LEED version 4.1
PRODUCT DATA FOR CERTIFICATION
WOOD WOOL – HERAKLITH

LEEDv4.1 (Leadership in Energy and Environmental Design) is a voluntary standard that defines high performance green buildings that 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!

<table>
<thead>
<tr>
<th>LEED - Credit Category code</th>
<th>Definition</th>
<th>Knauf Insulation Products contribution</th>
<th>Contributes towards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy and Atmosphere (EA)</td>
<td>To achieve increasing levels of performance beyond the prerequisite standard to reduce environmental and economic harms associated with excessive energy use.</td>
<td>Heraklith products help reducing energy demand through very high insulation efficiency (building envelop, partition walls, HVAC equipment, floors and ceilings).</td>
<td>18 points</td>
</tr>
<tr>
<td>Materials and Resources (MR)</td>
<td>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.</td>
<td>Third party verified Environmental Product Declarations (EPDs) are available on line for Heraklith homogeneous board, Heratekta and Tektalan.¹.</td>
<td>2 points</td>
</tr>
<tr>
<td>Materials and Resources (MR)</td>
<td>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 be extracted or sourced in a responsible manner.</td>
<td>Heraklith Products are manufactured with up to 80% of wood-based materials certified following FSC or PEFC labels (remaining part is the binder)².</td>
<td>1 point</td>
</tr>
</tbody>
</table>

¹ [https://www.knaufinsulation.com/download-epd-wood-wool?environmental_product_declaration=74](https://www.knaufinsulation.com/download-epd-wood-wool?environmental_product_declaration=74);
² See annex 1

For additional information please contact Sustainability@knaufinsulation.com
## LEED version 4.1

**PRODUCT DATA FOR CERTIFICATION**

**WOOD WOOL – HERAKLITH**

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<th>Knauf Insulation Products contribution</th>
<th>Contributes towards</th>
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</thead>
<tbody>
<tr>
<td><strong>Materials and Resources ( MR)</strong> Building Product Disclosure and Optimization – Material Ingredients</td>
<td>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.</td>
<td>Heraklith products contains no ingredients listed on the REACH Authorization or Candidate list or Substances of Very High Concern list³.</td>
<td>1 point</td>
</tr>
<tr>
<td><strong>Indoor Environmental Quality (EQ)</strong> Low-Emitting Materials</td>
<td>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.</td>
<td>Products are compliant with the German AgBB Testing and Evaluation Scheme and the higher category (A+) of the French labelling. They are certified with Blue Angel low air emission ecolabel (following RAL-UZ-132)⁴.</td>
<td>3 points</td>
</tr>
<tr>
<td><strong>Indoor Environmental Quality (EQ)</strong> Indoor Air Quality Assessment</td>
<td>To establish better quality indoor air in the building after construction and during occupancy</td>
<td>The quality of the Heraklith products help to reach appropriate concentration level regarding formaldehyde and TVOCs during indoor air quality assessment.</td>
<td>2 points</td>
</tr>
<tr>
<td><strong>Indoor Environmental Quality (EQ)</strong> Acoustic Performance</td>
<td>To provide workspaces and classrooms that promote occupants’ well-being, productivity, and communications through effective acoustic design.</td>
<td>Products have high performance acoustic properties⁵. They reduce HVAC background noise, increase sound insulation of building envelope, partitions, ceilings and aid in controlling reverberation time.</td>
<td>1 point</td>
</tr>
<tr>
<td><strong>Indoor Environmental Quality (EQ)</strong> Thermal Comfort</td>
<td>To promote occupants productivity, comfort, and well-being by providing quality thermal comfort.</td>
<td>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.</td>
<td>1 point</td>
</tr>
</tbody>
</table>

³ See annex 2  
⁴ See annex 3  
⁵ See annex 4
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WOOD WOOL – HERAKLITH

1) Annex 1: PEFC certificate for Simbach Plant and FSC certificate for Zalaegerszeg supplier
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WOOD WOOL – HERAKLITH

