sustainable score on the energy label.
1	B.	All household appliances in communal areas has a sustainable score on the energy label.
1	C	Future residents are informed about sustainable choices when purchasing household appliances.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTION		
1.	FILTER Answer option B should be filtered if there are no communal household appliances.	B
CRITERIA BEE THE QUESTION		
2.	The average energy efficiency across all homes of all household appliances mentioned in table ENE 08.1 is lower than the value mentioned in table ENE 08.1. If the specifications of the equipment are not known, the stated default value must be used for the relevant home. If equipment for washing and/or drying is part of the delivery of the individual home, then that equipment must meet the requirements in Table ENE 08.2.	A
3.	The equipment in general areas and/or central facilities must comply with the energy labels in Table ENE 08.3..	B
4.	If household equipment is purchased by the tenant or owner in the usage phase, future residents will be informed about energy-efficient equipment. This information includes at least the devices mentioned in criterion 2. This answer cannot be selected in combination with answer option A..	C

Tables

Table ENE 08.1. Energy efficiency household devices average and default

DEVICE	AVERAGE:	DEFAULT:	
Fridge/freezer/combi	Energy efficiency index <80	Energy efficiency index 100	EU 2019/2016
Dishwasher	>75kwh/100 cycles	90kwh/100 cycles	EU 2019/2017
Ovens	EEI > 82	EEI 100	EU 65/2014
Extractor hood	45 kWh/year	60 kWh/year	EU 65/2014

Table ENE 08.2. Energy efficiency washing equipment

DEVICE	ENERGY LABEL:	
Washing machine	Minimal A	EU 2019/2014
Tumble dryer	A+++	EU 392/2012
Washer/dryer combination	C	EU 2019/2014

Use the information on the valid energy label. Or find the right information via:: https://eprel.ec.europa.eu/screen/home

Table ENE 08.3 Energy labels central Services

DEVICE	ENERGY LABEL:	
Refrigerator freezer/ combination	Minimal C	EU 2019/2016
Dishwasher	Minimal B	EU 2019/2017
Ovens	A++	EU 65/2014
Extractor hood	A+	EU 65/2014
Washing machines	A	EU 2019/2014
Tumble dryer	A+++	EU 392/2012
Washer- dryer combination	C	EU 2019/2014

Use the information on the valid energy label. Or find the right information via: https://eprel.ec.europa.eu/screen/home

Methodology

AVERAGE ENERGY EFFICIENCY

For answer option A, the average energy efficiency must be calculated per household appliance, across all homes. This is based on an energy efficiency index, consumption per 100 cycles or consumption per year (as indicated in criterion 2). If the energy efficiency of a home is not known, for example because a project kitchen has not been chosen, then the default values mentioned in criterion 2 must be used for this home.
Each group of (present) equipment must meet the average requirement to earn the points.

Energy efficient household appliances

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..
2 and 3	The energy labels of the devices serve as proof of these criteria..

Definitions

No

Additional information

No

References

- European product register for energy labelling, https://eprel.ec.europa.eu/screen/home

ENE 10

ENERGY

Matching electricity supply and demand (DSM)

Reducing CO2 emissions from the electricity grid by better matching electricity demand with the supply of renewable electricity.

Available points	: 4
Exemplary performance	: ✗
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✓

Question. Matching energy demand

Are there smart systems that match electricity demand to supply?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
2	A.	Yes, the home(s) or residential building has facilities for the storage of electricity.
1	B.	Yes, installations in the home(s) and the residential building are connected to a system that matches supply and demand of electricity. (mandatory for Outstanding))
1	C.	Yes, the home(s) or residential building has a bi-directional charging point(s) for electric transport, which is connected to a system with grid balancing..

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	There are facilities for storing electricity. This storage is minimal 5 kWh per home.	A
2.	Existing installations are based on a system with Demand Side Management (DSM). Such a system ensures that consumer demand for electricity is adjusted to the supply of generated electricity. If present: i. Are installations responsible for producing hot water connected to a system with grid balancing or energy balance system? ii. Is cooling and/or heating connected to a system with grid balancing or energy balance system. iii. Are installations responsible for the generation of heat/cold equipped with a time schedule for switching on and off. iv. Are washing and drying machines connected to a system with grid balancing or energy balance system. v. The same applies to other significant energy consumers, such as a swimming pool or a sauna. NB If the home or homes have a storage facility for electricity (answer option A.), then that storage facility must also be connected to the DSM system..	B
3.	A bidirectional charging point for electric transport suitable for charging and supplying electricity, which is connected to a system with grid balancing and any available DSM.	C

Matching electricity supply and demand (DSM)

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..
All	Specifications of the present Services.
All	Upon delivery, a visual inspection is carried out to verify that the facilities have been installed and work as designed.

Definitions

No

Additional information

No

References

No

Transport

RESUME

This category encourages the presence of easily accessible local facilities and the availability of sustainable means of transport, such as public transport and other alternative transport options for residents. For example, transport methods are encouraged that reduce car use and related emissions and traffic jams, and physical activities are encouraged for the well-being of residents..

CONTEXT

Cities around the world are actively looking for ways to improve the quality of life, air quality, congestion and ease of movement of people in urban environments. The eleventh goal of the United Nations Sustainable Development Goals (SDGs) focuses on sustainable cities and communities..

This goal recommends cycling, walking or using public transport to keep the air in cities clean. One of the objectives is 'to provide access to safe, affordable, accessible and sustainable transport systems for everyone, while improving road safety, in particular by expanding public transport by 2030'.

Reducing private use of the car is an important point of attention. Alternative modes of transportation, such as cycling, offer a way to tackle transportation-related emissions and reduce traffic congestion..

Numerous scientific studies have established clear links between air quality and heart and brain health. It is estimated that polluted outdoor air causes 4.2 million premature deaths worldwide every year. Air pollution is harmful to plants and animals, but also to biodiversity and crop yields. Reducing air pollution can reduce diseases and conditions such as stroke, heart disease, lung cancer and respiratory diseases..

Assessment issues

TRA 01	Public transport accessibility	4 points
Value:	- Increases awareness and understanding of the public transportation option and increases accessibility to these modes of transportation. - Encourages sustainable transportation..	

TRA 02	Proximity to amenities	2 points
Value:	- Ensuring the proximity of basic facilities so that short journeys are reduced. - Reducing resident-related emissions and negative environmental impacts, improving local air quality and combating local congestion.	

TRA 03	Alternative transport	5 points
Value:	- Encourages bicycle use and reduces dependence on private cars. - Promotes the provision of charging points for electric cars and reduces the dependency on petrol and diesel cars.	

TRA 04	Safe traffic in the residential area	3 points
Value:	- Ensuring a safe living environment, encouraging residents to go outside. - Contributes to the attractiveness of the homes, helps to increase the value and appeals to the owners, residents and neighbors. - Contributes to social cohesion in the neighborhood and a healthy living environment..	

TRA 06	Home office	2 points
Value:	- Providing the necessary space and facilities to work from home and thus reduce the need to travel to work.	

Public transport accessibility

Encourage public transport to be available to residents, thereby reducing transport-related emissions and traffic jams.

Available points	: 4
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Public transport

Are the homes within walking distance of a public transport connection with a regular timetable??

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, the house has a public transport service nearby and the accessibility index is ≥ 0.5
2	B.	Yes, there are multiple Public transport services nearby, the accessibility index is ≥ 1
3	C.	Yes, there is a very good connection with public transport, the accessibility index is ≥ 2
4	D.	Yes, the home has an optimal connection, and a Public transport accessibility index of ≥ 4

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The public transport accessibility index is determined by entering the following data in the BREEAM TRA 01 calculator (see Methodology): i. The distance must be measured via a safe walking route from the main entrance of the residential building or the furthest front door for ground-level homes. ii. The type of public transport available at the relevant public transport boarding point for bus or train (including metro, tram). iii. The average number of public transport services per hour at the relevant boarding points during standard working hours.	A – D
2.	A public transport stop concerns any bus service with a stop within 650 meters and any tram, metro or train station (rail) within 1000 meters of the residential building, measured via a safe walking route. A safe walking route runs via footpaths (not in a (perpendicular) straight line) that are separated from other traffic, has safe crossings and is accessible to all pedestrians.	A – D
3.	Standard working hours are the times a resident travels to and from work between 08.00 and 19.00.	A – D
4.	New (transport) facilities that are added to a large phased development of a construction site, but are not yet ready during the assessment, can be included in the assessment. The condition for this is that it can be demonstrated that the (transport) facilities are ready for use within two years after the building has been put into use..	A – D

Tables

No

Public transport accessibility

Methodology

To calculate the public transport accessibility index, the TRA01 calculator (see definitions) is used to calculate the number of public transport services, the walking distance to nearby stops and stations, and the frequency of services from these boarding points. The calculation is based on the PTAL method (Public Transport Accessibility Level), which is also used in the Netherlands..

The frequency of public transport is calculated by dividing the average number of services on a normal day by the number of hours within that period.

For example, a building with a single bus service 500m from the residential building with a single service every 15 minutes, or an average of four services per hour, scores a Public Transport Accessibility Index of 1.90.

The same stop with a single service every 15 minutes, but located 300m from the residential building scores a public transport accessibility index of 2.26. When not one, but two services stop every 15 minutes, the public transport accessibility index scores 2.85. The greater the number of public transport points, services and the distance to the building, the higher the index..

CALCULATE THE AVERAGE NUMBER SERVICES PER O'CLOCK

The frequency of public transport is determined by the average number of services per hour. This is calculated by dividing the number of services that stop at the junction between 08.00 and 19,00 (so 11 hours in total). For example, suppose the number of services stopping at a node is 35, then the average number of services is 35 divided by 11 = 3.2 (equal to an average service frequency of about 20 minutes)..

MULTIPLE SERVICES

Public transport services that run from multiple stops within reach of the building may only be taken once. For example, consider two separate stops served by one service. Different public transport services from one or more stops within reach of the building must be included separately..

TWO-WAY ROUTES

Routes are generally two-way. But for the calculation of the index, only the direction with the highest frequency should be taken into account.

MAIN ENTRANCE HOME

The main entrance of the residential building is directly connected to the entrance of the main building, the walking routes, the elevators and/or stairs and is easily accessible to most residents..
When assessing multiple ground-level homes, the entrance to the furthest home is selected to calculate the distance to the public transport stop..

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria...

Public transport accessibility

Definitions

TRANSPORT ACCESSIBILITY INDEX

The public transport accessibility index is an indicator for the accessibility and density of the public transport network at the building location. The index depends on the proximity of boarding points and the variety and frequency of the number of public transport services..

BREEAM TRA 01- CALCULATOR

A calculation tool in the form of a spreadsheet, with which the public transport accessibility index of the building is calculated and the number of BREEAM points achieved is determined per function..

Additional information

No

References

No

Proximity to amenities

To ensure residents have appropriate access to amenities near to the building, consequently reducing transport-related impacts.

Available points	: 2
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Basic amenities

Are there basic amenities in direct close proximity by the home?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, basic amenities and 2 optional amenities are within 500 meters of the home.
2	B.	Yes, basic amenities and 4 optional amenities are within 1000 meters of the home.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The walking distance should not be measured in a straight line, but along a safe accessible walking route. A safe walking route follows footpaths that are separated from other traffic, has safe crossing points and is accessible to all pedestrians.	A, B
2.	Within 500 or 1000 meters of the home there are two basic amenities (at least one service of each category i and ii) present and 2 or 4 optional amenities (out of category iii to vii). BASIC AMENITIES i. Food supply: food shops, supermarket, market, butcher, baker, greengrocer, etcetera. ii. Healthcare: pharmacies, general practitioner, hospital, etc. (excluding private clinics). OPTIONAL AMENITIES iii. Education: daycare, primary school, middle school, and so on. iv. Services: ATM, bank, postal services, parcel point, launderette, hairdressers, and so on. v. Dining facility: restaurants, lunchroom, and so on. vi. Commercial: clothing stores, cinemas, mall, and so on. vii. Cultural: social-cultural services, leisure centres, community centers, social centers, and so on.	A,B
3.	The distance is measured from the building entrance of a residential building or in case of multiple dwellings, the entrance of the furthest dwelling	A, B
4.	One type of amenity may also exist within or as part of other types of amenities, for example an ATM or postal service in a supermarket, etc. It is not a requirement that each amenity is 'stand-alone'.	A, B

5.	In case of a major phased development of a construction site where new basic or optional amenities will be built, which are not yet ready at the time of the assessment, these can be included in the assessment provided that it can be demonstrated that the basic and/or optional amenities will be built and ready to use within two year after the dwelling(s) have been taken into use.	A,B

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria.
All	Map, plan or photo showing the distance and route to the basic amenitie. This also applies to developments where the amenities and/or roads have yet to be realized..

