REPORT ON

The contribution of Garnica products to BREEAM credits

garnica

Challenge the ordinary

WHAT IS IT?

BREEAM

Building Research Establishment Environmental Assessment Method (BREEAM) is an internationally recognised method for assessing and certifying the sustainability of buildings.

Since its launch in 1990, BREEAM has certified more than 270,000 buildings and is now used in more than 63 countries around the world. Irrespective of their location, the common denominator of these buildings is that they have been planned, designed, constructed and operated in accordance with best practice sustainability principles.

BREEAM certification can add value to a building in areas such as:

- Reducing the operating costs and increasing the efficiency of your building
- Increasing the value of your assets
- Improving the well-being, productivity and satisfaction of the people that use the building.
- Attracting tenants and users
- Supporting the company's social responsibility

This document explains what BREEAM certification is, the transparency of its operation and how to obtain this certificate. It should be noted that although BREEAM certification is aimed at buildings and not materials, Garnica products can make a difference to your project. As we are always at the forefront of our industry, our clients have complete confidence in our products to achieve BREEAM certification.

HOW BREEAM WORKS

BREEAM certification assesses the energy performance of individual buildings to increase their value and attractiveness while improving living conditions for their users. Solutions are employed to enhance the value of your buildings, allowing you to optimise management and make it easier to obtain BREEAM certification.

The main building categories BREEAM can be applied to are Communities, Residential, New Construction and Buildings in Use.
This certification comprises a scoring system whereby buildings are rated according to their compliance with the requirements established by the organisation (BRE).

Illustration 1 - Assessment systems available in BREEAM

There are six rating benchmarks with the following progressive scale:

Illustration 2 - BREEAM rating benchmarks

In order to be certified, the building must comply with the requirements and credits established by the organisation. There are different categories that tackle different issues involved in the construction of buildings, such as energy, water, or the health and well-being of the people who live in the building. They are:

Sustainable Management. Good building management is fundamental to the performance and impact of the building during its entire life, from the commissioning stages through to the maintenance phase.

Health and Well-being. The indoor environment of the buildings in which we live, work, shop or socialise has proven to be a factor that is important in determining our quality of life. This category rewards everything that is designed to maximise occupant comfort.

Energy. The CO_2 emitted by buildings is already over 50% of total emissions. If CO_2 emissions resulting from the manufacturing, transport of materials and people are included, this figure rises to 75% of total emissions.

Transport. This category functions in tandem with the Energy category: aiming to minimise CO_2 emissions from transport and the movements that are generated by a building.

Water. Water shortages are becoming increasingly common. Planners and developers can influence how resources are consumed by the occupants of a building.

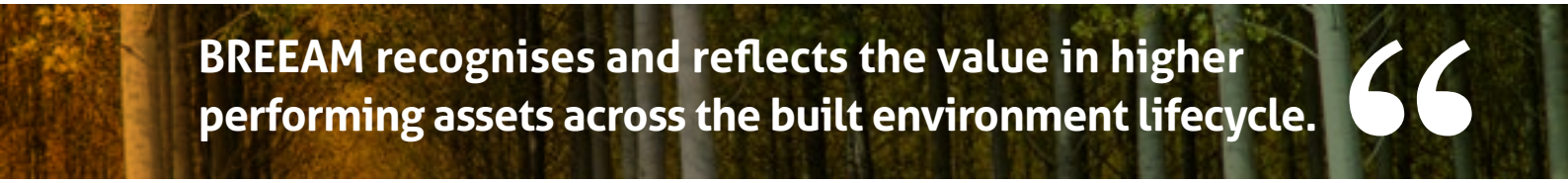
Materials. It is important to consider not only the raw materials used in the building, but also how much energy is used to create each building element.

Waste. An assessment is made of how effectively the waste produced by the construction industry at all stages during its operation is dealt with.

Land Use and Ecology. Many thousands of hectares of greenfield land has been developed. Careful thought should be given to the location of new constructions.

Pollution. Pollution has a number of environmental effects, such as acid rain, ozone depletion and flooding, which need to be assessed.

Innovation. BREEAM aims to achieve ever higher levels of environmental sustainability and in order to achieve this, innovation is a fundamental tool. Promoting innovation ensures that the principle of continuous improvement is implemented, both in technological and market terms.



ADVANTAGES OF USING

BREEAM

BREEAM challenges the still widespread cliché that good quality, sustainable buildings are significantly more expensive to design and construct than those that simply comply with mandatory regulatory requirements.

Recent studies on construction indicate that sustainable options often do not involve any increase in the investment cost of building projects and can even reduce it. Where additional costs are incurred, they are often offset by lower operating costs and ultimately lead to savings over the life of the building. These increased efficiency and the quality associated with the sustainability of these buildings also helps to make them more commercially attractive. For example, there is growing evidence that buildings with a BREEAM rating provide higher rates of return for investors, as well as higher rental prices and larger bonuses for developers and owners.

