

LEED 2009 CERTIFICATION - PRODUCT DATA

ROCK MINERAL WOOL

LEED 2009 (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 to get the best result for LEED 2009 certification.

LEED Credit Category code	Definition	Knauf Insulation Products contribution	Contributes towards
EA 1 (Optimize Energy Performance)	To demonstrate a percentage improvement in the proposed building performance rating compared with a regional defined baseline building performance rating (energy cost savings).	Products help reducing energy demand through high insulation efficiency and compliance with regulatory demands.	19 points
MR 3 (Materials reuse)	To reuse building materials and products to reduce demand for virgin materials and reduce waste, thereby lessening impacts associated with the extraction and processing of virgin resources.	Products in slabs and rolls are easily removable and if not damaged could be reused in the building.	2 points
MR 4 (Recycled content) <i>Additional info in annexe 1</i>	To increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.	Products are manufactured with up to 20% of recycled content ¹ .	2 points
MR 5 (Regional materials) <i>Additional info in annexe 1</i>	To increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.	Knauf Insulation current ideal plants repartition helps expeditions to cover maximum 800 Km distance from production site ² .	2 points
IEQ 7.1. (Thermal comfort design)	To provide a comfortable thermal environment that promotes occupant productivity and well-being.	Products help to reduce energy demand through high insulation efficiency and to reach compliance with regulatory demand.	1 point

¹ See annexe1

² See annexe2

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LEED Credit Category code	Definition	Knauf Insulation Products contribution	Contributes towards
IEQc 9 (Enhanced acoustical performance, only for schools)	To provide classrooms that facilitates better communications through effective acoustical design. Reduce sound transmission through the building shell and interior partitions and minimize HVAC noise.	Products have high performance acoustic properties.	2 points

Annexe 1: MR 4 (Materials and Resources): Recycled Content

Here enclosed additional detailed information³ about pre-consumer waste: reintroduction of manufacturing scraps back into the manufacturing process and consumption of slags.

	Novi Marof (Croatia)	Sankt Egidien (Germany)	Nová Baňa (Slovakia)	Skofja Loka (Slovenia)	Surdulica (Serbia)
% external waste content (slags and offcuts return from customers)	--	0,5%	22%	1%	--
% internal waste content (materials from production lines with further processing into briquettes before it is used)	20,1%	29,4%	25,2%	34,7%	25%
% internal waste content (edge trim from production lines with shredding before it is re-input)	16%	16%	16%	16%	16%
Total recycled content	36,1%	45,9%	63,2%	51,7%	41%
LEED MR 4	contributes towards 2 points				

³ Most recent data 2013 to 2014 depending on locations

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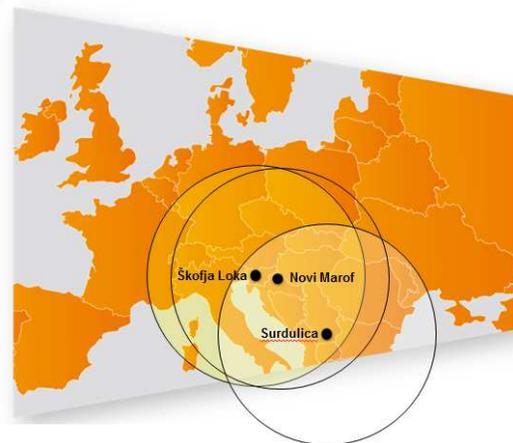
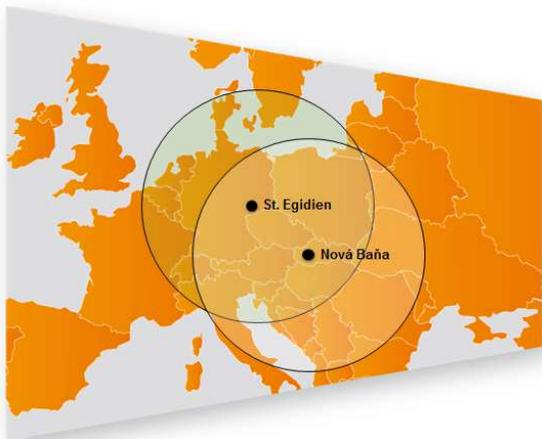
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Annexe 2: MR 5 (Materials and Resources): Regional Materials

Here enclosed additional information about production sites locations and raw materials origin.

1. Manufacture sites by country:

Country:	Croatia	Germany	Slovakia	Slovenia	Serbia
Location: (nearest big city):	Novi Marof (Zagreb)	Sankt Egidien (Leipzig)	Nová Baňa (Bratislava)	Škofja Loka (Ljubjana)	Surdulica
LEED MR 5	contributes towards 2 points				



Maps with 800 km radius (500 miles) from manufacturing sites.

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2. Origin of raw materials constituting Rock Mineral Wool final product:

	Novi Marof	Sankt Egidien	Nová Baňa	Skofja Loka	Surdulica
0-300 km	95%	99%	95%	48%	91,6%
300-500 km	5%	1%	5%	52%	0,4%
500-800 km	0%	0%	0%	0%	8%
>800 km	0%	0%	0%	0%	0%
LEED MR 5	contributes towards 2 points				