Definitions

No

Additional information

No

References

No

Alternative transport

Encouraging alternative modes of transport, allowing building users to choose a means of transport other than the combustion engine car and/or reducing the number of individual car journeys

Available points	5
Exemplary performance	: ✗
Contains prerequisite	: ✗
Contains filter	: ✓
Minimum standard	: ✗

Question. Alternative transport

Are there Services for alternative transportation methods available for residents?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	There are sufficient bicycle sheds available..
1	B	There are facilities for car sharing OR one other form of shared mobility available in the vicinity of the home..
2	C	The house has electric charging points for electric cars.
1	D.	There is a public electric charging point for electric cars within 100 meters of the house.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTION		
1.	**FILTER** If there are no parking spaces on the plot of the house or residential building, the corresponding answer option can be filtered from the assessment..	C
CRITERIA		
2.	There are sufficient bicycle sheds if there is one parking space per resident. The following applies: i. Studio/one bedroom: two residents ii. For each additional bedroom (regardless of the size): An additional resident	A

3.	The bicycle storage (both individually as communal) is and has: i. Indoor ii. Lockable iii. Lighting that complies with NEN-EN 12464-1 (table 5.34.4). iv. A connection to for charging an e-bike. In addition a communal bicycle storage also meets the next points: v. Both the wheel and frame of the bicycle can be attached to a secured object with a lock. vi. The bicycle shed is accessible and easy to use. This is takes into account sufficient: - Distance between obstructions (f.i. a wall). - Room for aisles between the storage unites. - Distance between the bicycle racks. vii. The bicycle storage located is on a recognizable place visible from the building. viii. With internal storage, it is accessible from a central hall or stairwell and is clearly visible and accessible from the public space.. ix. Lighting complies with NEN-EN 12464-1, whereby the bicycle shed must meet the limits of a parking garage. x. If the bicycle shed is located outside the residential building, the maximum distance from the main entrance of the residential building to the bicycle shed is 100 meters. xi. 1 in 10 parking facilities has the option to charge electric bicycles. xii. Based on the target group of the project, it is determined that sufficient space has been created for stables of a different size for, for example, scooters and outdoor model bicycles (cargo bike, bicycle with crate, mommy/daddy bike, etc.).	A
4.	Is the residential development part of a large development in which a shared and joint parking facility is being realized? The required number of parking spaces is then determined based on all residents of those buildings (in accordance with the calculation of criterion 1). All new storage places meet the BREEAM requirements. Existing parking spaces may be included, provided that they meet the requirements of criterion 2.	A
5.	The car sharing service meets the following criteria:: i. The car sharing is 100% electric. ii. Accessible to residents iii. The sharing facility may be located on your own property, but can also be within 650 meters walking distance of the home, and can be reached via a safe walking route. iv. Rental can be done by the hour or by the day. v. Electricity and insurance are included in the price. vi. There is an option for self-service, for example with an app. vii. The service is available 24 hours a day. viii. The service has allocated parking spaces. ix. Shared car(s) have been made available to residents. x. Residents are actively encouraged to use the service..	B
6.	The other form of shared mobility complies with the following:: i. Consists of at least two electric bicycles and/or electric scooters. ii. The distance to this facility is a maximum of 250 meters from the main entrance or the furthest front door. iii. Points i to x of the car sharing service also apply to the additional form of shared mobility. iv. The shared mobility is organized by and/or for the residents. Using existing or expanding regional or national services is not sufficient..	B

7.	Every private parking facility on the private property of a home or privately allocated parking facility in a residential building has an electric charging station or has pipe penetrations including cable and the possibility of connecting an electric charging station in the future without adjusting the fuse box. If there is a shared parking facility in or outside a residential building with allocated parking spaces, the following requirements apply:: i. At least 10% of the total number of parking spaces are equipped with electric charging points. ii. Facilities such as pipe penetrations have been made so that every parking bay can be equipped with charging stations in the future. iii. The facilities are located 300 meters from the house, measured from the entrance of the residential building or the most distant house, accessible via a safe walking route..	C
8.	Electric charging stations meet the following principles:: i. Have a 3-phase connection to connect to a charging speed of at least 11 KWh. ii. Can be used for all common connections. iii. Are connected to a system with grid balancing (ENE 10).	C
9.	Within 100 meters of the home, measured from the entrance of a residential building or the furthest home per street, an electric charging point for electric cars is accessible via a safe walking route..	D

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria.

Definitions

No

Additional information

No

References

No

TRA 04

Safe traffic in the residential area

TRANSPORT

Encouraging a living environment where residents can safely use the environment of the home, without the nuisance of traffic.

Available points	: 3
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✕

Question. Safe residential area

Is there a safe traffic situation for residents and users in the residential area?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
2	A.	Yes, traffic routes in the residential area for cyclists and pedestrians are safe..
1	B	Yes, the house is located in a car-free residential area..

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The following measures have been taken in the residential area or are present to guarantee safe access to the home and/or the plot:: i. Cycle and pedestrian paths are separated from car traffic and preferably from each other. ii. Cycle and pedestrian paths are clearly marked at intersections. iii. If bicycle and pedestrian paths are shared, the shared path must be at least 3 meters wide in total. iv. With separate cycle and pedestrian paths, the cycle path must be at least 2 meters wide in total and the footpath must be at least 1.5 meters wide in total. v. Footpaths and sidewalks connecting to the housing and parking facilities are designed to be accessible for people with disabilities and the elderly, among others. vi. Cycle and pedestrian paths are illuminated in accordance with NEN 12464:2 Light and lighting - Workplace lighting - Part 2: Outdoor workplaces.	A
2.	If the traffic routes are designed in accordance with safety standards, the requirements for answer option A are met. Examples of safety and accessibility standards are: • The 'Accessibility Handbook' for the elderly and people with disabilities from the municipality of Eindhoven. • The 'Accessibility Guideline' from CROW publication Road Safety and Accessibility. • Bicycle-friendly infrastructure adapted to the traffic situation according to 'Design guide to bicycle traffic' from CROW publication Fietsverkeer. • A comparable municipal standard for safe infrastructure..	A
3.	If bicycle and pedestrian paths are located on the plot/private property of residential buildings, they must also meet safety requirements. This does not apply to ground-level homes, but the living environment must be satisfactory..	A

4.	The implementation of measures takes place in the residential environment and often falls within the sphere of influence of municipalities. At the same time, this implementation is decisive for achieving a safe living environment. In these cases, consultation about the design of the living environment with the municipality is necessary in order to meet the requirements..	A,B
5.	Measures have been taken in the residential area to reduce the number of cars. This can be done by - but is not limited to! - the following conditions are reached: i. The house is located in a 30 km/h street where speed limiting measures have been taken. ii. The house is located in a (cycling) street where the car is a guest, a residential area, a car-free or car-shy street. iii. There is a central parking facility at a distance from the homes (for ground-level homes).	B
6.	Speed limiting measures are road section measures such as separated paths, speed bumps and road narrowings, signs or closures. For more information and examples, see CROW publication Road safety and accessibility.	B

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..
All	Design plans for the design by the public room.

Definitions

RESIDENTIAL AREA

The residential area is defined as the access road to which the house is located directly. This could be the street with associated pedestrian and cycle paths, the road or another access to the plot..

CAR-FREE OR CAR SHY STREET

Car-free is a street that is not accessible to car traffic and has no parking facilities. A car-free street also has no parking facilities, but is accessible to car traffic, for example for deliveries, supplies, emergency services, taxi transport, etc..

Additional information

No

References

- Handbook Accessibility: issued Through Local authority Eindhoven version 2020. Through Knowledge Square disability sector
- Directive accessibility: CROW publication Road safety and accessibility. 2014
- Design guide bicycle traffic: CROW publication Bicycle traffic. 2016

Home office

Reducing travel to work by offering residents facilities to work from home and/or from a communal space.

Available points	: 2
Exemplary performance	: ✗
Contains prerequisite	: ✗
Contains filter	: ✓
Minimum standard	: ✗

Question. Home office

Can residents use facilities to work from home?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	The design of the home took into account the possibility of creating a home workplace.
1	B	There are workplaces in the common areas that all residents can use..

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTION		
1.	FILTER If there are no common areas available, the corresponding answer option can be filtered from the assessment.	B
CRITERIA		
2.	Location workplace in the home: a. For homes with one or two bedrooms (or a studio), the workplace can, for example, be realized in the living room or bedroom. b. For homes with three or more bedrooms, the workplace is stationed in one of the bedrooms. Preferably not the master bedroom.. In all cases the room is large enough not to interfere with the intended use of that room, i.e. a work station in the master bedroom does not detract from the ability to accommodate a single/double bed and other necessary furniture in that room places..	A
3.	Workplaces in the homes must have at least the following characteristics: i. Access to 4G or 5G internet or broadband connection of at least 100Mbit/s. ii. Two double sockets. iii. Sufficient daylight. The room must have average daylight in accordance with HEA 01. iv. Ventilation. This can be done via an openable window, mechanical ventilation, etc. in accordance with HEA 02. v. The workstations have a minimum wall length of 1.8 meters. To place a desk, chair and possibly a storage space. The 1.8 meter wall size requirement may be varied in some circumstances, if drawings can show that a desk can be mounted in a different type of arrangement (desk size is 120x80cm). vi. There should be sufficient space to move around the front of the desk..	A.

4.	Common areas with workplaces must have at least the following characteristics:: i. Access to 4G or 5G internet or broadband connection of at least 100Mbit/s. ii. Have at least an area of 14m2. iii. There must be sufficient electrical outlets. iv. Sufficient daylight and view. The room must have good daylight and views in accordance with HEA 01. v. Ventilation. This can be done via an openable window, mechanical ventilation, etc., in accordance with HEA 02. vi. The common area must have at least two workplaces..	B

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

Water

SUMMARY

This category encourages the sustainable use of drinking water during the use phase of the home and related outdoor spaces. Like this usage of drinking water (both inside as outside) is reduced during the whole lifespan. Also water loss through leaks is being minimized.

CONTEXT

Water efficiency is one of the focus points within the Sustainable Development goals by the United Nations (SDGs). Goal 6 (clean water and sanitation) aims that we "in 2030 significant increase the efficiency of water use in all sectors and to win it in a sustainable way and to guarantee access to clean water, to counter water scarcity and to lower the number of people that are effected by water scarcity".

These are only expected to grow further in the coming years, because 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. Reducing water consumption by using water more efficiently is therefore crucial to ensure sufficient supply to meet future demand and tackle climate change.

Assessment issues

WAT 01	Reduce drinking water consumption	5 points
Value:	- Improving water efficiency and reducing costs related to water use. - Reduction of water use so that water supplies are preserved for times of scarcity. - Promote innovations and the development of water-saving sanitary facilities and water-saving equipment.	

WAT 03	Leak detection and - prevention	4 points
Value:	- Waste of drinking water by preventing water leaks. - Minimizing the damage, costs and disruptions caused by water leaks. - Reducing costs related to water use.	

WAT 04	Water efficiency and water reuse	4 points + 2 EP
Value:	- Reduces greenhouse gas emissions, the consequences of pollution and costs related to making drinking water available. - Reduction of water use so that water supplies are preserved for times of scarcity.	

Reduce drinking water consumption

Reduce the use of drinking water by using water-saving facilities.

Available points	: 5
Exemplary performance	: ✗
Contains prerequisite	: ✗
Contains filter	: ✓
Minimum standard	: ✓

Question 1. Drinking water efficiency

Have water-saving facilities and/or gray and/or rainwater systems been used to reduce drinking water consumption?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, and the predicted drinking water efficiency per person per day is less than 125 liters (Minimum standard Very Good).
2	b.	Yes, and the predicted drinking water efficiency per person per day is less than 100 liters (Minimum standard Outstanding).
3	c	Yes, and the predicted drinking water efficiency per person per day is less than 75 litersWhat additional measures have been taken to reduce drinking water consumption?.

Question 2. Additional measures

What additional measures have been taken to reduce drinking water consumption?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	D	All communal water-using facilities meet the requirements in the criteria.
1	E	Only for owner-occupied homes: Future residents are informed about sustainable choices when purchasing water-saving sanitary facilities..

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTION		
1.	FILTER If there are no communal water-using facilities in, for example, the communal areas, then answer option D must be filtered from the assessment.	D
2.	FILTER If the project only includes rental properties, answer option E can be filtered from the assessment.	E

Reduce drinkwater consumption

CRITERIA FOR QUESTION 1		
3.	The predicted drinking water efficiency is determined with the Water Calculator. The facilities of the entire project must be entered in this calculator.	A- C
4.	If a home is delivered in shell form (for example: the buyer does not opt for the project kitchen or bathroom), then a standard value for the water-consuming facilities for this home(s) must be included in the calculator. For these values, see the Water Calculator.	A- C
CRITERIA FOR QUESTION 2		
5	The communal water-using facilities must comply with: i. Toilets: full flush volume of up to 6L and a maximum effective flush volume of 3.5L ii. Urinals: ≤ 1L/per rinse iii. Washbasin taps: ≤ 6L/min iv. Showers: ≤ 8L/min v. To bathe: ≤ 160 L vi. Kitchen taps: ≤ 6L/min vii. Dishwashers meet the water consumption values from the indicative benchmarksin Annex V of the Ecodesign Regulation 2019/2022 viii. Household washing machines comply with the water consumption values of the indicative benchmarks in Annex V of the Ecodesign Regulation 2019/2023 ix. Commercial washing machines: 7.5 litre per kilograms See methodology for the calculation of the effective flush volume and flow volume.	D
6.	Future residents must be informed about sustainable sanitary facilities (cf criterion 5). The information must contain at least the following: i. Examples of water-saving sanitation ii. Potential water savings iii. Explanation of the need for water conservation This information must be linked to buyer options and project suppliers related to drinking water consumption.	E

Tables

None

Methodology

EFFECTIVE FLUSH VOLUME OF A TOILET WITH FLUSH SELECTOR

The effective flush volume of a toilet with flush selector is the average of a full flush and a reduced flush. This assumes that one full flush takes place for every two reduced flushes.

The effective flush volume is calculated on this basis as follows, using a toilet with a 6/4 liter flush selector as an example:
(6L×1)+(4L×2)/3=4.67L EFV

Reduce drinkwater consumption

URINALS

Flush volume in litre per flushing for urinals with a single flush.

FIVE TECHNICAL SPECIFICATIONS FOR WATER EQUIPMENT

1. The flow rate is recorded at the standard reference pressure 3-0± 0.2 bar or 0.1-0± 0.02 bar for products limited to low pressure.
2. The flow rate at negative pressure 1.5-0± 0.2 bar is ≥ 60% of the maximum available flow rate.
3. For mixer showers the reference temperature is 38 ± 1oC.
4. When the flow is required to be lower than 6 l/min, it complies with point 2.
5. For taps the procedure of clause 10.2.3 of EN 200 shall be followed, with the following exceptions:

a. For taps not limited to low pressure applications only: apply a pressure of 3-0± 0.2 bar to both the hot and cold inlets;

b. For taps limited to low pressure applications only, apply 0.4-0±0.02 bar pressure to both the hot and cold inlets and fully open the flow control.