In addition, meeting the standards required by BREEAM requires careful planning, design, specification and development, as well as a good working relationship between the client and the project team. Using BREEAM as a tool throughout the project can also facilitate innovation, leading to potential cost savings and adding value by constructing better buildings that improve conditions for their users.

GARNICA PRODUCTS & BREEAM

Requirements fulfilled with and information available on Garnica products

GARNICA PRODUCTS	MATERIAL & RESOURCES. MAT 1 EPD	MATERIAL & RESOURCES. MAT 3 RESPONSIBLE SOURCING	MATERIAL & RESOURCES. MAT 4 INSULATION	HEALTH & WELL-BEING H&W 2 LOW-EMISSION MATERIALS	INNOVATION
Efficiency Poplar	X	(1, 2)	X	(2, 3)	X
Efficiency HDF		(1, 2)	X	(2, 3)	X
Performance Poplar		(1, 2)	X	(2, 3)	X
Performance Poplar HPL		(1, 2)	X	(2, 3)	X
Performance Ultra-Smooth		(1, 2)	X	(2, 3)	X
Reinforced		(1, 2)	X	(2, 3)	X
Infinity		(1, 2)	X	(2, 3)	X
Elegance		(1, 2)	X	(2, 3)	X
Fireshield	X	(1, 2)	X	(1, 3)	X
Duraply	X	(1, 2)	X	(1, 3)	X
Duraprime	X	(1, 2)	X	(1, 3)	X
Ultralight		(1, 2)	X	(2, 3)	X
G-Brick		(1, 2)	X	(1, 3)	X
Laudio LVL	X	(2)	X	(3)	X
Laudio Pine, Laudio Deco	X	(2)	X	(2, 3)	X
Laudio Form, Laudio Wire	X	(2)	X	(2, 3)	X
Laudio Form Plus, Laudio Wire Plus		(2)	X	(2, 3)	X

Notes: MAT 3: 1. Manufactured in an ISO 14001 certified facility; 2. Available as PEFC
H&W 2: 1. CARB / US EPA TSCA Title VI ULEF certified; 2. ULEF; 3. <0.05ppm EN 717-1

GARNICA PRODUCTS

Material and resources

The following tables show the level of compliance with the requirements and the resulting positive contribution for each of the selected credit categories.

ASSESMENT SYSTEM	NEW CONSTRUCTION		RESIDENTIAL
	INDUSTRIAL	OTHER BUILDINGS	NEW CONSTRUCTIONS AND REFURBISHMENT
POSSIBLE POINTS	2+1 exemplary level point	6+1 exemplary level point	5+1 exemplary level point
CREDIT CATEGORY	Materials		
CREDIT	MAT 1. Life cycle impacts		
AIM	To recognise and encourage the use of robust and appropriate life cycle analysis tools and, consequently, to specify building materials that have a low environmental impact (also in terms of carbon footprint) over the whole life cycle of the building.		
ASSESMENT PROCEDURE	Option 1: 1 point 1. Products with Environmental Product Declarations (EPDs) have been specified in at least 30% of the categories in the table below (where applicable): Option 2: 1 to 6 points 2. The project uses a life cycle analysis (LCA) tool to measure the environmental impact of the life cycle of the building elements.		
COMPLIANCE WITH REQUIREMENTS	The Efficiency Poplar, Efficiency Poplar PRM, Duraply, Duraprime, Fireshield, Laudio Deco, Laudio Form, Laudio LVL, Laudio Pine and Laudio Wire products have verified EPDs and so comply with option 1 of the credit (scoring: 100%) and contribute to the credit. Data from these EPDs are verified to ISO 15804 and numerous indicators of environmental impacts, waste generation and water and energy consumption are available.		
SUPPORTING DOCUMENTS	Environmental Product Declarations (EPDs).		

ASSESMENT SYSTEM	NEW CONSTRUCTION		RESIDENTIAL
	INDUSTRIAL	OTHER BUILDINGS	NEW CONSTRUCTIONS AND REFURBISHMENT
POSSIBLE POINTS	3+1 exemplary level point		4+1 exemplary level point
CREDIT CATEGORY	Materials		
CREDIT	MAT 3. Responsible sourcing of materials		
AIM	To recognise and promote the specification of responsibly sourced materials for major building elements.		
ASSESMENT PROCEDURE	This Requirement is divided into two parts: • Prerequisite It must be demonstrated that all timber used in the project is "legally harvested and traded timber". • Responsible sourcing Points are awarded for compliance with responsible sourcing requirements for the different building elements. To prove compliance, each product must be certified in accordance with one of the BREEAM responsible sourcing certification schemes. Each of these has been assigned a responsible sourcing certification level with the relevant points and this level will depend on the system used for certification.		
COMPLIANCE WITH REQUIREMENTS	Garnica products are manufactured in production centres where the key process, the manufacture of the product, is ISO 14001 certified, contributing to the prerequisite. In addition, GARNICA uses different suppliers for the raw materials used to make its products. Some of them have ISO 14001 for this process, which is considered by BREEAM in the supply chain process.		
SUPPORTING DOCUMENTS	Key process: ISO 14001 Supply chain process: Contact GARNICA		

