







## LEED version 4.1

### PRODUCT DATA FOR CERTIFICATION

### ROCK MINERAL WOOL WITH ECOSE TECHNOLOGY

**LEEDv4.1** (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 into the certification!

LEED - Credit Category code	Definition	Knauf Insulation Products contribution	Contributes towards
<b>Energy and Atmosphere (EA)</b> Optimize Energy Performance 	To achieve increasing levels of performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.	Rock Mineral Wool products help reducing energy demand through very high insulation efficiency (building envelop, partition walls, HVAC equipment, floors and ceilings).	<b>18 points</b>
<b>Materials and Resources ( MR)</b> 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 (EPDs) are available online for ECOSE Rock Mineral Wool products <sup>1</sup> .    	<b>2 points</b>
<b>Materials and Resources ( MR)</b> Building Product Disclosure and Optimization – Sourcing of Raw Materials	To reward project including products verified to be extracted or sourced in a responsible manner	Rock Mineral Wool products, (ex: from Nová Baňa plant in Slovakia) are manufactured with up to 30% of recycled content <sup>2</sup> (pre-consumer and post-consumer waste).	<b>2 point</b>





<sup>1</sup> [https://www.knaufinsulation.com/download-epd-rock-mineral-wool?environmental\\_product\\_declaration=72](https://www.knaufinsulation.com/download-epd-rock-mineral-wool?environmental_product_declaration=72)  
<https://www.environdec.com/EPD-Search/?query=knauf>

<sup>2</sup> See annex 1

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<b>Materials and Resources ( MR)</b> Building Product Disclosure and Optimization – Material Ingredients	To reward project for which the products chemical ingredients are inventoried	Products contains no ingredients listed on the REACH Authorization list, Restriction list or Substances of Very High Concern Candidate list <sup>3</sup> .	<b>1 point</b>
<b>Indoor Environmental Quality (EQ)</b> 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 are certified for Indoor Air Comfort <sup>4</sup> Eurofins Gold. <div style="display: flex; justify-content: center; align-items: center;">   </div>	<b>3 points</b>
<b>Indoor Environmental Quality (EQ)</b> Acoustic Performance 	To provide workspaces and classrooms that promote occupants' well-being, productivity, and communications through effective acoustic design.	Products have high performance acoustic properties, they reduce HVAC background noise levels, increase sound insulation of building envelope, partitions, ceilings and aid in controlling reverberation time <sup>5</sup> .	<b>1 point</b>
<b>Indoor Environmental Quality (EQ)</b> Thermal Comfort	To promote occupants productivity, comfort, and well-being by providing quality thermal comfort.	Insulation is a design alternative strategy. Heat radiation and air-conditioning will be minimized which will have positive comfortability feel and increase productivity for workers.	<b>1 point</b>

<sup>3</sup> Compliance letter statement to REACH can be requested for dedicated product's manufacturing plants

<sup>4</sup> [www.product-testing.eurofins.com](http://www.product-testing.eurofins.com) and certificate in annex 2

<sup>5</sup> See annex 3

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#### **Annex 1: Materials and Resources: Sourcing of Raw Materials**

Here below additional detailed information<sup>6</sup> about pre-consumer waste (reintroduction of manufacturing scrap into another manufacturing process) and post-consumer waste (produced by the end consumer) utilized in the raw material batch for the manufacturing of the ECOSE® technology rock mineral wool.

In LEED, total recycled content is the sum of 100% post-consumer recycled content plus 50% of the pre-consumer recycled content.

NB: The Rock Mineral Wool process is recycling a lot of its own manufacturing line waste but this can not be taken into account for this calculation.

	<b>Nová Baňa (Slovakia)</b>	<b>Novi Marov (Croatia)</b>	<b>Surdulica (Serbia)</b>	<b>Queensferry (UK)</b>
%pre-consumer waste content	<b>32%</b>	<b>16%</b>	<b>2%</b>	<b>32%</b>
% post-consumer waste content	-	-	-	-
<b>Total recycled content: 50% pre-consumer + 100% post-consumer</b>	<b>16%</b>	<b>8%</b>	<b>1%</b>	<b>16%</b>
<b>LEED MR 4</b>	<b>contributes towards 2 points</b>			

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

Pre-consumer waste: 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.

Post-consumer waste: 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.

<sup>6</sup> Data 2020

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#### ***Annex 2: Indoor Environmental Quality - Low-Emitting Materials***

Here below, the Eurofins Indoor Air Comfort Gold Certificate for Rock Mineral Wool ECOSE products.



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#### Annex 3: ECOSE Rock Mineral Wool product and sound absorption example

$\alpha$  coefficient is the coefficient for sound absorption.