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	One or more pieces of evidence as mentioned in chapter 4.0 BREEAM-NL Evidence must be used to demonstrate that the project meets the criteria.
All:	Delivery phase: Product specifications of the types of installed facilities and an on-site inspection by the assessor. This requires a view of the type plate and/or the consumption adjustments. The inspection can also be carried out by the commissioning manager as part of MAN 04. His statement is sufficient, in combination with the purchase receipts and/or photos of the construction.

Definitions

None

Additional information

RELATIONSHIP WITH CREDIT WATER 04 – WATER EFFICIENCY AND REUSE

Within credit WAT 01, the emphasis is on the choice of water-efficient facilities such as taps, showers and toilets. Within WAT 04, the emphasis is on the reuse of rainwater. If the project uses a rainwater system that is only connected to a facility intended for use in the outdoor area (WAT 04, answer option A), then this facility must not be entered in the Water Calculator. The Water Calculator works with a standard outdoor use for benchmarking across all types of projects and therefore the water in the above example can not be included in the Water Calculator

If points are obtained for WAT 04 by using rainwater for toilet flushing (WAT 04, answer option C), then this facility must be included in the Water Calculator. If a project achieves the points at WAT 04 to provide >50% of its own drinking water (answer option D), then the calculator must be completed with the actual water-using facilities and the result may be manually reduced by the percentage of its own drinking water provided. If one demonstrably complies with WAT 04, answer option E, and one fully provides one's own drinking water, then 3 points can be awarded for question 1.

References

- AND 200 “Sanitary taps - Faucets and mixer taps for tap water installations type 1 and type 2 - General technical specification";
- And 816 “Sanitary taps - Self-closing taps PN 10”;
- AND 817 “Sanitary taps - Mechanical adjustable mixer taps (PN10) - General technical to demand";
- AND 1111 “Sanitary taps and fittings - Thermostatic mixer taps (PN 10) - General technical to demand";
- EN 1112 “Sanitary taps – Shower heads for sanitary taps for tap water installations type 1 and type 2 – General technical to demand";
- EN 1113 “Sanitary taps – Shower hoses for sanitary taps for tap water installations type 1 and type 2 – General technical to demand", under which An method for It to test by the bending strength by the hose;
- AND 1287 “Sanitary taps - Thermostatic mixer taps for low pressure applications - General technical specifications';
- AND 15091 “Sanitary tapware - Electronic opening and closing sanitary tapware”

Leak detection and prevention

Reduce water consumption in buildings by preventing and minimizing waste from water leaks that would otherwise go unnoticed.

Available points	: 4
Exemplary performance	: ✗
Contains prerequisite	: ✗
Contains filter	: ✓
Minimum standard	: ✗

Question. Leak detection and prevention

Is the home and/or residential building equipped with an automatic leak detection system and/or sensors that shut off the water supply?

POINTS	ANSWER	SELECT ALL ANSWERS THAT ARE APPLICABLE
2	A.	Each home is provided with an automatic leak detection system.
1	b.	The residential building is provided with an automatic leak detection system .
1	c	Communal toilet and shower facilities are equipped with sensors that shut off the water supply when the rooms are not occupied.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTIONS		
1.	**FILTER** If the project is not a residential building, answer option B can be filtered from the assessment.	b
2.	**FILTER** If there are no communal toilet and shower facilities, the relevant answer option can be filtered from the assessment.	c
CRITERIA BEE THE QUESTION		
3.	A leak detection system must be able to automatically detect the presence of a water leak within the water supply of a building or home. It is not required that this system detects leakage per individual water pipe section in the building or home. A system that can detect higher flow volumes than normal at meters and/or submeters is sufficient. The system can be current or sensor based.	A, b
4.	The leak detection system must: i. Recognize different normal patterns in flow velocities and filter and identify any leaks that occur. ii. Activated when the flow volume through the water meter or data logger exceeds the set maximum flow volume for a certain time period. iii. Detecting leaks for all pipework for which the manager is responsible (for residential buildings).	A, b
5	The system does not need to shut off the water supply when activated.	A, b
6.	If the water meter from the water company does not meet the requirements, a separate water meter must be installed to detect leaks. If the water company allows a leak detection system to be connected to its meter, then this is permitted.	A, b

7.	The residential building is equipped with an automatic leak detection system. In addition, emergency systems such as fire hydrants and sprinklers also fall within the leak detection system.	b
8.	Types of flow control equipment include: i. A timer: an automatic timer to switch off the water supply after a preset interval. ii.A programmed timer: an automatic timer to switch the water supply on or off at preset times. iii. An olume controller: an automatic control device to turn off the water supply once the maximum preset volume is reached. iv. A presence 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 turned off. v. A central control unit: a computer-controlled control unit of a general water control system, which uses some or all of the types of controls mentioned above.	c
9.	Shutting off the water supply by the detection system is not required for each individual shower or toilet. The requirement applies to disconnecting the water supply for each block with toilet and/or shower facilities.	c

Tables

None

Methodology

None

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	One or more pieces of evidence as mentioned in chapter 4.0 BREEAM-NL Evidence must be used to demonstrate that the project meets the criteria.
All	Design phase: Technical specifications of the leak detection system to be used. Floor plans and installation diagrams showing the location and presence.
All	Delivery phase: Photographic confirmation of the installed leak detection system.

Definitions

None

Additional information

None

References

None

Water efficiency and reuse

Minimizing unnecessary water consumption by reducing the demand for drinking water.

Available points	: 4
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✗

Question. Water reuse and efficiency

Is gray and/or rainwater stored and reused in the home and/or building?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	A facility has been created for the homes to collect rainwater for outdoor use.
1	b	All homes are prepared for the use of a gray and/or rainwater system.
2	c	Gray and/or rainwater is collected and stored with a water system for sanitary use.
EP	D	The house uses a rainwater purification system that can meet >50% of a year's drinking water demand.
EP	E	The house uses a rainwater purification system that can meet 100% of a year's drinking water demand.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	For ground-level homes: The collection facility must be connected in such a way that rainwater that falls on the roof surface is collected. The collection facility must be equipped with a tap for, for example, watering the greenery. With regard to capacity, the facility must provide storage for a shower of 40mm/m2 roof surface for a period of one hour. For apartments/residential buildings: A joint rain collection system must be installed. With regard to capacity, the facility must provide storage for a shower of 40mm/m2 roof surface for a period of one hour. The facility must be positioned in such a way that rainwater can be used for communal greenery. If there are no communal green areas, the facility must drain the collected rainwater slowly at a rate of a maximum of 3.6 mm per hour.	a

2.	The homes are equipped with a double pipe system, so that rainwater can be used more easily in the future. This pipe system must in any case be connected to all toilets. The pipes must be clearly marked on both connection sides. The connection side to which a collection reservoir can be connected in the future must be easily accessible. There must be space to install the necessary equipment.	b
3.	Gray- and rainwater collection systems must become specified and installed in accordance with the provisions of NEN-EN 16941-2:2021 (draft).	B- E
4.	The following information is required if a graywater and/or rainwater collection system is specified: Rainwater: i. Average annual rainfall for the location (mm) based on the average precipitation (see References). ii. Collection area - roof surface runoff (m2) iii.Yield coefficient, i.e. a coefficient (%) that takes into account the loss of rainwater through splashing, evaporation, leakage, overflowing, etc. This coefficient depends on the surface area running off. iv. Hydraulic Filter Efficiency: A coefficient (%) to recognize the efficiency of the hydraulic filter.	C- E
5.	The criteria of answer B have been met (answer option B must also be checked in the assessment tool).	c
6.	The storage facility must be large enough to provide toilet flushing for residents during a period of drought (20 calendar days). See methodology	c
7.	The drinking water demand of the home is determined by the number of possible residents, multiplied by the average consumption per person. See methodology.	D, E
8.	Documentation must demonstrate that the supplied system can treat rainwater until it is suitable as drinking water and that this system may be used on the Dutch market. The residents must be demonstrably informed about the use and maintenance of the system.	D, E
9.	At the criteria for answer D are met.	E

Tables

None

Methodology

NUMBER RESIDENTS:

The number of occupants of a home is determined as follows:
Number of bedrooms + 1.
For studios, 2 people should be assumed.

WATER DEMAND FOR TOILET FLUSH

The average water demand for a toilet flush per person per day is 30 liters.

Water efficiency and reuse

DRINKING WATER DEMAND

The average drinking water consumption per person per day is 130 liters.
If points are obtained for WAT 01, question 1, this result may be used as a drinking water need.

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	One or more pieces of evidence as mentioned in chapter 4.0 BREEAM-NL Evidence must be used to demonstrate that the project meets the criteria.
6	Documentation that the Gray and rainwater collection systems have been installed in accordance with NEN-EN 16941-2:2021 (draft)

Definitions

RAINWATER

Rainwater or meltwater by ice, snow and hail.

GRAY WATER

light contaminated water originating by household activities (as washing machine, sink (bathroom), shower, bath).

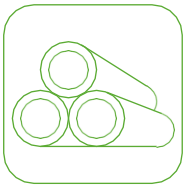
Additional information

None

References

- KNMI - Average quantity precipitation: https:// www.knmi.nl/climate-viewer/kaarts/neerslag-verdamping/gemiddel- the-amount-of-rainfall/year/Period_1991-2020

Materials



SUMMARY

This category encourages taking steps to reduce the environmental impact of building materials, and the responsible and circular use of materials in the building. By focusing on the design, choice of materials and construction technology, major steps can be taken in this regard.

CONTEXT

The use of materials in construction has an enormous impact on the environment. Moreover, this is a source of waste at the end of its useful life. Many important materials are non-renewable and are becoming scarcer, more expensive and riskier to extract. In addition, the extraction and production of raw materials mainly leads to social and ecological degradation. That is why it is essential that the real estate sector does everything it can to highlight these challenges. This can be done by choosing reused or recycled materials instead of primary materials and by using raw materials that cause less damage to society and the environment, maintaining or increasing the value of materials and facilitating their reuse in the future.

Assessment issues

MAT 01	Environmental impact of building materials	6 points + 1 EP
Value:	- Reducing the environmental impact of the building by assessing the building materials.	

MAT 02	Embodied and whole life carbon	5 points + 2 EP
Value:	- Reducing the CO2 emissions associated with the extraction of raw materials and the production of building materials - Reducing CO2 emissions over the entire lifespan, including the use phase.	

MAT 05	Robust design	1 point
Value:	- Taking measures to reduce the impact of damage and wear	

MAT 07	detachability and building passport	2 points + 1 EP
Value:	- Ensure that information about the materials and construction methods used is properly secured so that circular (re)use is possible in the future. - Encourage homes to be highly detachable to encourage reuse.	

Environmental impact of building materials

Identifying, encouraging and documenting the use of materials with a low environmental impact throughout the building's life cycle. And encourage building materials to have a low CO2 impact.

Available points	: 6
Exemplary performance	: ✓
Contains prerequisite	: ✓
Contains filter	: ✗
Minimum standard	: ✗

Question 1 (prerequisite). Sustainable wood

Does the project use sustainable wood and/or bamboo?

POINTS	ANSWER	SELECT ONE ANSWER
n/a	A.	Yes, all timber, bamboo and timber or bamboo-based products are legally harvested and traded according to TPAC definitions and conditions.

Question 2. Environmental impact of materials

To what extent has the environmental impact of materials been reduced?

POINTS	ANSWER	SELECT ONE ANSWER
1	b.	There is an improvement in the environmental impact of all project materials/products, resulting in a 20% reduction in MPG. (mandatory from Excellent).
2	c.	There is an improvement in the environmental impact of all project materials/products, resulting in a 40% reduction in MPG.
3	D.	There is an improvement in the environmental impact of all project materials/products, resulting in a 50% reduction in MPG.
4	E.	There is an improvement in the environmental impact of all project materials/products, resulting in a 60% reduction in MPG.

Question 3. Product specific data

Does the project have a purchasing plan to purchase good materials with product-specific data (CAT1 data)?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	G.	Yes, there is a plan for the sustainable purchasing of building materials, and at least 40% of the shadow costs of used construction materials are specified with product-specific data (CAT1).
1	H.	Yes, there is a plan for the sustainable procurement of building materials, and 3 installation materials or products of the project have been entered product-specific (CAT1) in the environmental impact calculations.
EP	I.	Yes, there is a plan for the sustainable purchasing of building materials, and at least 3 new materials/products are used for which there is not yet a profile in the National Environmental Database.