ASSESMENT SYSTEM	NEW CONSTRUCTION	
	INDUSTRIAL	OTHER BUILDINGS
POSSIBLE POINTS	1 point	
CREDIT CATEGORY	Materials	
CREDIT	MAT 4. Insulation	
AIM	To recognise and encourage the use of responsibly sourced thermal insulation.	
ASSESMENT PROCEDURE	Compliance is demonstrated as follows: 1. Any new insulation that has been specified within the following building elements is assessed: a. Façades b. Floor slabs c. Roofs d. Facilities e. Partitions with air-conditioned spaces	
COMPLIANCE WITH REQUIREMENTS	Garnica products are manufactured in production centres where the key process, the manufacture of the product, is ISO 14001 certified, contributing to the prerequisite. Available with PEFC/FSC certificate according to product class; please consult type and availability.	
SUPPORTING DOCUMENTS	Key process: ISO 14001 Supply chain process: Contact GARNICA Certification and insulation data: Contact GARNICA	

ASSESMENT SYSTEM	NEW CONSTRUCTION		RESIDENTIAL
	INDUSTRIAL	OTHER BUILDINGS	NEW CONSTRUCTIONS AND REFURBISHMENT
POSSIBLE POINTS	3+1 exemplary level point		4+1 exemplary level point
CREDIT CATEGORY	Health and Well-being		
CREDIT	H&W 2. Indoor air quality		
AIM	To reduce concentrations of chemical contaminants that can damage air quality and the environment, and to protect the health, productivity, and comfort of installers and building occupants.		
ASSESMENT PROCEDURE	The Requirement is divided into five parts: • Minimising sources of air pollution (1 point) • Ventilation (1 point) • Volatile organic compounds - product and post-construction (2 points) • Particulate matter (1 point) • Radon gas (1 point)		
COMPLIANCE WITH REQUIREMENTS	Garnica products meet the requirement for Volatile Organic Compounds - product and post-construction (2 points), as they do not exceed the maximum permitted emissions (Formaldehyde ≤ 0.06 mg/m3, TVOC ≤ 1.0 mg/m3 and Category 1A and 1B carcinogens ≤ 0.001 mg/m3.		
SUPPORTING DOCUMENTS	Own emission studies in accordance with ISO 16000. Own formaldehyde studies in accordance with 717-1. BREEAM Report. Contact Garnica for comparative results.		

ASSESMENT SYSTEM	NEW CONSTRUCTION		RESIDENTIAL
	INDUSTRIAL	OTHER BUILDINGS	NEW CONSTRUCTIONS AND REFURBISHMENT
POSSIBLE POINTS	10 points		
CREDIT CATEGORY	Innovation		
CREDIT	Innovation		
AIM	To encourage innovation within the construction sector by recognising sustainability improvements that are not rewarded by standard requirements.		
ASSESMENT PROCEDURE	When the building demonstrates exemplary performance by achieving the exemplary level criteria defined in one or more of the following Requirements: a. SM 1 Sustainable management (1 point) b. H&W 2 Indoor air quality (1 point) c. ENE 1 Energy efficiency (1 point) d. TRA 3 Alternative modes of transport (1 point) e. WA 1 Water consumption (1 point) f. WA 2 Monitoring of water consumption (1 point) g. MAT 1 Life cycle impacts (1 point) h. MAT 3 Responsible sourcing of materials (1 point) i. WAS 1 Construction waste management (1 point) j. WAS 2 Recycled aggregates (1 point)		
COMPLIANCE WITH REQUIREMENTS	Garnica products would help to achieve the points of the requirements H&W 2 Indoor Air Quality, Mat 1 Life Cycle Impacts (where EPD available) and MAT 3 Responsible Sourcing of Materials, as they have been shown to meet the conditions set by each requirement.		
SUPPORTING DOCUMENTS	BREEAM Report.		

References & notes

References

BRE Group

BREEAM

BREEAM technical standards

Notes

1. *The information contained in this credit compliance document for the chosen BREEAM environmental certification scheme is based on the information provided by the company. In order to try to ensure compliance with these credits for any of the certificates, it is necessary to verify the validity of the information and data provided by the company. This document does not constitute product certification, nor does it guarantee compliance with local regulations.*
2. *The % impact reduction and the points obtained in the certification depend on the overall performance of all materials and products used in the construction of the building being certified.*
3. *The conclusions of this study apply only to the products mentioned in this report and are subject to the technical conditions of the product remaining constant and the requirements addressed by the certification schemes.*
4. *This document looks at how the products studied can contribute to the achievement of BREEAM certification. However, the final decision on whether or not a product meets the requirements for BREEAM certification rests solely with the BRE (Building Research Establishment).*

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CODE FOR A SUSTAINABLE BUILT ENVIRONMENT
BREEAM
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