



## BREEAM INTERNATIONAL NEW CONSTRUCTION 2016

### PRODUCT DATA FOR CERTIFICATION

### GLASS MINERAL WOOL ECOSE

**BREEAM (Building Research Establishment Environmental Assessment Methodology) INTERNATIONAL NEW CONSTRUCTION 2016<sup>1</sup>** is a voluntary standard that defines high performance green buildings which are healthier, more environmentally responsible and more profitable structures. Using independent assessors, BREEAM examines criteria covering a range of issues in sections that evaluate: management processes, health and wellbeing, energy, transport, water, materials, waste, land use and ecology, pollution and innovation.

**KNAUF INSULATION** products can put you on the right track to get the highest result for BREEAM.

BREEAM - Credit Category code	Assessment Criteria and Definition	Knauf Insulation Products contribution	Contributes towards
<b>Hea 02</b> <b>Indoor air quality</b>	Emissions from building products: the insulation materials are one of the 5 product types that needs to meet the emission limits. The following requirements are of application for insulation products: Formaldehyde $\leq 0.06 \text{ mg/m}^3$ ; Total Volatile Organic Compounds $\leq 1.0 \text{ mg/m}^3$ ; Carcinogens category 1A and B $\leq 0.001 \text{ mg/m}^3$	Glass Mineral Wool ECOSE products without any added formaldehyde are in compliance with the higher category (A+) of the French labelling system and with the requirements of the Eurofins Gold <sup>2</sup> for Indoor Air Comfort, see annexe 1.	<b>1 credit</b>
	Emissions from building products: the insulation materials are one of the 5 product types that could meet the emission limits for <b>exemplary level</b> emission criteria. The following requirements are of application: Formaldehyde $\leq 0.01 \text{ mg/m}^3$ ; Total Volatile Organic Compounds $\leq 0.3 \text{ mg/m}^3$ ; Total Semi-volatile Organic Compounds $\leq 0.1 \text{ mg/m}^3$ ; Carcinogens category 1A and B $\leq 0.001 \text{ mg/m}^3$	Glass Mineral Wool ECOSE products (with the exception of the products with black glass veil) are in compliance with the requirements for exemplary level as without any added formaldehyde and certified Eurofins Gold for Indoor Air Comfort, see annexe 1.	<b>1 credit exemplary level</b>
	Post-construction indoor air quality measurement: the total volatile organic compound and formaldehyde are measured and reported (thresholds for averaged formaldehyde concentration level $\leq 100 \mu\text{g/m}^3$ over 30 minutes and for averaged TVOC $\leq 300 \mu\text{g/m}^3$ over 8 hours).	Glass Mineral Wool ECOSE products without any added formaldehyde and certified Eurofins Gold for Indoor Air Comfort are helping to stay at a very low concentration level ((with the exception of the products with black glass veil).	 
<b>Hea 04</b> <b>Thermal comfort</b>	To ensure that appropriate thermal comfort levels are achieved through design, and controls are selected to maintain a thermally comfortable environment for occupants	Through the insulation level, insulation products contribute to the comfort level (heating and cooling) in accordance to ISO 7730:2005. Thermal modelling can be facilitated through Knauf Insulation expertise and available databases.	<b>1 credit</b>

<sup>1</sup>Technical manual : SD233 – 1.0:2016

<sup>2</sup> www.product-testing.eurofins.com

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<b>Hea 05 Acoustic performance</b>	To insure the building's acoustic performance, including sound insulation, meets the appropriate standards for its purpose	Products performance aims to reduce indoor ambient noise level and reverberation times in order to comply with regulations or good practices standards.	<b>1 credit</b>
<b>Ene 01 Reduction of energy use and carbon emissions</b>	To recognize and encourage buildings designed to minimise operational energy demand, primary energy consumption and CO2 emissions.	Glass Mineral Wool ECOSE products help reducing the 3 parameters: operational energy demand, primary energy consumption and CO2 emissions through the improving of energy building performance (e.g. Uvalue) in accordance with EPBD best practices and ASHRAE standard 90.1-2013 or 90.2-2007 (as applicable).	<b>15 credit</b>
<b>Ene 04 Low carbon design</b>	To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems.	Glass Mineral Wool ECOSE products contribute to implement passive design solutions that reduce building energy demand and associated carbon emissions.	<b>1 credit</b>
<b>Ene 05 Energy efficiency cold storage</b>	Energy efficient design, installation and commissioning: To encourage the installation of energy efficient refrigeration systems, therefore reducing operational greenhouse gas emissions. The building has been designed to minimize heat loads through high levels of insulation.	Glass Mineral Wool ECOSE products can contribute to high insulation efficiency in the design options.	<b>1 credit</b>
<b>Mat 01 Life cycle impacts</b>	To encourage the use of robust and appropriate life cycle assessment tools and specification of construction materials with a low environmental impact over the full life cycle of the building	The Environmental Products Declarations <sup>3</sup> (EPDs) are available and 3rd party verified against EN 15804, this allows to maximise points through Mat 01 calculator and contribute to reach the target of 5 products (10 products for exemplary level) with EPDs for additional points (with confirmation of use on the construction site at Post-Construction Stage).	<b>1 credit + 1 credit exemplary level</b>

