

# MICROSHADE® IN BREEAM-CERTIFIED CONSTRUCTION



Introduction to

Micro  
Shade®

# Introduction to BREEAM

**BREEAM**, (Building Research Establishment Environmental Assessment Method), is an internationally recognized certification scheme that evaluates and promotes sustainability in construction and urban areas. The BREEAM Certification Scheme is designed to ensure that buildings and urban areas meet high standards of environmental, economic, and social sustainability.

The BREEAM Certification considers various aspects of a building or an urban area, including energy efficiency, materials and resources, waste management, transportation, the well-being of occupants as well as integration into the surrounding environment. The certification is based on a comprehensive assessment, where several criteria and parameters are assessed, and points are awarded in relation to how well the building or urban area meets these criteria.

The benefits of achieving a BREEAM certification include recognition of sustainable practices, enhanced marketability and viability of buildings, reduced energy consumption and environmental impact, and improved indoor environment for user comfort and well-being.

## BREEAM Manuals

The BREEAM Certification system has been adapted to align with the specific requirements of each host country. As a result, awards and criteria may vary when different BREEAM manuals are utilized. In this brochure we are focusing on:

- **BREEAM International New Constructions V6.0**
- **BREEAM Norway New Constructions V6.0**

In the end you will find an overview of which criteria MicroShade® effects for the manuals stated.

## BREEAM CERTIFICATE

To obtain the BREEAM classification for its construction, points must be earned within the 10 main categories to meet the minimum requirement. Overall, one of the five certification levels can be obtained.

|                     |                       |
|---------------------|-----------------------|
| <b>Outstanding:</b> | 85% Total Performance |
| <b>Excellent:</b>   | 70% Total Performance |
| <b>Very good:</b>   | 55% Total Performance |
| <b>Good:</b>        | 45% Total Performance |
| <b>Pass:</b>        | 30% Total Performance |

## BREEAM – MANUALS

**The manuals cover new construction within the following building types:**

- Residential Buildings
- Office Buildings
- Industrial Buildings
- Retail Buildings
- Education Buildings
- Residential Institutions
- Hotels & Residential Institutions
- Non-standard Building Types

# BREEAM-criteria

The BREEAM certification follows a flexible framework consisting of categorized into ten environmental sections. Each section includes minimum performance standards that a project must meet in each assessment category to achieve a specific certification level. In addition, BREEAM uses a points-based system to award credits based on how well a project performs in each section.

The obtained points are presented as a percentage of the maximum achievable points. The total score of a project is determined by the points earned in each section multiplied by their respective weightings. The resulting scores are then summed across all categories to determine the total score. Based on the percentage achieved, a building is awarded either Pass, Good, Very Good, Excellent, or Outstanding indicating its level of sustainability and performance.

It's important to acknowledge that the specific criteria and evaluation points may vary depending on the version of the BREEAM certification being used. Therefore, it is essential to refer to the relevant BREEAM documentation packages and guidelines provided by MicroShade A/S or the BREEAM itself for accurate and up-to-date information.

## INNOVATION CREDITS

BREEAM has introduced innovation credits to encourage the implementation of innovative practices within the building industry. These credits can be obtained through exemplary performance in the criteria or the recognition by BRE Global of an innovative technology, design or construction method.

### BREEAM ENVIRONMENTAL SECTION WEIGHTINGS

In BREEAM the environmental section weightings are adapted to the local conditions of the project. This adaptability suggests that BREEAM may be efficiently implemented across different regions while addressing local environmental priorities.

### BREEAM INNOVATION CREDITS

BREEAM encourages innovation in sustainable design and construction by offering innovation credits. These credits are awarded for implementing pioneering technologies, strategies, or practices that significantly advance sustainability goals and exceed standard BREEAM requirements.



The innovation credit can add up to 10% to the total score.

# MicroShade contribution to **BREEAM-certification**

MicroShade® has the potential to contribute to several criteria in BREEAM certification and can positively influence the innovation category in the certification process.