Certificate of Registration

This is to certify that

ZSELBA SZOLGÁLTATÓ ÉS TERMELŐ KFT
Trading as: ZSELBA KFT

"the certified site" has been certified in accordance with the requirements of the Forest Stewardship Council® A.G. using the FSC® Chain of Custody standards* and that ZSELBA SZOLGÁLTATÓ ÉS TERMELŐ KFT of
Site Address: Lentí – Zajda 046HRSZ, Lentí, Zala, 8960, HUNGARY
Registered Address: Béke u 49, Lentí, 8960, HUNGARY
is hereby licensed to use the FSC Logo and sell all products listed on the attached FSC product schedule as FSC 100%

Certificate Registration
Code: SA-COC-004508
Issue Number: 2.0

Licence Code: FSC-C122593

Issued By: Soil Association Certification Limited
Spear House, 51 Victoria Street
Bristol, BS1 6AD
United Kingdom

Issue Date: 18 September 2019
Valid until the Renewal Date: 17 September 2024

Signed on behalf of Soil Association Certification

[Signature]
Kevin Jones, Head of Forestry

For additional information please contact Sustainability@knaufinsulation.com
Annex 2: REACH compliance document

Dear customer,

Thank you for your enquiry with regard to the following products:

KNAUF INSULATION WOOL WOOL PRODUCTS

Knauf Insulation Wood Wool products are classified as Articles with no intended release and therefore do not require registration under the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation (EC) 1907/2006.

Knauf Insulation Wood Wool products do not contain any substances listed under the Candidate List of Substances of Very High Concern for Authorisation in concentration higher than 0.1% (w/w). Furthermore, these products do not contain any substances listed under the Annex XIV of the Regulation (EC) 1907/2006 – List of substances subject to authorisation.

If you have any questions please do not hesitate to contact us: details below:

Bruno Stiti
Product Stewardship & Standardization Manager
sdti@knaufinsulation.com

Knauf Insulation SPRL
Rue de l’Hermitage 92, 4850 Visé - Belgium

For additional information please contact Sustainability@knaufinsulation.com
Annex 3: Blue Angel Requirements and certificate.

From document: “Basic Criteria for Award of the Environmental Label; Low-Emission Thermal Insulation Material and Suspended Ceilings for Use in Buildings RAL-UZ 132”.

The product shall not exceed the emission values listed in Table 1 in the test chamber in conformity with the „Health risk assessment process for emissions of volatile organic compounds (VOC) from building products“ developed by the Committee for Health-related Evaluation of Building Products.

Table 1: Emission Values

<table>
<thead>
<tr>
<th>Substance</th>
<th>Requirements Final Value 28 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total organic compounds within the retention range $C_{16} - C_{22}$ (TVOC)</td>
<td>$\leq 100 , \mu g/m^3$</td>
</tr>
<tr>
<td>Total organic compounds within the retention range $&gt; C_{16} - C_{22}$ (TSVOC)</td>
<td>$\leq 20 , \mu g/m^3$</td>
</tr>
<tr>
<td>C substances $^{12}$</td>
<td>$\leq 1 , \mu g/m^3$ per single value</td>
</tr>
<tr>
<td>Total VOC without LIC $^{13, 14}$</td>
<td>$\leq 50 , \mu g/m^3$</td>
</tr>
<tr>
<td>$R$ value</td>
<td>$\leq 1$</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>$\leq 0.05$ ppm</td>
</tr>
</tbody>
</table>
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CERTIFICATE
ON THE BASIS OF THE
CONTRACT ON THE USE OF THE ENVIRONMENTAL LABEL NO. 24205 BASED ON RAL-UZ 132

KNAUF INSULATION B.V.
4903 RM OOSTERHOUT, THE NETHERLANDS

IS GRANTED THE RIGHT TO USE THE BLUE ANGEL ECOLABEL SHOWN BELOW FOR THE PRODUCT

Wärmedämmstoffe für die Innenwärmeschutz gemäß Anlage

UNTIL 31.12.2015 AS A SIGN OF SPECIAL ENVIRONMENTAL FRIENDLINESS.

SANKT AUGUSTIN, THIS 13 NOVEMBER 2013

CHAIRMAN OF THE BOARD
RAL gGmbH
Annex 4: Sound absorption example

α coefficient is the coefficient for sound absorption.