<sup>3</sup> <https://www.knaufinsulation.com/downloads/environmental-product-declaration-epd/glass-mineral-wool-ecose%C2%AE-gmw>  
<https://ibu-epd.com/>  
<http://www.base-inies.fr>

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<b>Mat 03 Responsible sourcing of construction products</b>	To recognize and encourage the specification and procurement of responsibly sourced construction (RSC) products. Insulation Products with more than 50% recycled content (BREEAM Guidance note 18.v3.1 – 2018).	Products comply with RSC as they have minimum 50% and up to 80% recycled content (external cullet), see annexe 2. The key process is also covered by EMS (ISO 14001) which allows to meet the criterion of responsible sourced construction (RSC) products.	<b>3 credit</b>
<b>MAT 06 Material efficiency</b>	To recognise and encourage measures to optimise material efficiency in order to minimise the environmental impact of material use and waste without compromising on structural stability, durability or service life of the building. This includes procuring materials with higher levels of recycled content.	Glass Mineral Wool ECOSE products contain up to 80% of recycled components (external cullet) and contribute therefore to minimise the environmental impact of insulation, see annexe 2.	<b>1 credit</b>
<b>Wst 01 Construction waste management</b>	To promote resource efficiency via the effective and appropriate management of construction waste.	Packaging's (wood and plastics) and products itself are recyclable. Products cut-offs can also be used to fill some remaining tiny holes on working site. Mineral wool waste can be reused or recycled no matter the age or type.	<b>3 credit</b>
<b>WST 06 Functional adaptability</b>	To recognise and encourage measures taken to accommodate future changes of uses of the building over its lifespan, this includes the use of products or systems which allow easy replacements.	Glass Mineral Wool ECOSE products and technical principle of implementations may allow easy replacements of each component (Outside and/or inside use) and facilitate future adaptations or insulation reuse.	<b>1 credit</b>
<b>Pol 05 Noise attenuation</b>	To reduce the likelihood of noise, arising from fixed installations on the new development, affecting nearby noise-sensitive buildings.	Attenuation of noise by use of insulation mineral wool absorbers.	<b>1 credit</b>

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**Annexe 1: Hea 02 : Indoor Air Quality**

Here below the Eurofins Indoor Air Comfort Gold Certificate:



**BREEAM INTERNATIONAL NEW CONSTRUCTION 2016  
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**Appendix to Certificate**

IACG-323-01-25-2017

Knauf Insulation

receives the Indoor Air Comfort Gold certificate with validity 19 June 2022 for below product group, including subgroups and individual products listed in the following table:

Product group	Production site
Knauf Insulation unfaced GMW products with ECOSE® Technology	<ul style="list-style-type: none"> <li>Abu Dhabi, United Arab Emirates</li> <li>Bemburg, Germany</li> <li>Cwmbran, United Kingdom</li> <li>Eskişehir, Turkey</li> <li>Krupka, Czech Republic</li> <li>Lannemezan, France</li> <li>St Helens, United Kingdom</li> <li>Stupino, Russia</li> <li>Vise, Belgium</li> </ul>

The products in this group are based on identical or similar recipe and are produced under equivalent conditions. Grouping of the products and inspection of the production process is part of the Indoor Air Comfort Gold certification. A worst-case product, which is representative for the whole group, is being tested frequently.

 | **Product Testing**

## BREEAM INTERNATIONAL NEW CONSTRUCTION 2016 PRODUCT DATA FOR CERTIFICATION GLASS MINERAL WOOL ECOSE

**Annexe 2: Mat 03 Responsible sourcing of Glass Mineral Wool with ECOSE**

Material Category	Key Process	Key Supply Chain Process
<b>Insulation</b>		
Foam Insulation	Insulation manufacture	Main polymer production, e.g. Polystyrene, MDI, Phenolic resin or equivalent
Stone wool, glass & cellular glass made using < 50% recycled input	Product manufacture	Any quarried or mined mineral over 20% of input
Wool	Product manufacture	Wool scouring
Products using > 50% recycled content except those using timber	Product manufacture	Recycled content by default

Here below additional detailed information<sup>4</sup> by production site about yearly average external cullet utilized in the fabrication of the glass mineral wool products.