Life cycle impacts

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1 PREREQUISITE		
1.	The use of sustainable wood and sustainable bamboo is a minimum requirement for BREEAM-NL certification. Timber and wood-based products used in the project have been legally harvested and traded according to the relevant definition at the TPAC.	a
2.	Bamboo and bamboo-based products used in the project are legally harvested and traded according to the relevant definition at the TPAC.	a
3.	The requirements apply to all wood and bamboo that is used in the building and the wood and bamboo that is permanently used in the outdoor area. Applied timber, timber products, bamboo and bamboo products are certified with a certification system approved by the Timber Procurement Assessment Committee (TPAC). The contractor(s) is/are in possession of the chain of custody certificate(s) of a certification system approved by the Timber Procurement Assessment Committee, of all certification systems of which timber (products) and/or (bamboo) products are applied. Note: Wood and wood-based products that contractors use for their business operations during construction (shoring wood, etc.) are assessed under credit MAN03	a
CRITERIA FOR QUESTION 2		
4.	The quantification of the environmental performance is carried out by calculating the total shadow price per m2 GFA per year of the building, according to the current determination method of the National Environmental Database. The number of points that can be achieved depends on the degree of reduction in the shadow price per m2 GFA per year that is achieved compared to the reference shadow price in Guidance Note 42.	b - E
5.	The calculations for the environmental impact have been carried out by a person with demonstrable experience in making LCA calculations with the determination method.	B- E
6.	The calculation of the environmental performance of materials must meet the following requirements: i. The most recent version of the Determination Method and National Environmental Database (NMD) used at the time of application for the environmental permit. ii. A more recent reversal of the NMD may be used as long as it is consistent is with the MPG version used. iii. The software used has a valid validation issued by SBK. iv. The project team must enter all parameters into the MPG tool, including those that are reused materials.	b - E
7.	For expansion of existing projects, all materials required for the expansion must be considered, in accordance with the determination method. When calculating the shadow price, the gross floor area of the extension must be used.	b - E
8.	The percentage improvement in the environmental impact of material results must always be determined to two decimal places. The results may not be rounded up. E.g. a result of 19.96% does not yield a MAT 01 credit point for Part 1. A result of 20.01% yields one credit point for Part 1.	b - E
9.	If sector or manufacturer and/or type-specific materials or components (CAT 1 and CAT 2 data) are used in the MPG calculation, it must be demonstrated upon delivery that these materials and components have actually been used and that they are still in use as such. the Environmental Database are included.	b - E

Life cycle impacts

10.	In the Assessment Tool the percentage of reused material, renewable material and recycled material must be noted. Reused materials are materials or components that are used in the project without major processing.	b - E
CRITERIA FOR QUESTION 3		
11.	At least one point has been earned for question 2.	G - I
12.	At the end of the design phase (Technical Design) there is a documented purchasing plan, which includes policy and procedures that establish purchasing requirements for all suppliers and associated transactions. The purchasing plan contains at least the strategy on how to comply with answer options G, H, and/or I, the tasks and responsibilities surrounding the purchasing, procedure, and how to deal with budget/sustainability conflicts and planning. A list of products and suppliers alone is not sufficient as a purchasing plan. The purchasing plan may coincide with the contractor's purchasing policy (MAN 03) during the project.	G - I
13.	At least 40% of the shadow costs of applied construction materials are specified with production-specific data (CAT1).	G
14.	At least 3 installation materials or products of the project have been entered product-specifically (CAT1) in the calculations for the environmental impact. This concerns installation materials or products from NL/SfB codes 51 to 63, but excludes rainwater drains.	H
15.	At least 3 new materials/products that are used in the building, but for which no profile is yet available in the National Environmental Database, will be placed in the National Environmental Database as product-specific profiles (CAT1) on behalf of this project.	I
16.	The new product-specific materials/products must be able to be used by other projects. Project-specific profiles are not rewarded.	I
17.	For new products/materials, the producer indicates that it has been added for this project. Products/materials may not be declared for multiple projects for the EP.	I
18.	If the project pursues the response options for product-specific data (category 1) in the design phase, the design team must at least provide a statement from the relevant manufacturer that the product-specific data (category 1) has been included in the NMD upon delivery. This means that they may be included as product-specific data (category 1) in the MPG in the design phase. If the product-specific data (category 1) is not included in the NMD during the delivery phase, the point and the possible profit in reduced shadow price will be cancelled.	G - I

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	One or more pieces of evidence as mentioned in chapter 4.0 BREEAM-NL Evidence must be used to demonstrate that the project meets the criteria.
1 - 3	An overview of the wood used and their certification system. The relevant COC certificates of the contractor(s).
4 - 9	i. MPG calculation ii. Substantiation of parameters used, for example, BIM (IFC files), spreadsheets (xlsx, csv), drawings, specifications iii. iii. Written substantiation of the author's experience Supplemented in the delivery phase with evidence that demonstrates the materialization used in the implementation phase.

Definitions

No

Additional information

No

References

-Timber _ Procurement Assessment Committee (TPAC) - https:// www.tpac.smk.nl/32/home.html

Embodied and Whole Life Carbon

Encouraging choices to be made during the development of the home(s) that result in the lowest possible CO2 emissions over the entire lifespan of the home, taking into account the CO2 emissions of the materials, the construction phase, the (building-related) operational energy use, maintenance and demolition.

Available points	5
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✗

Question 1. Material-related emissions

Does the project use materials with low material-related CO2 emissions?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
2	A.	It meets the limit value 1
EP	b.	It meets the limit value 2
EP	c.	It meets the limit value 3

Question 2. Whole Life Carbon

What is the CO_2 -equivalent (kg CO_2 -eq / m^2_GFA*year) during the whole lifespan?

POINTS	ANSWER	SELECT ONE ANSWER
1	D.	Equal to, or smaller than the limit value in GN NBW- MAT02.
3	E.	The CO_2 emissions are 20% or more below the limit value in GN NBW- MAT02.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1		
1.	The limit value is determined in accordance with the methodology in GN NBW-MAT02.	a - c
2.	The limit values for new construction and renovation projects are equal to or smaller than the values in GN NBW-MAT02.	a - c
CRITERIA FOR QUESTION 2		
3.	The CO_2 -equivalent (in kg CO_2 /m^2_GFA per year) is determined in accordance to the description in GN NBW- MAT02.	D, E

Tables

No

Methodology

Guidance Note NBW-MAT 02 associated with this issue.

Embodied and Whole Life Carbon

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	One or more pieces of evidence as mentioned in chapter 4.0 BREEAM-NL Evidence must be used to demonstrate that the project meets the criteria.
1	An overview of the principles used for the Embodied carbon and/or Whole life carbon calculation, with explanation and substantiation.

Definitions

WHOLE LIFE CARBON

Whole life carbon is the approach to a CO2-neutral building column. This takes into account low energy requirements, sustainable energy generation and the CO2 emissions of the building materials over the entire lifespan of the home.

Additional information

No

References

No

Robust design

Recognizing and encouraging adequate choices in terms of material selection and/or protection of elements of the building and outdoor spaces in order to minimize the replacement frequency.

Available points	I
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Robust design

Have robust materials and/or protective measures/solutions been taken on the project??

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, Robust materials have been chosen and/or protection has been applied to parts of the building with an increased risk of damage.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	Outside the building, areas with heavy pedestrian or bicycle and vehicle traffic have been identified.	a
2.	Suitable materials and protective measures or design solutions are provided to prevent damage to vulnerable building parts by the traffic referred to in criterion 1. This concerns: Protection of floors, walls and doors, or choices for robust materials, against the effects of heavy pedestrian traffic at main entrances, public spaces and passageways (garden paths, etc.). Protection against or prevention of any danger from parking or maneuvering vehicles within 1 meter of the external facade at all parking zones and within 2 meters of delivery points.	a
3.	For residential buildings and shared facilities: Demonstrably robust materials have been used and/or adequate protective equipment has been installed in the general areas, common living areas, stairwells, circulation areas, entrances, elevators, corridors, etc. When choosing materials in general areas, the increased risk of intentional or physical abuse must be taken into account as much as possible.	a
4.	Suitable robust and protective measures in vulnerable areas of the building are for example: i. Posts or columns, Bumps, increased curbstones. ii. Robust constructions off the exterior walls up to A height of 2 meters. iii. Protected guides on walls or in the corridors. iv. Kick plates/collision protection on doors and window frames. v. Hard-wearing and easy-to-clean floor finish in areas with high traffic loads (such as the main entrance, corridors and elevators).	a

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	One or more pieces of evidence as mentioned in chapter 4.0 BREEAM-NL Evidence must be used to demonstrate that the project meets the criteria.
All	Design drawings on which all vulnerable areas/parts by It building are indicated.
All	Design drawings and/or specifications confirming the specified durability and/or robustness measures.
All	A report of an inspection on location by the Assessor and photographic evidence by: i. Areas or parts of the building with an increased risk of damage. ii. On-site (robust) materials, sustainability measures or protective measures finish.

Definitions

No

Additional information

No

References

No

MAT 07

Design for disassembly and building passport

MATERIALS

Ensure a high degree of detachability (demountability) of the building materials, products and components used and properly document these materials. So that they can be valued more easily at the end of the building's lifespan, can be dismantled, and can be immediately reused with few interventions.ebruikt.

Available points	2
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✓

Question 1. Design for disassembly

Has the detachability of the building elements been sufficiently taken into account in the project?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, the mutual detachability of the building materials used for the project has been determined with the detachability tool and the LI building (Lig) is greater than 55% for ground-level homes or greater than 50% for residential buildings.
EP	b.	Yes, the mutual detachability of the building materials used for the project has been determined with the detachability tool and the LI building (Lig) is greater than 65% for ground-level homes or greater than 60% for residential buildings.

Question 2. Building passport (Minimum standard Very Good)

Has a building passport been drawn up?

POINTS	ANSWER	SELECT ONE ANSWER
1	c.	Yes, a building passport has been drawn up and made available.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	All building materials and products in accordance with the Determination Method of the National Environmental Database must be included in this credit. The materials scope is therefore the same as that of MAT 01.	All
CRITERIA FOR QUESTION 1		
2.	The detachability has been determined with a tool approved by DGBC, which works in accordance with the report “Circular Buildings Measurement Methodology Releasability version 2.0” or more recent. Approved tools can be found in the Help text of the online guideline.	A, b
3.	Building services must be included in the detachability calculation.	A, b
4.	The detachability requirements of reused objects are in accordance with new objects.	A, b
5.	The detachability of all objects included in the calculation must be indicated on the design. If answer option C is also selected, information about the disassembly must be included in the building passport.	A, b

6.	All detachable objects must be included in a clear digital disassembly manual upon completion of the building, which is part of the hand-over documents for the building manager. This digital disassembly manual includes at least: i. Overview of the elements (four digit NL/SfB coding) ii. Li_g index of the total project iii. Name and type of every detachable object iv. Manufacturer/supplier of every detachable object v. Image of coding (see beyond) vi. A clear description (instructions for use) of the mounting method for each object and disassembly, of type link. vii. Per object the accessibility by the link viii. Per object the crossings ix. Per object the form containment x. Required tools, material, storage and transport facilities and professional knowledge disassembly xi. If BIM is used for the project: recording/linking by all releasable objects of their connections and LI element score in the BIM model. NB. A printout of the as-built completed detachability tool contains much of the above facts. If answer option C is also selected, this information about releasability must also be included in the building passport.	A, b
CRITERIA FOR QUESTION 2		
7.	A building dossier has been drawn up in which at least 80% of the volume of materials used in the building (based on the scope of the Determination Method of the National Environmental Database) is included.	c
8.	The building passport for the entire project consists of the complete (digital) overview of all material passports for the components. The building passport must provide an overview of where the materials are located in the design (design certificate) and on the delivery (final certificate, 'as built'). The passport is customizable and transferable and the data can be translated into an 'open' format, preferably CSV and contains at least the following information: i. Producer with contact details (name and address, website, email address, telephone number, country of residence). ii. Material/product description; with product trade name, type designation, most important function(s), and explanation how It material/product is built up NL/SfB classification to layer 3 (e.g 23.03). iii. Whether or not the material/product has CAT1 input in the environmental performance calculations. iv. If Answer Option A or B is also selected, then the releasability (criterion 5) must be and the disassembly manual (criterion 6) of the relevant elements are included in the passport.	c

9.	It building passport handed over to the relevant parties. In case of owner-occupied homes these are: i. The buyer(s), ii. Possibly: the HOA or management organization Where possible, provide a building passport of the individual home to the buyer in question. In case of rental properties: iii. The building owner iv. Possibly the management organization	c

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

OBJECT

Within this credit, the term object is used for all releasable materials, products, components, etc.

Additional information

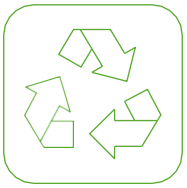
Detachability within construction products and materials is already included in the new version of the NMD, and therefore assessed at MAT 01. This releasability issue concerns the mutual connections between objects in/on the project building, and how these can be dismantled/ taken apart.

Theoretically, a completely detachable object in a building has an associated score of element releasability - score LI element = 1. An object that would not score in any respect for releasability scores LI - element = 0.

References

No

Waste



SUMMARY

This category encourages sustainable management practices in the design and construction phases of development. This is in addition to the commissioning, transfer and aftercare activities to ensure proper use of the home. The influence and role of local residents, stakeholders and future users is central to this.

CONTEXT

A significant share of materials is required for the development of homes. Of which, too many materials are released during demolition that reach the end of their 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. Goal 12 of the United Nations 'Sustainable Development Goals' includes 'responsible consumption and production'. The aim is to achieve sustainable management and efficient use of natural resources. By 2030, waste flows must be significantly reduced through prevention, reduction, recycling and reuse. It is essential that the real estate sector 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 overall materials use.
6. Choosing reused or recycled materials instead of primary materials.
7. Use raw materials that cause less damage to society and the environment.

Assessment issues

WST 01	Waste management on the construction site	3 points + 1 EP
Value:	- Efficient use of resources by developing a waste management plan prior to demolition, which maximizes material recovery during demolition and diverts non-hazardous waste from landfill	

WST 03	Storage area for recyclable waste	2 points
Value:	- Encourages waste separation and storage facilities for residents to encourage the reuse, repurposing or recycling of waste.	

WST 04	Design and finish	2 points
Value:	- Minimizes material waste by tailoring the design and finish of the homes to future residents.	

WST 05	Climate adaptation	2 points + 1 EP
Value:	- Encourages measures to minimize the impact of more extreme weather conditions due to climate change over the lifespan of the home.	

WST 06	Adaptive design	4 points
Value:	- Encourages design and measures to enable future changes in the use of the home during its lifespan.	

Construction waste management

Promote efficient resource use by encouraging effective waste management and reuse on construction sites.

