



BREEAM INTERNATIONAL NEW CONSTRUCTION

Product Data for Building Certification

WOOD WOOL - HERAKLITH

BREEAM (Building Research Establishment Environmental Assessment Methodology) International New Construction¹ 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 for the highest result into the certification!

BREEAM Credit Category code	Assessment criteria and definition	Knauf Insulation Products contribution	Contributes towards
Hea 02 Indoor air quality	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 $\leq 0.001 \text{ mg/m}^3$	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) ² .	1 credit  
	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).	Products are helping to stay at a very low concentration level.	1 credit
Hea 03 Thermal comfort	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.	1 credit

¹Technical manual: SD233 - 2.0. :2016

² See annex 1 : Low-Emission Thermal Insulation Material and Suspended Ceilings for Use in Buildings RAL-UZ 132

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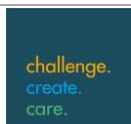
BREEAM Credit Category code	Assessment criteria and definition	Knauf Insulation Products contribution	Contributes towards
Hea 05a/b Acoustic performance	To insure the building's acoustic performance, including sound insulation, meets the appropriate standards for its purpose.	Products reduce HVAC background noise, increase sound insulation of building envelope, partitions, ceilings and aid in controlling reverberation time ³ .	1 credit
Ene 01 Reduction of energy use and carbon emissions	To encourage buildings that minimise their operational energy consumption through good design.	Products help reducing the 3 parameters: operational energy demand, primary energy consumption and CO2 emissions through the improving of energy building performance.	15 credits
Ene 04 Low carbon design	To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems.	Products contribute to implement passive design solutions that reduce building energy demand and associated carbon emissions.	1 credit
Mat 01 Life cycle impacts	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	EPDs 3rd party verified against EN 15804 are available on line for Heraklith homogeneous board, Heratekta and Tektalan, ⁴ this allows to maximise points through Mat 01 calculator ⁵ . 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).	1 credit + 1 credit exemplary level



³ See annex 2 : Laboratory analysis example

⁴ https://www.knaufinsulation.com/download-epd-wood-wool?environmental_product_declaration=74;
<http://www.mrpi.nl/epd-certificaten>


⁵ See annex 3 : LCA tool



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Mat 03 Responsible sourcing of construction products	To recognize and encourage the specification and procurement of responsibly sourced construction (RSC) products..	Homogeneous Heraklith Products are manufactured with up to 80% of wood-based materials certified following PEFC labels (remaining part is the binder) ⁶ .	1 credit 
Wst 01 Construction waste management	To promote resource efficiency via the effective and appropriate management of construction waste.	Packaging's (wood and plastics) are recyclable. Products cut-offs can also be used to fill some remaining tiny holes on working site.	3 credits
Wst 06 Functional adaptability	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.	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.	1 credit
Pol 05 Noise attenuation	To reduce the likelihood of noise, arising from fixed installations on the new development, affecting nearby noise-sensitive buildings.	Attenuation of noise sources by use of acoustical insulation products.	1 credit

⁶ See annex 4 : PEFC and FSC certificates

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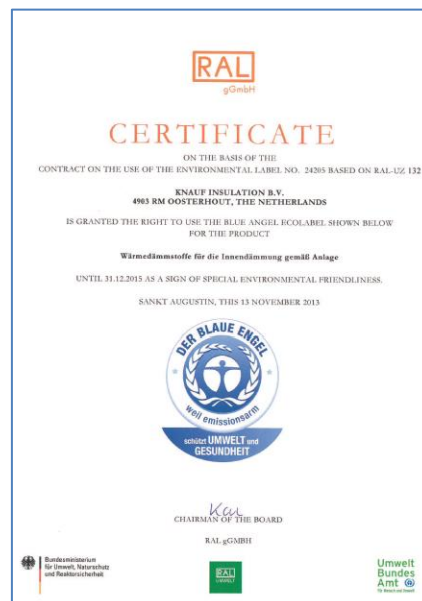
Annex 1: Hea 02 - Indoor Air Quality – Blue Angel Requirements

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

Substance	Requirements Final Value 28 Days
Total organic compounds within the retention range $C_6 - C_{16}$ (TVOC)	$\leq 100 \mu\text{g}/\text{m}^3$
Total organic compounds within the retention range $> C_{16} - C_{22}$ (TSVOC)	$\leq 20 \mu\text{g}/\text{m}^3$
C substances ¹²	$\leq 1 \mu\text{g}/\text{m}^3$ per single value
Total VOC without LIC ^{13, 14}	$\leq 50 \mu\text{g}/\text{m}^3$
R value	≤ 1
Formaldehyde	$\leq 0.05 \text{ ppm}$