## **Calculation guidelines and transparent file sharing makes it easy to compare MicroShade® in your project.**

We have developed a comprehensive library of guidelines and files to ensure the correct and effective use of our products throughout all phases of construction. This extensive resource is freely available for download and utilization in your project. By providing these guidelines and files, MicroShade aims to promote good design practices and facilitate well-balanced decision-making from the beginning to the completion of your project.

## **MicroShade® - Product Environment Declaration**

MicroShade A/S provides an Environmental Product Declaration (EPD) that allows for a comparative analysis of MicroShade's product in relation to other similar products, specifically assessing their environmental performance. The EPD serves as a transparent and trustworthy source of information, as it undergoes independent third-party verification, ensuring its reliability.

# BREEAM – Documentation

At [MicroShade](#), you will find our BREEAM documentation, which contains relevant information for your BREEAM project.

The documentation files to download is:

- BREEAM-brochure
- Environmental Product Declaration (EPD)
- Technical User Manual

Some documentation may be provided in the form of calculation guidelines to support calculating thermal comfort and daylighting. The guidelines can be found on our website [MicroShade](#) ([www.microshade.com](http://www.microshade.com)) under the tab "FOR PROFESSIONALS".

MicroShade also provides the simulation tool, SimShade, which can advise industry professionals in glazing system compositions and shading solutions, ensuring informed decisions in the early design phase.

## MicroShade's contribution to BREEAM v6.0 International - certification of buildings

This list provides an overview of the criteria and the associated knowledge and product details offered by MicroShade A/S in BREEAM v6.0 International. It is important to note that the specific criteria in the BREEAM may vary between countries and versions.

| Criterion   | What can MicroShade® do, and what do we provide?  |
|---|---|
| <b>MAN 02</b> Life cycle cost and service life planning | MicroShade® offers a life span equal to a window system, eliminating the need to replace the shading device. In addition, MicroShade requires no maintenance. Furthermore, can an early price estimate to an LCC be taken directly from MicroShade online simulation tool ( <a href="#">SimShade</a> ). |
| <b>MAN 03</b> Responsible construction practices        | MicroShade® does not consider the CO <sub>2</sub> emissions from the production facility to the project site. However, the transport data are derived from the glass partner's factory/warehouse to the construction site.  |

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|--|--|
| <b>MAN 04</b><br>Commissioning and handover                | MicroShade® provides a sustainability and technical user manual. More Information is in our technical user manual.   |
| <b>HEA 01</b> Visual comfort                               | MicroShade® is optimized to provide optimal visual comfort due to the low g-value which gives the possibility of larger glass areas and, thus, good daylight and view-out conditions. MicroShade® provides daylight calculation guidelines for a large variety of building simulation tools, including BSDF files for a large variety of glazing and shading systems. The guidelines provide instructions to calculate a building's daylight, promoting health and well-being at work and home. The guidelines are on our website <a href="#">MicroShade</a> . |
| <b>HEA 04</b> Thermal comfort                              | MicroShade® is optimized to provide appropriate thermal comfort due to the low g-value. MicroShade® provides thermal comfort guidelines for a large variety of building simulation tools. The guidelines provide instructions to calculate a building's thermal comfort, promoting health and well-being at work and home. The guidelines are on our website <a href="#">MicroShade</a> .  |
| <b>ENE 01</b> Reduction of energy use and carbon emissions | MicroShade® is designed to reduce up to 26% the energy demand for cooling and heating. <sup>1</sup>  |
| <b>ENE 04</b> Low carbon design                            | MicroShade® is an element of a passive design concept designed to reduce the primary energy demand with no operational costs.  |
| <b>MAT 01</b> Life cycle impacts                           | MicroShade® has an EPD which offers an analysis of the environmental performance of our product. Furthermore, can MicroShade® reduce the need for cooling or ventilation and hence energy consumption of the building. Lastly MicroShade® offers a solution with lifetime of what of the insulated glazing system and no maintenance requirements.   |
| <b>MAT 06</b> Material efficiency                          | MicroShade® is a passive system placed inside the insulated glazing unit. This means that the waste on site is limited as no additional shadings should be used. Furthermore, MicroShade® only accounts for a small amount of the insulated glazing unit, where the general system can be reused while MicroShade® is burned off in the glass recycling phase.   |

<sup>1</sup> Compared to an external screen with 5% transmittance activated at 150 W/m on a south façade in Stuttgart with 40% window-to-floor ratio.