Available points	: 3
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✗
Minimum standard	: ✓

Question. Waste management

Is efficient use of raw materials promoted by effective waste management and is reuse on the construction site encouraged?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, there is An waste management plan (Minimum standard Very Good).
2	b.	Yes, the main contractor, waste collector and waste processor have the minimum required certifications and at least 80% of the waste and demolition material released is seperated on the construction site and reused (Minimum standard Outstanding).
EP	c.	Yes, the main contractor, waste collector and waste processor have the minimum required certifications and at least 90% of the waste and demolition material is seperated on the construction site and reused

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	When assessing an extension to existing buildings, where only the extension is assessed, only the extension needs to meet the criteria.	All
2.	Construction and demolition waste in accordance with the Building Decree Regulations 2012 Article 4.1 paragraph 1 is separated at the construction site, but does not count towards the recycling and/or reusability share within this credit. Commercial waste is also excluded .	All
3.	“Reuse” means (according to the Waste Framework Directive): any action whereby products or components that are not waste are reused for the same purpose for which they were designed.	All
4.	The waste processing and recycling at least meets the minimum standard for processing of the relevant LAP3 sector plan for the material. If the LAP3 has transitioned to the CMP1, this is the minimum standard. The application date of the building permit determines whether LAP3 or CMP1 must be followed.	All
5.	. To earn points, a project-specific waste management plan must be drawn up for the demolition/construction phase.	a
6.	The waste management plan inventories the expected amount of hazardous and non-hazardous waste material released in the design phase (indicated in tons and/or m3) and this is also compared with the actual amount of material released in the construction phase for the completion certificate.	a

7.	The waste management plan consists of at least: i. Inventory of the expected amount of hazardous and non-hazardous releases waste material (indicated in tonnes and/or m3) per waste category. ii. Inventory of the expected quantity of demolition material released from existing ones buildings, structures or paved areas. iii. Objectives for the reduction of waste material released iv. Objectives for reuse and/or transformation of these facilities and/or waste materials. If this is not possible, targets are set for the recycling of these materials, with priority given to high-quality applications.	a
8.	The waste management plan also takes into account: i. All construction, demolition and industrial waste released on the construction site. ii. Environmental effects of all waste released. iii. Plan of approach for the construction phase to safeguard objectives.	a
9.	The amount of waste material released is monitored and the objectives are evaluated at least once every two weeks.	a
10.	A person has been appointed by the project team to implement the objectives.	a
11.	Upon completion, it must be reported to what extent objectives have been achieved. When reusing and recycling materials by a certified recycling company, a report from the waste processor indicates what percentage of a specific waste stream is reused or recycled.	a
12.	The non-hazardous waste material must be separated at the construction site and disposed of separately. Post-separation by the waste processor is not appreciated by BREEAM-NL.	B, c
13.	Where possible, the proportion of hazardous waste material is reused or recycled to a high standard. Where this is not possible, this must be substantiated.	B, c
14.	Can non-hazardous waste material not be reused in the construction project (criterion 19i and 21i) or another construction project (criterion 19i and 21ii)? Then only points can be achieved for responsible collection and recycling (criterion 19iii and 21iii), provided it can be demonstrated that reuse was not possible. It must then be demonstrated that this is not a consequence of the demolition or processing/separation method on the construction site.	B, c
15.	When reusing and recycling materials by a certified recycling company, a report from the waste processor indicates what percentage of a specific waste stream is reused or recycled. Categories D to F from the Lansink Ladder (Incineration for energy generation, Incineration and Landfill) are not rated by BREEAM-NL.	B, c
16.	The main contractor, waste collector and waste processor have ISO 9001 certification and ISO 14001 certification. Instead of ISO 14001, the CSR performance ladder level 3 is also sufficient, with construction waste being part of the scope.	B, c
17.	If an organization is still in the process of obtaining an ISO 14001 certificate and this can be demonstrated, the requirements for a design certificate can be met. The burden of proof is the registration or contract with an ISO 14001 certified institution, which demonstrates that the procedure has been started. The certificate must have been obtained for the completion certificate.	B, c
18.	Answer option A is met.	b
19.	At least 80% of the non-hazardous waste material (indicated in tonnes and/or m3) must meet at least one of the following requirements: i. Have been reused in the construction project. ii. Being reused in another construction project. iii. Being reused in a different way through responsible collection and recycling the supplier or a certified recycling company.	b
20.	Answer options A and B have been met.	c

21.	At least 90% of the non-hazardous waste material (indicated in tonnes and/or m3) must meet at least one of the following requirements: a. Have been reused in the construction project. b. Have been reused in another construction project. c. Being reused in a different way through responsible collection and recycling the supplier or a certified recycling company.	c

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria.

Definitions

No

Additional information

LAP3 AND CMP1

The policy for safe and high-quality processing of waste in the Netherlands is included in LAP3 (National Waste Management Plan). But a circular economy not only requires good waste management at the end of the chain. With the CMP1 (Circular Materials Plan), the State Secretary wants to expand the scope of the current LAP, with more guidance on the higher steps of the waste hierarchy that are important for a circular economy, such as reuse and prevention.

WASTE MANAGEMENT PLAN

For existing buildings, structures or paved areas that are nominated for demolition, an inventory is made before demolition to determine whether reuse and/or transformation of these facilities is possible. If this is not the case, an inventory is made of whether the released materials can be reused or recycled, with priority given to high-quality applications. The inventory will:

- Investigate whether reuse and/or transformation is possible.
- Mapping the most important demolition materials.
- Indicate the most important (high-quality) applications for reuse and recycling.
- Mapping sales of demolition materials: reuse on site, to urban mining, to recycling companies.
- Mapping environmental effects.
- Indicate objectives for material efficiency and labor intensity in relation to waste reduction and yield of materials.

Construction waste management

Measures are taken to minimize the release of waste material, tailored to the set objectives. Waste reduction activities include:

- Set waste reduction targets and report on them.
- Design for the standardization of components.
- Return packaging for reuse.
- Consider communal reuse of scraps or trimmings.
- Include waste minimization initiatives and targets in bids for tenders or contracts, and involve the supply chain.
- The use of a building information model (Building Information Modeling - BIM).
- Designs for off-site or modular construction.
- Designing with an eye for flexibility, adaptability and future deconstruction.
- Design to use fewer materials.
- Use of reusable temporary elements such as formwork and protection.
- This list is not complete and more waste reduction measures could be included.

References

No

Construction waste management

Storage space for recyclable waste

Designating facilities for the separation and storage of waste during the use of the building, to encourage the reuse, repurposing or recycling of waste.

Available points	2
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✕

Question. Storage area

Are there suitable facilities available to reuse, repurpose or recycle residents' waste?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, there are both individual and communal facilities for household waste to be collected separately according to local regulations.
1	b.	Yes, there is a communal facility for local composting in the residential building or within 200 meters of the building or single dwelling.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The individual waste separation facilities are available per home or communal kitchen.	a
2.	Individual waste separation facilities offer the option of separating waste in the home, with separate facilities that are collected in separate streams according to municipal regulations. This includes at least: i. Glass (colored glass is classified as one waste stream) ii. Paper and cardboard iii. Plastic iv. Metal packaging (such as tin) v. Beverage cartons	a
3.	If the home has an area of less than 30 m2, a communal waste separation facility on the same living floor is also sufficient.	a
4.	Residential buildings have individual waste separation facilities in communal areas with a residential or user function. These are maintained by the building manager.	a
5.	The communal waste collection facilities are located in the residential building or within walking distance of the home(s).	a
6.	If communal waste collection is not arranged in the residential building itself, this must be done at maximum distance are arranged according to local regulations. If there are no municipal facilities or local regulations, the communal collection must be no more than 50 meters from the external entrance.	a

Storage space for recyclable waste

7.	If the communal waste containers are not managed by the municipality, they meet the following requirements: i. Is accessible to residents or the manager for the removal of waste and suitable for the collection service of waste processors. ii. Is accessible to people with mobility limitations. iii. Is adequately illuminated, ventilated and soundproof for safe use, with minimum nuisance to building users and local residents during opening hours. iv. Provides sufficient space for vehicles to maneuver and load, ensuring safe to ensure access for waste processors if the collection takes place in the building.	a
8.	If the communal waste containers are not managed by the municipality, there are waste collection facilities for at least the following waste flows: i. Glass (colored glass is classified as one waste stream) ii. Paper and cardboard iii. Plastic iv. Metal packaging (such as tin) v. Beverage cartons vi. Batteries and accumulators vii. Lamps viii. Clothing, textiles and shoes i. ix. Cooking oil/frying fat	a
9.	The composting facility must have a designated, clearly visible and signposted location and be accessible to all residents.	b
10.	The local composting facility complies with applicable laws and regulations and there is a plan for processing and/or application of the compost.	b
11.	For communal facilities there is at least one water outlet for cleaning in and around the facility.	b
12.	Residents are informed about the composting facility's working methods and receive at least the following information: i. How composting works and why it is important. ii. Which materials cannot be composted. iii. Details of the operation and management plan for a common composting facility scheme. iv. Where adequate external composting facilities are available, information about it should be available solving problems. For example, about a question such as 'What to do if the compost becomes too dry or too wet?'	b
13.	In each individual or communal kitchen there is sufficient internal container space (large enough for at least a 7 liter container) for the storage of separated compostable organic material.	b
14.	If an adequate local shared compost facility cannot be achieved, the credit can also be obtained from one of the following facilities: i. An accessible local municipal or community compost service, run by a local authority or a private organisation. ii. A management plan that ensures that food or green waste is properly disposed of and delivered to an alternative composting facility. iii. A municipal or private collection system for compost. Criterion 14 and 15 remain applicable.	b
15.	The collection of organic waste in itself is not rewarded within this answer option.	b

Storage space for recyclable waste

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

Furnishing and finish

Coordinate the design and finishing with future residents to prevent unnecessary material waste.

Available points	: 2
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Furnishing and finish

Is the finish and design of the building and the individual homes coordinated with the future resident(s) and has unnecessary material waste been prevented?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, if (part of the) building is developed for specific tenants or buyers, they have selected the finish and furnishings themselves or have agreed to the applied finish and furnishings.
1	b.	Yes, the kitchen or bathroom is circular.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	If the user is not involved in the choice of furnishings and finishes, this credit cannot be obtained.	All
2.	When finishing and furnishings are applied in rental or owner-occupied homes, materials with the longest possible lifespan are used.	All
3.	If it can be demonstrated that the building will be delivered without finishing/furnishing, 1 point can be automatically awarded.	a
4.	All furnishings and finishing components used in the building or home fall within the scope of answer option A. Equipment includes (if applicable) at least: i. Kitchens ii. Bathrooms iii. Furnishings iv. Other applied device Finishing includes (if applicable) at least: v. Floor finishing vi. Wall finishing vii. Other applied finishes	a
5.	In residential buildings, the design, facilities and finishing in communal living areas or spaces with a specific function are tailored to the future residents.	a
6.	If the future residents are unknown, it must be demonstrated that the design and finish of the communal living areas suit the intended target group.	a

7.	In individual owner-occupied homes, the furnishings of the kitchen, bathroom and applied finishes have been coordinated with the buyer(s), or they have given approval for the chosen furnishings and finishes, or no furnishings and finishes have been applied.	a
8.	In individual rental properties, the design of the kitchen, bathroom and applied finishes are coordinated with the future tenants.	a
9.	If homes are rented furnished, this furnishing must also meet the set criteria requirements to qualify for a point.	a
10.	If the intended tenants are not yet known, it must be demonstrated that the furnishings and finishes suit the intended target group.	a
11.	The rental contract states that the furnishings and finishes used by the client may not be removed or adjusted without the landlord's permission.	a
12.	To achieve this point for owner-occupied homes, at least 75% of the homes must meet the criteria requirements. For rental properties, all properties must comply.	b
13.	The design is circular and meets at least the three following criteria: i. The device used is modularly designed for disassembly and is replaceable modules. ii. The device is easy to adapt (without loss of material) for another target audience. i. iii. There is a return agreement with the supplier before the end of the service life.	b
14.	The point can be achieved if the entire kitchen or bathroom meets the criteria requirements.	b
15.	It must be demonstrated why the applied circular kitchen or bathroom contributes to the purpose of the credit. The circular design has a demonstrably lower environmental impact than traditional design.	b

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

Climate adaptation

Encouraging measures that reduce the effects of extreme weather conditions due to climate change and make the building more robust and adaptive throughout its lifespan.

Available points	2
Exemplary performance	✓
Contains prerequisite	✓
Contains filter	✗
Minimum standard	✓

Question 1 (Prerequisite). flood risk assessment

Has a flood risk assessment been carried out and is the outcome communicated to residents?

POINTS	ANSWER	SELECT ONE ANSWER
n/a	A.	Yes, a global flood risk assessment has been carried out and the outcome is being communicated to residents.

Question 2. Climate risk assessment

Has a detailed climate risk assessment been carried out and have the necessary mitigation measures been implemented in the design?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
2	b.	Yes, a detailed risk assessment of all relevant climate risks has been carried out and mitigating and/or adaptive measures are required and implemented. (mandatory from Outstanding).
EP	c.	Yes, all criteria requirements from Table WST05.1 have been met, whereby the credits are demonstrably an integral part of the development.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1 PREREQUISITE		
1.	The global flood risk assessment determines the current risk of flooding. For a flood risk assessment, the maximum water depth is determined to demonstrate an area's susceptibility to flooding. If the area is sensitive to flooding, further investigation must be conducted into the location-specific risk of the different maximum flood depths.	a
2.	The outcome of the global flood risk assessment is shared in communications with future residents. This must be clearly visible in the sales and/or rental information.	All
CRITERIA FOR QUESTION 2		
3.	The climate risk assessment was carried out according to the method in Guidance Note NBW-WST05, Climate Risk Assessment Methodology.	b

4.	A competent person must be involved to properly substantiate the credit. A competent person is an individual (or individuals) with sufficient knowledge and experience who is (or are) able to: i. Determine the potential for flooding and other climate risks in the region. ii. Recognize and interpret various data sources from, for example, online maps. iii. Determine the expected impact on the environment, the plot and the building. iv. Can identify appropriate mitigation measures.	b
5.	Mitigation and/or adaptive measures aim to manage climate risks and at least the following aspects have been addressed and demonstrated: i. The possible mitigation and adaptation measures have been assessed for feasibility in the project context. ii. The measures reduce threats to the extent that this is feasible in practice. iii. The design (or specifications) have been adapted to the risks determined in the risk analysis measures to be included in the final design.	b
6.	There is a justification for the risk assessment. This indicates which data has been used and that this data is valid and relevant to the location.	b
7.	If all points as described in Table WST05.1 have been achieved, an EP point can be obtained.	c

Tables

Table WST05.1 Overview of the credit points and criteria required to obtain the EP point

ISSUE	LIMIT VALUE	POINT
HEA04 Thermal comfort	increasing risks of overheating .	All points are achieved
ENE 01 Energy- efficient	Reduce energy consumption to contribute On A lower CO_2 emissions.	At least 8 points have been obtained for ENE 01.
ENE 04 Passive design	Avoiding unnecessary CO_2 emissions .	All criteria for answer option A are achieved.
WAT 01 Water consumption	Limiting the demand for water.	At least 3 points have been achieved for WAT 01.
POL 03 Rainwater run-off	Prevent, reduce and slow down rainwater runoff to sewers and waterways.	At least 2 points have been achieved for POL 03.