	<b>Vise (Belgium)</b>	<b>Lannemezan (France)</b>	<b>Eskisehir (Turkey)</b>	<b>Krupka (Czech Republic)</b>	<b>Bernburg (Germany)</b>
<b>Total recycled content (external cullet only)</b>	<b>80.4%</b>	<b>62.9%</b>	<b>78.2%</b>	<b>66.7%</b>	<b>50%</b>

On the next page, please find the ISO 14001 certificate for Key Process.

<sup>4</sup> Data 2018

**BREEM INTERNATIONAL NEW CONSTRUCTION 2016**  
**PRODUCT DATA FOR CERTIFICATION**  
**GLASS MINERAL WOOL ECOSE**

**BUREAU VERITAS**  
Certification



**KNAUF INSULATION SPRL**

Rue de Maastricht 95, 4600 Vise, Belgium

This is a multi-site certificate. Additional site details are listed in the appendix to this certificate.

*Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organization has been audited and found to be in accordance with the requirements of the Management System standards detailed below.*

**ISO 14001:2015**

*Scope of certification*

Design, Development and Production of Insulation Materials and Systems.

Certification cycle start date: **23 December 2016**

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **22 December 2019**

Original certification date: **23 December 2010**

Certificate no.: **BE010259**    Version: **1**    Revision date: **15 December 2016**

*Signed on behalf of BVCH SAS - UK Branch*

Certification body address: **66 Prescott Street, London, E1 8HQ, United Kingdom**  
Local Office: **Mechelsesteenweg 128-136 – B-2018 – Antwerp, Belgium**



Further clarifications regarding the scope of this certificate and the applicability of the Management System requirements may be obtained by consulting the organization. To check this certificate validity, please call **+32 (0)3 247 94 00**.



# BREEM INTERNATIONAL NEW CONSTRUCTION 2016

## PRODUCT DATA FOR CERTIFICATION

### GLASS MINERAL WOOL ECOSE

**BUREAU VERITAS**  
Certification



#### Appendix

#### KNAUF INSULATION SPRL

This certificate concerns below mentioned sites

D-09356 St. Egidien, Bahnhofstrasse 25, Germany  
SK-968 14 Nová Baňa, Železničný rad 24, Slovakia  
Knauf Insulation doo, 17530 Surdulica, Naselje Belo Polje bb, Serbia  
SLO-4220 Skofja Loka, Trata 32, Slovenia  
Chemistry Ln, Queensferry, Flintshire, CH5 2DA, United Kingdom  
Weststrasse 1, 06406 Bernburg, Saale, Germany  
D-84359 Simbach/Inn, Heraklithstrasse 8, Germany  
H-8924 Alsonemesapati (Zalaegerszeg), Ipartelep, Hungary  
NL-4903 RM Oosterhout, Florijnstraat 2, Netherlands  
Pontyfelin Works, A4051, Croesyceiliog, Cwmbran, NP44 2YQ, United Kingdom  
417 42 Krupka, Industrial Park Krupka, Pod Dolni drahou 110, Czech Republic  
Stafford Road, St Helens, Merseyside, WA10 3NS, United Kingdom  
Industrialnaya St, Estate 2, Stupino, Moscow Region, 142800, Russian Federation  
501 Voie Napoleon III 65300 Lannemezan, France  
400 East Walker, Shelbyville Plant 1, IN.46176, United States  
1 Knauf Dr., Shelbyville Plant 3, IN.46176, United States  
3100 Ashby Rd, Shasta Lake, CA 96019, United States  
3502 43rd Street SW, AL 36863 Lanett, United States  
Kamchatskaya 198, Tyumen 625034, Russian Federation  
75. Yil Mahallesi 1, Cadde 1/G, Küçük Organize Sanayi, 26250 Eskişehir, Turkey  
1000E North ST, MI 49224 Albion, United States  
Knauf Insulation d.o.o. Novi Marof, Varaždinska 140 Croatia  
Knauf Insulation Customized Solutions d.o.o. Vipavska 4L, SI-5270, Ajdovščina Slovenia  
4812 Tabler Station Rd, Inwood, WV 25428, United States

Certificate no.: **BE010259** Version: **1** Revision date: **15 December 2016**

*[Signature]*  
Signed on behalf of **BVCH SAS - UK Branch**

Certification body address: 66 Prescot Street, London, E1 8HG, United Kingdom  
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