

PRODUCT DATA FOR CERTIFICATION

GLASS MINERAL WOOL WITH ECOSE TECHNOLOGY

LEEDv4 (Leadership in Energy and Environmental Design) is a voluntary standard that defines high performance green buildings which are healthier, more environmentally responsible, and more profitable structures. Credits for certification can be earned in various categories, each with a unique focus on sustainable design: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation and design process.

KNAUF INSULATION products can put you on the right track for the highest result for certification!

LEED - Credit Category code	Definition	Definition Knauf Insulation Products contribution	
Energy and Atmosphere (EA) Optimize Energy Performance	To achieve increasing levels of performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.	ECOSE Technology products help reducing energy demand through very high insulation efficiency.	20 points
Materials and Resources (MR) Building Product Disclosure and Optimization – Environmental Product Declarations	To encourage the use of products where Life Cycle Assessment (LCA) is available and have environmentally, economically and socially preferable LCA. To reward project including products with verified LCA.	Third party verified Environmental Product Declarations (EDPs) are available on line for ECOSE Technology products ¹ .	2 points
Materials and Resources (MR) Building Product Disclosure and Optimization –	To encourage the use of products where LC A is available and have environmentally, economically and socially preferable LCA. To reward project including products verified to	ECOSE Technology Products are manufactured with up to 80% of recycled content (pre and post-consumer) ² .	1 point

Sourcing of Raw Materials

be extracted or sourced in a

responsible manner.

¹ 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

² See annexe1



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LEED - Credit Category code	Definition	Knauf Insulation Products contribution	Contributes towards
Materials and Resources (MR) Building Product Disclosure and Optimization – Material Ingredients	To encourage the use of products where LCA is available and have environmentally, economically and socially preferable LCA. To reward project for which the products chemical ingredients are inventoried.	ECOSE Technology products contains no ingredients listed on the REACH Authorization or Candidate list or Substances of Very High Concern list. Evidence are available on line ³ .	1 point
Indoor Environmental Quality (EQ) Low-Emitting Materials	To reduce concentrations of chemical contaminants, as Volatile Organic Compound (VOC) that can damage air quality, human health, productivity and the environment. Emissions from ceilings, walls, thermal, and acoustic insulation are a complete category to be assessed.	ECOSE Technology products are compliant with the German AgBB Testing and Evaluation Scheme and the higher category (A+) of the French labelling. The binder is without added phenol formaldehyde. Products with or without facing, with the exception of the black facing, are certified for Indoor Air Comfort ⁴ Eurofins Gold and Blue Angel ⁵ .	3 points
Indoor Environmental Quality (EQ) Acoustic Performance	To provide workspaces and classrooms that promote occupants' well-being, productivity, and communications through effective acoustic design.	ECOSE Technology products have high performance acoustic properties ⁶ .	2 points
Indoor Environmental Quality (EQ) Thermal Comfort	invironmental comfort, and well-being by providing st quality (EQ) quality thermal comfort.		1 point

http://www.knaufinsulation.com/en/sustainable-buildings-and-green-building-rating-systems
 www.product-testing.eurofins.com and certificate in annexe 2
 https://www.blauer-engel.de/en/s/knauf

⁶ See annexe 3



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Annexe 1: Materials and Resources: Sourcing of Raw Materials

Here enclosed additional detailed information⁷ about pre-consumer waste (reintroduction of manufacturing scrap back into the manufacturing process) and post-consumer waste (produced by the end consumer) use in the fabrication of the ECOSE technology glass mineral wool.

In LEED, total recycled content is <u>the sum of post-consumer recycled content plus one-half the pre-consumer</u> recycled content based on cost.

	Visé (B)	Lannemezan (Fr)	Krupka (Cz)	Bernburg (D)	Eskisehir (Tr)
%pre-consumer waste content	12.0%	4.0%	18.7%	22.3%	50.9%
% post-consumer waste content	68.4%	58.8%	47.9%	27.2%	27.4%
Total recycled content within LEEDv4 formulation	74.4%	60.8%	57.3%	38.4%	58.8%
LEED MR 4	contributes towards 2 points				

Recycled content claims for products must conform to the definition ISO 14021-1999.

<u>Pre-consumer waste</u>: waste comes from process waste that is used to make a different product. This definition does not include in-house industrial scrap or trimmings, which are normally fed back into the same manufacturing process.

<u>Post-consumer waste</u>: waste which comes from curbside recycling programs (glass, plastic, paper, ect). Other postconsumer feedstock is generated when construction and demolition debris is recycled. To be a feedstock, the raw materials must have served a useful purpose in the consumer market before being used again.

⁷ Data 2018



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Annexe 2: Indoor Environmental Quality - Low-Emitting Materials

Here below, an example of Eurofins Indoor Air Comfort Gold Certificate for ECOSE products:





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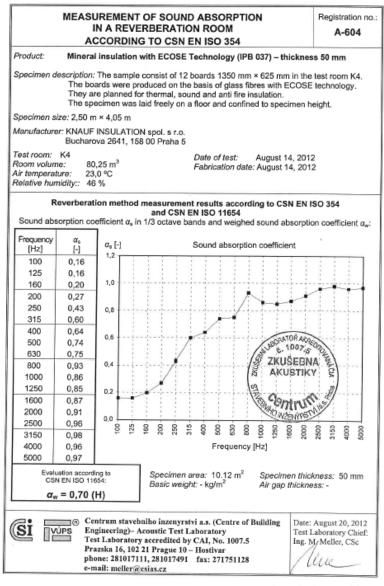




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Annexe 3: ECOSE product and sound absorption example



Protokol o zkoušce č. 223 o Strana 6/8