Methodology

No

Adaptation to climate change

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

WST 06
Adaptive capacity

WASTE

Encouraging measures that respond to future changes in use during the lifespan of the building.

Available points	: 4
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✕

Question. Adaptive capacity

What is the percentage of adaptive capacity of the home or building?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	The home or building has an adaptive capacity of ≥ 37%
2	b.	The home or building has an adaptive capacity of ≥ 50%
3	c.	The home or building has an adaptive capacity of ≥ 75%
4	D.	The home or building has an adaptive capacity of ≥ 84%

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The score was determined using the calculation tool “Adaptive Capacity Method”. Completed in accordance with “User instructions for calculation tool” and the “supporting document”.	All
2.	A substantiation shows that the stated performance is being achieved in the project.	All
3.	The current version of the calculation tool at the time of registration of the project must be used.	All

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Adaptive capacity

Definitions

No

Additional information

No

References

- DGBC - Method Adaptive Assets Buildings - https:// www.dgbc.nl/publicaties/method-adaptief-power- buildings-59

Land Use and Ecology

SUMMARY

This category encourages sustainable land and soil use, habitat protection and long-term creation and improvement of biodiversity. This revolves around the development of the house, the plot and the environment. Credits in this category are about the reuse of used land or sites of low ecological value, protection and improvement of ecology and long-term biodiversity management. This involves looking at professional ecological substantiation and the involvement of the residents.

CONTEXT

One of the United Nations Sustainable Development Goals (SDGs) is related to 'life on land' (Goal 15). One of its goals is to 'integrate ecosystems and biodiversity values into national and local spatial planning and development processes'. The landscape and ecological facilities that are an integral part of the home, the plot and the boundaries of the home can have a significant impact on the wider environment. Implement and manage your landscape and ecological facilities correctly, this can have a positive impact on the ecological values of the development. It is therefore important to understand the current values and condition characteristics of the site, and to maximize the existing ecological values of the development and the environment.

Assessment issues

LE 01	Site selection and healthy soil	4 points
Value:	- Encourage the use of previously developed land and thus prevent valuable green land from being damaged. - Stimulates healthy soil use through soil improvement, minimal damage and remediation.	

LE 02	Ecological value and protecting ecological values	2 points
Value:	- - Encourages proper application and implementation of the Nature Conservation Act (Environmental Act from 2024). - - Identifies current ecological values and protects them during work.	

LE 04	Nature-inclusive location	2 points
Value:	- - Encourages an integrated approach to the home, plot and environment to enhance ecological value and increase biodiversity. - - Encourages the use of indigenous native plants to support habitats.	

LE 05	Long term use ecological value	3 points
Value:	- - Increase residents' awareness of the ecological values of the development through active management. - - Encourages good management for long-term use of the ecological value.	

Site selection and healthy soil

Stimulating developments on reused land, to leave undeveloped land untouched as much as possible and to develop on healthy soil.

Available points	: 4
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question 1. Reuse land

Does the development's footprint take place on previously developed land?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, the amount of reused land, as a percentage of the development's footprint, is ≥75%.
2	b.	Yes, the amount of reused land, as a percentage of the development's footprint, is ≥95%

Question 2. Healthy soil

Is the soil of the development location ready for a healthy and future proof usage?

POINTS	ANSWER	SELECT ONE ANSWER
1	c.	Yes, two measures have been taken to ensure healthy soil quality of the development location.
2	D.	Yes, three measures have been taken to ensure healthy soil quality of the development location.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1		
1.	A percentage of the development's footprint is on land previously developed for industrial, commercial, social, residential and/or fixed infrastructure.	A, b
2.	The footprint of the development concerns all square meters on the lot/plot that will be addressed for the project. This means the footprint of all buildings and pavements, and newly constructed landscaping. Temporary facilities, for example a temporary office, construction site, parking, material or machine storage, are also included in the calculation of the footprint of the development.	A, b

3.	The following categories of sites (land) that have natural values do not fall under the definition of reused land: i. Land or 'greenfield' that was previously intended for agriculture, forest or nature and landscape development. ii. Country of ecological value according to EU Taxonomy (see definitions). iii. Land that has been used for mineral extraction or waste dumping, with the landscape subsequently restored. iv. Green areas in built-up areas such as: parks, public gardens, hedges, play areas recreational areas, sports fields or allotments. v. Land that had previously been developed, but where the remains of permanent (surface) structures (e.g. ruins) have over time been absorbed into the landscape as part of the 'natural' environment.	A, b
4.	If an existing building is expanded, the percentage of the footprint applies to the new part to be constructed. The existing building may not be included in the calculation.	A, b
5.	If an existing building or function is moved by the construction project to another location with non-reused land, there is an indirect negative impact. This is undesirable because construction will still take place on land that is not reused. In this case, one must assess the project based on the land use of the building being relocated.	A, b
CRITERIA FOR QUESTION 2		
6.	Healthy soil quality is stimulated by applying at least two of the recommendations below (based on the Soil Agenda of 'Below the Ground') at the development location. Recommendations: i. Soil health is an integral part of the tender criteria, assessed by a soil ecologist. ii. In the design of the spatial development, soil covers and compaction are minimized. iii. Earth moving and the use of foreign soil is minimized. iv. Before delivery, compaction of the soil is minimized, through the soil again to be milled open. v. Upon completion, soil improvement has been applied to the gardens and public green areas good soil quality (4-6% organic matter). vi. If construction takes place at a location with serious soil contamination, the ground for the current development has been cleared. This must be evident from a decision in accordance with Article 29 of the Soil Protection Act -	C, D
7.	In the case of remediation (criterion 6.vi.). In many cases, a BUS report may suffice instead of a remediation plan. In both the BUS procedure and the regular remediation procedure, the competent authority must have an evaluation report at the end of the remediation. This makes it possible to assess whether the remediation has been carried out properly.	C, D
8.	Removing asbestos from existing buildings does not count as remediation for the Exemplary Performance. If asbestos is present in the soil, the location will be eligible for the EP after remediation.	C, D

Tables

No

Site selection and healthy soil

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

EU TAXONOMY

For land intended for agriculture or forest, the destination is based on the EU Taxonomy for economic activities, Annex 1. Documentation from current municipal zoning or environmental plans is used to determine whether the destination of the development land does not have an agricultural or forest destination.

a. Arable land and cultivated land with moderate to high soil fertility and subsurface biodiversity is mentioned in the EU LUCAS survey, in accordance with the EU Taxonomy.

b. Undeveloped land with recognized high biodiversity value and land that serves as habitat for endangered species (flora and fauna) included on the European Red List 295 or the IUCN Red List296.

c. For land designated as forest, the definition used by the Food and Agriculture Organization of the United Nations (FAO) is: 'Areas of more than 0.5 hectares with trees taller than five meters and a canopy cover of more than 10 percent, or trees that can reach these thresholds on site. Land used mainly for agricultural or urban purposes is not included in this concept.

DEVELOPMENT LOCATION

The development location does not only mean the plot of the building development, if it is part of a larger development.

Additional information

No

References

EU taxonomy - https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R2139
below lt ground level - https:// www.onder-het-maaiveld.nl/
Ground cover - https:// www.bottomambities.nl/themas/bottomafdekking

Ecological value and protecting ecological values

Determine the ecological values, including risks and opportunities, of the development to prevent damage to the ecological values during and due to construction work.

Available points	2
Exemplary performance	✗
Contains prerequisite	✓
Contains filter	✗
Minimum standard	✓

Question 1 (prerequisite). Ecological quick scan

Has an ecological study been carried out in accordance with the Nature Conservation Act?

POINTS	ANSWER	SELECT ONE ANSWER
n/a	A.	Yes, an Ecological Quick Scan for species has been carried out.

Question 2. To protect ecology

Has a nature report been drawn up prior to construction activities and will ecological values be protected?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	b.	Yes, a nature report was drawn up by a recognized ecologist prior to the construction activities and shared with the project team.
1	c.	Yes, all existing elements of ecological value on the construction site are protected during the work (mandatory from Very Good).

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1 PREREQUISITE		
1.	Prior to the construction activities, a 'Quick scan for species according to the Nature Management Act' was carried out at the development site, within the framework of the Nature Conservation Act. This includes a possible recommendation for further research into the occurrence of protected species on which the work will have an effect.	a
CRITERIA FOR QUESTION 2		
2.	Before starting work and preparing the project location for construction, the client/developer appoints a certified ecologist to draw up a nature report. Early enough to influence the preparation work, layout and, where necessary, strategic design decisions.	B, c

Ecological value of site protecting ecological values

3.	The nature report describes the location from coarse to fine, and includes at least the following: i. An overview of the species (flora and fauna) that are protected under the Nature Conservation Act and that (may) use the plan area during the work. A duty of care applies at all times to all species (flora and fauna), so that adverse consequences are prevented and reduced. ii. An overview of rare Red List species (endangered to critically endangered) that (could) use the site. iii. The current location of the plan area and its surroundings: within or outside the Natura 2000 areas and parts of the Netherlands Nature Network. iv. A reference to municipal green plans (or building envelopes) for the plan area, which contain specific regulations for the development of green facilities at the construction site. v. Potential of measures for habitats that may be significant for special or rare natural values on a regional scale. vi. Current qualities and potential ecological value of the development site and related areas within the sphere of influence. Taking into account (direct and indirect) risks and feasibility for strengthening (local) biodiversity. vii. A description of the current and future layout of the plan area. All elements of ecological value (flora, fauna and habitats) that are present on the construction site prior to the work are identified. It is also stated what will happen to these elements in the future. viii. An ecological work protocol aimed at protecting the qualities present, protecting and dealing with potential risks during the work must be included. ix. If mitigating measures are applied, the justification for this must be included in the ecological work protocol, as well as the way in which they must be implemented.	B, c
4.	A certified ecologist is a person who: i. Has completed a course at higher professional or university level with a focus on: ecology, and/or ii. As a practicing ecologist working for an ecological consultancy firm that is affiliated with the Green Bureaus network, and/or iii. Demonstrates professional commitment to species protection and is affiliated with the existing organizations in the Netherlands (such as: Das en Boom, VZZ, RAVON, Bird Protection, Dutch Butterfly Foundation, Natural History Society, KNNV, NJN, IVN, EIS Netherlands, FLORON, VOFF, SOVON, etc.).	B, c

Ecological value of site protecting ecological values

5.	Coordination between ecologist and project team takes place in the Structure Design phase (STB 2014). This can continue throughout the project as major decisions are made that impact ecological options. Collaboration takes place early in the project to optimally utilize the potential, opportunities or risks of ecological values in project development. The ecologist is actively involved in the project team to discuss what the optimal options are and how they can be realized. Project team members include, but are not limited to: • Client, owner, resident(s) • Developer, design team, contractor • Landscape architect, ecologist • Architect and relevant advisors, as hydrologist Where relevant, the project team also consults with other stakeholders such as: • Local authorities, municipalities, provinces or water boards • • (Local) biodiversity or nature conservation authorities	b
6.	Small-scale projects with minimal impact do not require formal consultation with all stakeholders to discuss when the choices are in accordance with, or go beyond, local municipal nature policy. Such as municipal point systems, local strategy and action plans for biodiversity, etc. The ecologist can advise on what substantiation is required for the evidence.	b
7.	The criteria of answer B are met	c
8.	All existing elements of ecological value on the construction site are protected during the work, in accordance with the ecological work protocol from the nature report (criterion 3.viii.)	c
9.	The ecologist determines which landscape and ecological elements require protection during construction work (including preparing the site for construction), the following elements are assessed for their value below: i. Valuable trees are more than 10 years old and/or thicker than 10 cm in circumference and/or considered valuable by the recognized ecologist. ii. Hedges, verges, groves, grasslands, hedgerows and other natural landscape elements that need protection. iii. Watercourses and wetlands (wet areas). iv. Protected species present. v. Breeding nest sites for birds and bats.	c
10.	The work protocol is aimed at avoiding elements of ecological value during the planning, preparation and implementation of the construction project. It may prescribe concrete measures to preserve ecological values. The certified ecologist ensures that these are carried out properly and draws up a report on this after completion.	c
11.	Elements of ecological value must be prevented from disappearing as part of the construction work or preparation for construction. The ecologist must always be involved and advise if there are situations that could cause damage. In those cases it is possible to apply mitigating measures. This means that values are moved, restored or compensated in accordance with the ecological work protocol (criterion 3.viii.). See Methodology for mitigating measures.	c
12.	If there is a loss of ecological value of the existing elements, and no realistic mitigation measures can be applied, points for question 2 cannot be awarded.	c

Ecological value of site protecting ecological values

13.	If work has already been carried out, such as preparation for construction when the land was owned by another party, the recognized ecologist will base his research for the nature report on the situation before the start of the work. This may involve desk research, which in any case uses photographic material of the landscape design and surroundings of the construction site before the work.	a - c
14.	If the development is a transformation or redevelopment, the situation prior to the demolition or dismantling work is also part of the report, as are protective measures.	a - c

Tables

No

Methodology

MITIGATION MEASURES FOR LOSS OF ECOLOGICAL VALUE

The ecological work protocol prescribes how existing values must be protected. But despite taking measures to prevent and protect against negative impacts, harm may still occur or be unavoidable. In those special cases it is possible to move ecological values on or from the location.