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**WST 01** Construction waste management

MicroShade® can contribute to diverting glass from landfill and recycling as the product does not complicate the process.

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**INN 01** Innovation

MicroShade® is an innovative product that can contribute to exemplary performance.

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## MicroShade's contribution to BREEAM v6.0 Norway - certification of buildings

This list provides an overview of the criteria and the associated knowledge and product details offered by MicroShade A/S in BREEAM v6.0 Norway. It is important to note that the specific criteria in the BREEAM may vary between countries and versions.

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| Criterion   | What can MicroShade® do, and what do we provide?   |
|---|--|
| <b>MAN 02</b> Life cycle cost and service life planning | MicroShade® offers a life span equal to a window system, eliminating the need to replace the shading device. In addition, MicroShade requires no maintenance. Furthermore, can an early price estimate to an LCC be taken directly from MicroShade online simulation tool ( <a href="#">SimShade</a> ).  |
| <b>MAN 03</b> Responsible construction practices        | MicroShade® does not consider the CO <sub>2</sub> emissions from the production facility to the project site. However, the transport data are derived from the glass partner's factory/warehouse to the construction site.   |
| <b>MAN 04</b> Commissioning and handover                | MicroShade® provides a sustainability and technical user manual. More Information is in our technical user manual.   |
| <b>HEA 01</b> Visual comfort                            | MicroShade® is optimized to provide optimal visual comfort due to the low g-value which gives the possibility of larger glass areas and, thus, good daylight and view-out conditions. MicroShade® provides daylight calculation guidelines for a large variety of building simulation tools, including BSDF files for a large variety of glazing and shading systems. The guidelines provide instructions to calculate a building's daylight, promoting health and well-being at work and home. The guidelines are on our website <a href="#">MicroShade</a> . |
| <b>HEA 03</b> Thermal comfort                           | MicroShade® is optimized to provide appropriate thermal comfort due to the low g-value. MicroShade® provides thermal comfort   |

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guidelines for a large variety of building simulation tools. The guidelines provide instructions to calculate a building's thermal comfort, promoting health and well-being at work and home. The guidelines are on our website [MicroShade](#).

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**ENE 01** The energy performance of the building

MicroShade® is designed to reduce up to 26% the energy demand for cooling and heating.<sup>2</sup>

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**MAT 01** LCA and greenhouse gas calculations

MicroShade® has an EPD which offers an analysis of the environmental performance of our product. Furthermore, can MicroShade® reduce the need for cooling or ventilation and hence energy consumption of the building. Lastly MicroShade® offers a solution with lifetime of what of the insulated glazing system and no maintenance requirements.

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**MAT 02** Product requirements

An EPD on MicroShade® is available which offers an analysis of the environmental performance of our product.

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**MAT 06** Material efficiency

MicroShade® is a passive system placed inside the insulated glazing unit. This means that the waste on site is limited as no additional shadings should be used. Furthermore, MicroShade® only accounts for a small amount of the insulated glazing unit, where the general system can be reused while MicroShade® is burned off in the glass recycling phase.

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**WST 01** Construction waste management

MicroShade® can contribute to diverting glass from landfill and recycling as the product does not complicate the process.

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**INN 01** Innovation

MicroShade® is an innovative product that can contribute to exemplary performance.

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<sup>2</sup> Compared to an external screen with 5% transmittance activated at 150 W/m on a south façade in Stuttgart with 40% window-to-floor ratio.



## Contact information



If you want to know more about MicroShade:

Visit [MicroShade](#).

Follow us on [LinkedIn](#).

Sign up for our newsletter on [MicroShade](#).

Try SimShade on [SimShade](#).

### **Address**

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