The following levels may be used hierarchically for this purpose. The ecologist determines which measures are realistic and feasible for the project.

1. Move and retain

Mitigation measure so that the original values can be preserved. An ecologist must confirm that the ecological value, including the long term, remains unaffected after the relocation. At a minimum, changing soil, light and climatic conditions must be taken into account.

2. To recover

The mitigation level of restoration is applied if moving and preserving is not possible and there is a loss of value as a result of the work. An ecologist should confirm and advise how an equivalent permanent facility for the lost value can be restored to the site.

3. Compensation

Ecological compensation is the last resort to counter the negative impact of construction activities.

This remedy is only used after everything possible in the mitigation hierarchy has been done to prevent a negative impact on ecological qualities. Compensation may include permanent improvements to existing habitats. Or a replacement habitat is provided, which is comparable in biological characteristics and ecological functions to the habitats that have been lost or damaged. Compensation can take place both inside and outside the project location, according to the following ranking:

1. At the development site
2. Adjacent location of the development site

Ecological value of site protecting ecological values

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..
1	The Ecological quick scan
2 - 14	The nature report

Definitions

DEVELOPMENT AREA

When drawing up the nature report, the development area was defined by BREEAM-NL as 'the entire plot of the construction project to be developed, including (temporary) buildings and storage areas, paved surfaces and unpaved landscape elements, plus a zone of 3 meters around this plot'.

QUICK SCAN SPECIES

The Quick Scan types are drawn up prior to construction work in accordance with the Nature Conservation Act.
If necessary, the quick scan will be expanded with further research into the occurrence of protected species on which the work will have an effect. For an overview of the required components, see the definition list of the Network of Green Agencies; https://www.netwerkgroenbureaus.nl/download/Definitielijst-Netwerk-Groene-Bureaus-2021.pdf. The quick scan overlaps in parts with the requested parts in the nature report. It is not necessary to prepare two separate reports if this is the case.

SMALL SCALE PROJECTS

A small-scale development is < 8 homes and is not part of a larger area development of public space.

Additional information

No

References

No

Nature-inclusive location

Encouraging measures for the ecological shared use of the residential location and the surrounding area by plant and animal species.

Available points	: 2
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✓

Question. Nature-inclusive construction

Are the principles of nature-inclusive construction applied in the development?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, facilities are provided in and around the home for at least 2 habitats (mandatory from Excellent).
2	b.	Yes, facilities are provided in and around the home for at least 5 habitats (mandatory from Outstanding).

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The criteria for Question 1 - Answer C of LE 02 - Protecting ecological value have been achieved. The nature report that has been drawn up forms the basis of the possible nature measures that can and will be applied at the location.	A, b
2.	The facilities that are made for at least 2 or 5 habitats are realized based on the philosophy of nature-inclusive construction. The facilities must focus on creating a habitat for animal species. Species for which habitats can be created are birds, bats, amphibians, reptiles, invertebrates and mammals.	A, b
3.	The facilities used for a habitat are integrated in, around and near the home. i. Natural facilities integrated into the home such as: living areas or nesting stones in the facades and roofs for building-dependent species. ii. Natural facilities around the house such as: green roofs and/or green facades, plot divisions and ecological greenery in the garden. iii. Natural facilities in the vicinity of the house, such as: green public space, connecting routes for animals in the vicinity of the house.	A, b
4.	Measures for nature-inclusive construction are recommended in the nature report drawn up by the Ecologist. The measures have ecological value by integrally designing the measures based on the Five measures; food, reproduction, safety, connection and variety. An integral design must be drawn up at project level, showing how the Five Rs are part of the development. It must also be clear that they have been carried out in this way. See also methodology.	A, b

5.	At least 60 percent of the vegetation used consists of indigenous plants grown in the Netherlands. No invasive plants should be used at all to prevent overgrowth and eradication of native plants. The origin of the added plants is displayed on Labels, quality marks, grower information, etc. An overview of the plants used must be included in an inventory. Systems used in the Netherlands include: i. NL Green label sustainability passport ii. Onthewaytoplanetproof iii. Groenkeur iv. Insert Quality Label Green v. 'struikrovers'	A, b
6.	Facilities in and around the home are tailored to the species already present in the vicinity of the home (criterion 3.iii). Existing facilities may be accepted if they meet the intended habitat requirements.	A, b
7.	A certified ecologist is a person who: i. Has completed a course at higher professional or university level with a focus on: ecology, and/or ii. As a practicing ecologist, she works for an ecological consultancy firm affiliated with the Green Bureaus network, and/or iii. Demonstrated professional commitment to species protection affiliated with the existing organizations in the Netherlands (such as: Das en Boom, VZZ, RAVON, Bird Protection, Dutch, Butterfly Foundation, Natural History Society, KNNV, NJN, IVN, EIS Netherlands, FLORON, VOFF, SOVON, etc.)	A, b

Tables

No

Methodology

Ecological value is added to the project based on the ecologist's recommendations. The LE 02 nature report examined the current values, local species and values in the immediate vicinity, the potential and opportunities of the development location. The species for which a habitat is created are preferably present in the area. Connecting to existing species increases the species' chances of successful development (one of the values for nature-inclusive construction).

The ecologist must always take into account in his or her recommendation and its implementation that created habitats provide the five Rs of reproduction, safety, food, connection and variation. For invertebrates, microclimate conditions such as heat, moisture and temperature changes are taken into account.

The facilities are integrated in, around and near the homes. If there are nearby

of the home is already a facility that provides the V with nutrition within the habitat, this can be accepted. If there is no facility in the vicinity of the home that can provide one of the V's, then this must be realized. If this is not possible, it cannot be accepted.

Species for which habitats can be created are birds, bats, amphibians, reptiles, invertebrates and mammals. See the credit page of LE 04 on directive.breeam.nl for more background information and successful measures to develop habitats for species.

Nature-inclusive location

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..
All	The Nature report

Definitions

HABITAT

A habitat describes the conditions that an area must meet to ensure that a certain animal species can survive there. Habitat is a description of the resources that a particular species needs. For the LE04 credit, the designation 'the five Rs' further explains what these resources are.

NATURAL NATIVE PLANTING

Autochthonous native plants are plants that naturally occur in the Netherlands. The origin of plantings is important for biodiversity in the Netherlands. It is assumed that the planting occurred naturally in the Netherlands before 1500.
These are originally native species (archaeophytes). The individuality and origin of the native species can be checked in the Standard List of the Dutch Flora 2020.
Non-native species often have a different flowering time that does not correspond to the period in which many insects need food. Or the trees or plants are not recognized as a food source by insects and are not visited. This is not the case with native plants. These are usually insect attracting plants.

FIVE R's

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 Vs, it is difficult for species to make use of the measures offered. Because without food nearby, a species will not use the location as a place to stay.

- Reproduction: nesting facilities for animal species, housing boxes, nest boxes, insect boxes, breeding piles and stones so that species can nest here.

- Safety: hedges, shrubs and trees that provide shelter, safe zones are created through different height levels, which also include ground protection.

- Food: providing facilities such as plants that are used directly as food such as nectar, pollen, seeds and kernels. Or that attract insects that are interesting as food. Good soil quality for soil life

- Connection: creating green-blue structures to connect locations. Consider approach routes or a connecting route with tree or shrub species to and from the location.

- Variation: Alternation in planting, difference in flowering time, use of height and level differences, deciduous and not deciduous.

Additional information

No

References

No

Long term use ecological value

Encouraging good maintenance, use and monitoring of ecological values in the use phase.

Available points	: 3
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Maintenance and management

Is the maintenance and management of the outdoor space and the ecological facilities guaranteed to enable long-term use of the facilities?

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, future residents are encouraged to make their private outdoor space green and maintain it.
1	b.	Yes, the maintenance of the private or shared green areas is carried out by a manager.
1	c.	Yes, monitoring takes place on the existing ecological facilities.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	At least 1 point has been achieved for LE 04 - Nature-inclusive location.	a - c
2.	Future residents are actively encouraged to design their own outdoor space (e.g. garden, patio or balcony) in an ecologically responsible manner. This can be encouraged by, but not limited to: i. Draw up a garden design with a recognized ecologist or ecological garden designer. ii. Make a budget available for ecological facilities. iii. Residents are encouraged to create an NLGarden label with a minimum ambition level of B with the help of a professional.	a
3.	A maintenance plan or as part of the manual for residents (MAN 04) includes space for maintaining the ecological facilities from LE 04 and additional green facilities as part of the rental or purchase contract of the home. In any case, this includes: i. The facilities and the desired condition of the facilities. ii. The ecological value of the facilities from LE04 and their purpose. iii. Points of attention for maintaining the facilities of LE04en landscaping. iv. Points of attention for management without using harmful and/or artificial means. v. Contact information for resolving problems with the facilities.	a

Long term use ecological value

4.	The maintenance and management of the private or shared green areas is carried out by an appointed manager on the basis of a drawn up ecological management plan. The manager may differ per type of project and be responsible in different forms. An administrator can be, but is not limited to: i. A Garden Committee or other residents' initiative to be set up by the residents maintains the facilities. ii. An external manager is held responsible for the management and maintenance by the owner, corporation or VVE.	b
5.	A management plan has been drawn up by the ecologist or landscape/garden designer for the maintenance of the project's ecological and green facilities that fall within the general areas or gardens. The management plan is included as part of the manual for administrators (MAN 04). The management plan shall in any case include: i. The facilities and their desired condition. ii. The ecological value of the facilities from LE04 and their purpose. iii. Actions and responsibilities for the management of the facilities. iv. Points of attention for maintaining the facilities and keeping them accessible of LE 04 and green areas. v. An ecological protocol that describes how the facilities remain adequate set sustainability criteria for the next six years. vi. Extra attention for the first two years in terms of establishment, active removal of weeds.	b
6.	The nature report includes how the monitoring of the facilities for ecological value can be monitored. The recommendation for monitoring makes it clear: i. The recommended monitoring for a period of six years. ii. What the expectations and objectives of the facilities are. iii. What species are these intended for? iv. How good management and maintenance can support the objectives. v. How monitoring findings affect management and maintenance.	c
7.	Monitoring takes place to protect or preserve added natural values. Monitoring can be applied in different ways: i. An ecological expert engaged for this purpose is responsible for monitoring and implementing any improvements to the facilities. ii. Monitoring takes place as part of a citizen science project at the location, coordinated by a responsible agency, municipality or organization. Participants are actively involved in monitoring, guided and feedback is provided.	c

Tables

No

Methodology

No

Long term use ecological value

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
All	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

CITIZEN SCIENCE

Neighborhood science in which citizens are involved in managing, monitoring and controlling the available greenery and natural values. Involvement of the residents is encouraged and management can take place under the guidance of a (scientific) body.

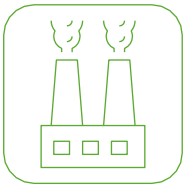
Additional information

No

References

No

Pollution



SUMMARY

This category addresses the prevention and control of pollution associated with the location and use of the home. This will reduce the building's impact on surrounding communities and environments due to light pollution, noise, flooding and emissions to air, land and water.

CONTEXT

'Good health and well-being' is Goal 3 of the United Nations Sustainable Development Goals.

One of the sub-goals is to 'significantly reduce the number of deaths and illnesses caused by hazardous chemicals and the pollution and contamination of air, water and soil by 2030'. BREEAM-NL contributes to this by limiting emissions from buildings in the use phase, which impact air quality. This can provide a healthy environment for all demographic and economic groups, including those who are less privileged or part of a vulnerable population.

Assessment issues

POL 01	Impact of refrigerants	3 points
Value:	- Limits the contribution of refrigerant emissions to climate change.	

POL 02	Reducing air pollution	2 points
Value:	- Encourages homes with a limited impact of combustion systems in the home on local air quality.	

POL 03	Surface water run-off	5 points + 1 EP
Value:	- Encourages homes that minimize the impact of rainwater on flooding, pollution and other environmental damage.	

POL 04	Reduction of light pollution	1 point
Value:	- Limits the impact of nighttime light pollution through careful design and specification of light sources.	

POL 05	Reduction of noise pollution	1 point
Value:	- Reducing the impact of external noise from the home on the environment.	

POL 01

POLLUTION

Impact of refrigerants

Stimulating the use of refrigerants in heating and cooling installations and systems, with a low contribution to the greenhouse effect and to climate change.

Available points	: 3
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Refrigerants

Has a refrigerant with a low environmental impact been used in heating and cooling installations and systems?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, a refrigerant has been used with an impact of GWP-100 ≤ 100
2	b.	Yes, a refrigerant has been used with an impact of GWP-100 ≤ 10
3	c.	Yes, a natural and environmentally friendly refrigerant has been used with an impact of GWP-100 = ≤ 1 OR no refrigerants have been used.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	All systems must comply with the requirements of NEN-EN 378:2016+A1:2020 or ISO 5149:2014. Refrigeration systems that contain ammonia must also comply with PGS13:2021, for flammable refrigerants NPR 7600:2020 and carbon dioxide NPR 7601:2020	All
2.	This credit applies to the refrigerants used in installations installed in or on the home or residential building, in particular for comfort cooling and heating (such as heat pumps) and to the refrigerants in installations outside the home, residential building or grounds. (such as a collective WKO or district heating).	All
3.	If refrigerants are used in the home with a refrigerant charge in each system of ≥ 3 kg, leak detection is applied.	A, b
4.	Leak detection systems include: i. A permanent automatic detection system for refrigerant leakage, it is a solid and tested detection system that is able to continuously check for leaks OR A built-in automatic diagnostic procedure for leak detection is installed. ii. The system must be able to isolate the remaining refrigerant(s) automatically and to contain in response to an identified leak.	A, b
5.	If no refrigerant is used, three points can be selected. The points for answer option C can be awarded if it is demonstrable that no refrigerants are used for the installations. This is a prerequisite for thermal comfort HEA 04 - answer B is met.	c

Impact of refrigerants

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
-	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

GLOBAL WARMING POTENTIAL (GWP)

The contribution to the greenhouse effect expressed in CO2 equivalents. The addition '100' concerns the review period of 100 years. (The contribution of the refrigerant over 100 years). The current list of common types of refrigerants with a GWP value over 100 years can be found in Appendix 8A - Table 8.A.1 - column GWP 100-year of the document: https://www.ipcc.ch/ site/ assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf (from page 731)

Additional information

No

References

No

Preventing local air pollution by requiring the use of heating and hot water installations that do not emit emissions on location.

Available points	: 2
Exemplary performance	: ✗
Contains prerequisite	: ✓
Contains filter	: ✗
Minimum standard	: ✓

Question 1 (prerequisite). Fossil fuels

Does the home(s) use fossil fuels to produce heat or cold or are there combustion appliances for recreational purposes?

POINTS	ANSWER	SELECT ONE ANSWER
n/a	A.	No, the homes do not use fossil fuels and there are no combustion appliances for recreational purposes.

Question 2. Nitrogen emissions

Are there combustion appliances in the houses present that emit nitrogen?

POINTS	ANSWER	SELECT ONE ANSWER
1	b.	Yes, and the maximum dry NOx emission related to space heating and tap water (at 3% excess O2) is less than or equal to 35 mg/kWh under normal conditions. (mandatory from Excellent)
2	c.	Yes, and the maximum dry NOx emission related to space heating and tap water (at 3% excess O2) under normal conditions is 0 mg/kWh (mandatory from Outstanding)

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
CRITERIA FOR QUESTION 1 PREREQUISITE		
1.	No fossil fuels such as natural gas are used to produce heat or cold in the homes.	a
2.	There are no combustion appliances in the home for recreation, such as decorative fireplaces.	a

CRITERIA FOR QUESTION 2		
3.	The NOx emission is calculated in accordance with the described methodology. Does electric space heating, cooling and hot water use self-generated electricity from renewable sources? It can then be assumed that there are no NOx emissions. Renewable energy sources that do not emit NOx are defined as: i. Solar energy ii. Wind energy iii. Local residual heat originating from, for example, industrial processes on or directly next to the project location. Purchased green energy and heat and/or electricity from biomass is not considered renewable energy.	B, c
4.	If electricity from the national grid is (partially) used for space heating, cooling and hot tap water, the average NOx emission is calculated with the key figure of 223 mg/kWh for non-earmarked electricity.	B, c

Tables

No

Methodology

CALCULATE NOX EMISSION LEVELS FROM COMBINED COMBINATION SYSTEMS (CHP SYSTEMS)

If CHP systems are present or prescribed, only heat-related emissions are counted for this credit. The NOx emissions are allocated for heat and electricity according to the respective energy supply.
This is done by dividing the NOx emissions between electricity and heat generation. The following formula is used to determine this distribution:

X=Ax(B/(B+C))

TERM	DESCRIPTION
X	NO_x emissions per unit delivered heat (mg/kWh heat)
A	NO_x emissions per unit fuel input (mg/kWh fuel)
B	Heat supply (output in kW)
C	Delivered electricity (output in kW)

The above methodology determines the net NOx emissions from electricity generated by cogeneration, compared to centrally generated electricity, and allocates this amount to heat production.
If X is negative, then the NOx emissions for the installation are zero.

CALCULATE AVERAGE NO_x EMISSION LEVELS WITH MULTIPLE SYSTEMS

If multiple installations are used for heating space and tap water, the average NOx emission applies to this credit. The NOx emissions of a system count proportionally based on the share in heat output. This is equal to the ratio in the energy performance calculation in ENE 01. For district heating systems with multiple installations, the average emissions of the last three years are used.

Reducing air pollution

The average NOx emissions are calculated using the following formula:

$NO_x avg = N1 X (H1/HT) + N2 X (H2/HT) ... + Nn X (Hn/HT)$

TERM	DESCRIPTION
$NO_x avg$	Average NOx
N1	NO_x emissions for installation 1
N2	NO_x emissions for installation 2
Nn	NO_x emissions for installation n
HT	Total amount of heat produced
H1	Produced heat Through installation 1
H2	Heat produced by installation 2
Hn	Heat produced heat Through installation n

CALCULATE NOX EMISSION LEVELS FROM ELECTRICALLY DRIVEN HEAT PUMP SYSTEMS

Heat pumps use electricity to generate heat. Therefore, for electric heat pump systems, the reference value of the NOx emission of electricity from the national grid must be multiplied by the electricity consumption of the heat pump. The resulting total NOx emissions are then allocated to the heat produced.
When calculating the NOx emissions of a heat pump, the efficiency, or the measured SCOP (Seasonal Coefficient of Performance) in accordance with NEN-EN 14825, must be used.
With a SCOP of 3.8 and a reference NOx emission for electricity from the grid of 223 mg/kWh, the NOx emission is: NOx emission = 223/3.8 = 58.7 mg/kWh (based on this no point can be awarded).

CALCULATION EXAMPLE

If a heat pump that is partly electrically driven and partly uses PV panels is used for space heating and tap water in a residential building, the calculation below can be used as an example.

Example calculation

- Total consumption heat pump = 15,000 kWh
- 10,000 kWh is generated with PV panels
- 5,000 kWh is deliverd from the power grid
- SCOP = 4
- NO_x emissions = 5,000 X 223 mg/kWh (the default for energy from the grid) = 1,115,000 mg
- 1,115,000 mg / 4 (SCOP) = 278,750 mg
- 278,750 mg / 15,000 (total kWH of the heat pump) = 18.58

Based on this example, 1 point is awarded for the credit.

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
-	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Reducing air pollution

Definitions

No

Additional information

No

References

No

Surface water run-off

Preventing, reducing and delaying the discharge of precipitation to public sewers and natural waterways. This limits the risk of local flooding, pollution and other environmental damage.

Available points	5
Exemplary performance	: ✓
Contains prerequisite	: ✗
Contains filter	: ✓
Minimum standard	: ✓

Question. Rainwater

Have measures been taken to reduce the amount of stormwater runoff and prevent pollution??

POINTS	ANSWER	SELECT ALL APPLICABLE ANSWER OPTIONS
1	A.	Yes, a rainwater retention capacity for precipitation of 70mm per hour for one hour has been achieved for the plot of the house or residential building.
2	b.	Yes, measures have been taken to ensure that rainwater from the plot flows into natural or municipal waterways at a maximum rate of 1 L/s/ha or 3.6 mm/m2/hour (mandatory from Outstanding).
2	c.	Yes, measures have been taken against pollution at parking facilities with a risk of pollution.
EP	D.	Yes, measures have been taken to ensure that the retention capacity is available again in a timely manner.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
FILTER OPTION		
1.	**FILTER** If there are no parking spaces, or if they pose no risk of pollution, answer option C will be filtered from the credit.	c
CRITERIA FOR THE QUESTION		
2.	Water retention capacity of 70mm per hour for one hour means that the capacity of water retention facilities must be sufficient to store this rain at the location. This capacity must be fully available again within 72 hours.	a
3.	Unpaved surfaces, unlike paved surfaces, have a retention capacity. If the paved/unpaved ratio of the house or residential building is not specified, then 50/50 paved/unpaved must be used for the outdoor areas.	a
4	The criteria for answer option A have been met.	b
5	It must be demonstrated that the implemented retention facility reduces the discharge of rainwater so much that the rainwater flows off by a maximum of 1L/s/ha or 3.6 mm/m2/hour. This answer option may also be selected if answer option D is met.	b

6.	The retention facilities serve as retention facilities for rainwater on the entire plot. Rainwater must be able to reach the facility. A green roof is a suitable retention facility for rainwater that falls on the roof, but not suitable for rainwater that falls on a lower area on the plot.	A, B, D
7.	Parking areas are considered areas at risk of pollution if the parking lot has 15 or more parking spaces. Measures must be taken here to prevent pollution. Think of: i. Oil separators have been installed in the drainage system, which treat the rainwater before it flows into natural or municipal waterways. The capacity of the oil separators is dimensioned for a precipitation amount of 150 l/s/ha. This is equivalent to a precipitation amount of 54 mm/m2 in one hour. ii. Permeable paving in combination with a filter cloth that helps break down oil residues with a minimum oil retention of 500 gr/m2. iii. Permeable paving in combination with an alternative measure that breaks down or collects oil residues. The minimum oil retention must be equal to option i or ii.	c
8.	The oil separators are specified conform the NEN-EN 858	c
9.	The criteria for answer option A have been met.	D
10.	The rainwater must also be able to leave the facility that (temporarily) stores rainwater. This is to guarantee that the retention facility functions in the event of new precipitation. To ensure that the retention facility has sufficient capacity in a timely manner, one of the following three methods must be used. i. Dynamic flow where the speed at which rainwater leaves the facility can be adjusted. The set speed can be determined based on weather forecasts and/or competent authorities such as the (local) water board. i. ii. The required precipitation amount is completely infiltrated into the soil within 72 hours.	D
11.	It is possible to meet the criteria requirements at different scale levels. This way you can realize a rainwater retention facility at a home, residential building, residential block or at neighborhood level. The same applies to parking facilities and the associated measures to prevent pollution.	All

Tables

No

Methodology

No

Surface water run-off

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
-	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..
6 and EP	A confirmation from the authority that a dynamic control system is controlled by the authority, if applicable.
EP	A calculation of the infiltration capacity of the soil to guarantee timely drainage of the retention facility.

Definitions

No

Additional information

No

References

No

Reduction of light pollution

Ensuring that outdoor lighting is adjusted in such a way that the intended areas are illuminated and upward light is minimized, thereby limiting unnecessary light pollution and nuisance to residents, local residents and flora and fauna.

Available points	I
Exemplary performance	: X
Contains prerequisite	: X
Contains filter	: X
Minimum standard	: X

Question. Light pollution

Are there measures to ensure that no light pollution occurs?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, the design for the outdoor lighting is in accordance with the current Light Nuisance Directive of the Committee Light Nuisance - NSVV.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	For the credit ENE 04 - Energy-efficient outdoor lighting, all points relevant to the type of project have been achieved.	a
2.	If one or more of the type(s) of outdoor lighting below apply. The exterior lighting for the ground-level home concerns: i. Lighting at the front at the front door. ii. Lighting at the rear of the rear door. iii. Lighting in the garage, storage rooms/or garden entrance. The exterior lighting for a residential building concerns: iv. Lighting at the entrance to the private outdoor area or balcony. v. Lighting at the front door. vi. Lighting at all entrances to the residential building.	a
3.	When using outdoor lighting, the light must be aimed at the ground.	a
4.	The design for the outdoor lighting was carried out in accordance with the current Light Nuisance guideline, at the time of registration of the project, of the Light Nuisance - NSVV committee.	a

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
-	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

Reduction of noise pollution

Preventing and reducing noise pollution produced by installations attached to or around the home(s).

Available points	: 1
Exemplary performance	: ✕
Contains prerequisite	: ✕
Contains filter	: ✕
Minimum standard	: ✕

Question. Noise pollution

Has a measurement been carried out on location that confirms that the noise requirements set in the building decree have been met?

POINTS	ANSWER	SELECT ONE ANSWER
1	A.	Yes, a measurement by a qualified acoustic consultant confirms that the location complies with the maximum noise level.

Criteria

#	CRITERIA	APPLICABLE TO ANSWER
1.	The criteria requirements apply to individual and joint installations that lie completely outside the architectural shell.	a
2.	A qualified acoustic consultant carries out a noise measurement on location in accordance with the manual 'Measuring method of noise from outdoor installations for heat or cold generation'. Annex VIII (new to Stcrt. 2020, 62676 as of 01.04.2021) contains deviating and additional determination requirements for determining the noise level.	a
3.	The maximum sound pressure level of the installation(s) is 40 dB(A) at the plot boundary or, in the case of residential buildings, the nearest openable window or door.	a
4.	If there are several (same type) homes with different installation setups, or the homes are differently oriented in relation to each other, a representative sample must be taken to guarantee that the maximum noise level has been met.	a

5.	A qualified acoustic consultant is a person who meets all of the following requirements: i. Completed education at higher vocational or university level, completed with a diploma or equivalent completed appropriate training in acoustics or sound testing. ii. At least three years of relevant professional experience as an acoustic consultant (during last five years). Such experience should clearly demonstrate a practical understanding of the factors affecting acoustics, in relation to construction and the environment. This should include an advisory role to make recommendations for appropriate acoustic performance levels and mitigation measures. Does an adequately qualified acoustic consultant verify the acoustic measures or calculations of another acoustic consultant who does not meet the requirements? Then this qualified acoustic consultant must have read and checked the report and confirm in writing that it: i. Complies with sound industry practice. ii. Adequate in relation to the assessed building and the proposed size the work. iii. Does not contain incorrect, biased or exaggerated recommendations.	a

Tables

No

Methodology

No

Evidence

CRITERIA	REQUIREMENTS EVIDENCE
-	On the basis of one or more supporting documents as mentioned in chapter 4.0 BREEAM-NL Evidence, it must be demonstrated that the project meets the criteria..

Definitions

No

Additional information

No

References

No

Wij borgen een mooier **morgen**

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