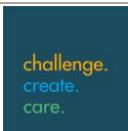
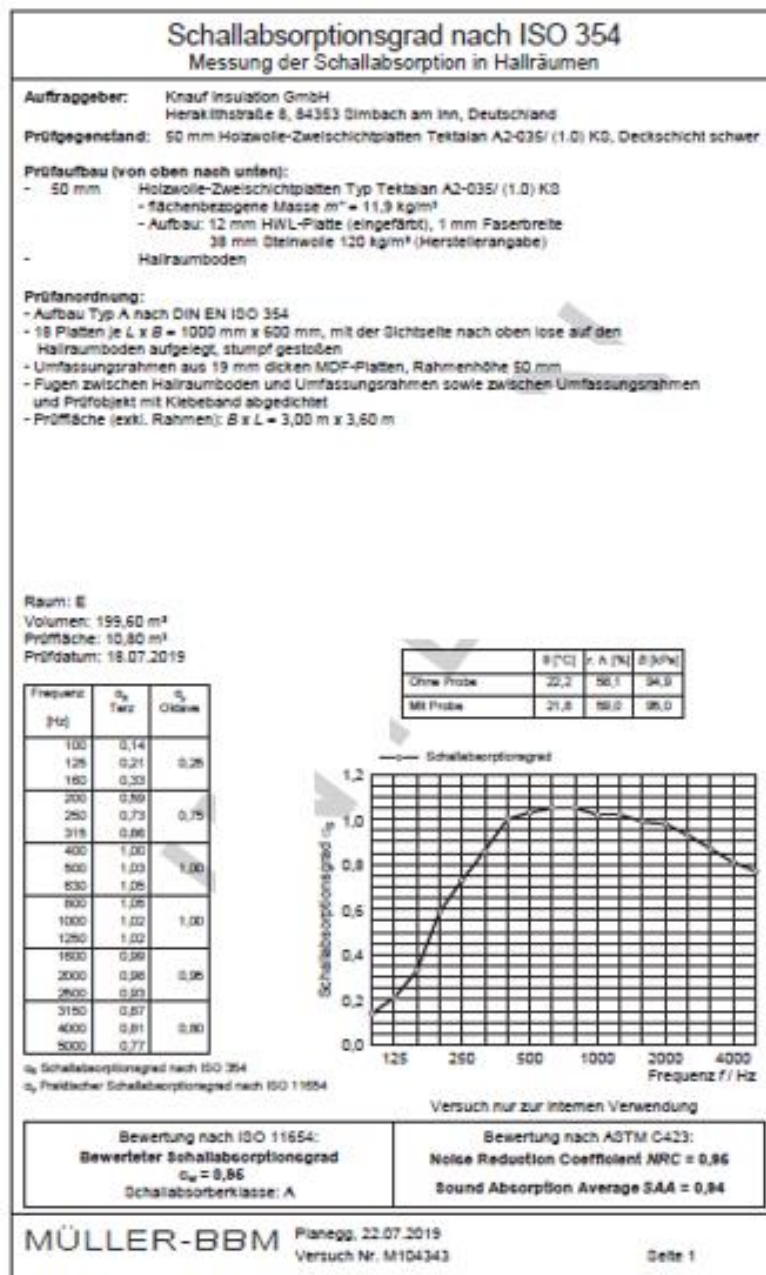
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Annex 2: Sound absorption example

α coefficient is the coefficient for *sound absorption*.



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Annex 3: Mat 01 - Life Cycle Impact - Mat 01 Calculator

As Wood Wool Heraklith Knauf Insulation products have third party verified EN 15804 EPD's, please find here below the answers to provide for Mat 01 calculator (if we consider only insulation elements in the assessment).

(M) Source LCA data quality - Methodologies

Majority of individual materials/products in the building:

	Score:-	
Are assessed using data of unknown methodology	0	N
Are assessed to a publicly available methodology compliant with (the current version of) ISO 14040 & ISO 14044	4	N
Are assessed to a publicly available AND peer reviewed methodology compliant with (the current version of) ISO 14040 & ISO 14044	8	N
Have an EPD (Manufacturer or Trade Association) to a publicly available AND peer reviewed PCR compliant with (the current version of):		
PAS 2050	12	N
ISO 21930	16	N
EN 15804	20	Y
Points	20	20

(M) Source LCA data quality - Geographic applicability

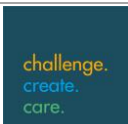
Majority of individual materials/products in the building are assessed:

	Sum:-	
Using LCA data of unknown geographic applicability OR not compensated to local conditions	0	N
Using LCA data that has been compensated to local conditions (e.g. energy-mix) according to CEN/TR 15941	5	Y
Using data no older than 10 years (generic) or 5 years (maunfacturer specific)	5	Y
Points	10	10

(M) Source LCA data quality - Verification

Majority of individual materials/products in the building are assessed using:

	Score:-	
Unverified LCA data/data of unknown level of verification	0	N
Verified/peer reviewed LCA data	6	N
Verified EPD (Manufacturer or Trade Association) data to ISO 14025, ISO 21930 or EN 15804	10	Y
Points	10	10



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Annex 4: Mat 03 Responsible sourcing : PEFC certificate for Simbach Plant and FSC certificate for Zalaegerszeg supplier

RSCS/EMS Scheme (or other recognised source)	Label(s)/Version(s) of the scheme	Additional requirement to be specified ⁴	RSCS summary score level for use in BREEAM assessments
BES 6001 Framework Standard for Responsible Sourcing	All	n/a	5 (Baseline score ³)
CARES Sustainable Constructional Steel Scheme	All	n/a	5
Concrete Sustainability Council (CSC)	Certified concrete (bronze, silver, gold and platinum levels)	n/a	5
Eco Reinforcement Responsible Sourcing Standard, Steel Products for the Reinforcement of Concrete	All	n/a	5
FSC	'FSC 100%'	n/a	7
	'FSC Mix' 'FSC Recycled'	n/a	5
PEFC	'PEFC Certified' 'PEFC Recycled'	n/a	5

Material Category	Key Process	Key Supply Chain Process
Insulation		
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
Timber-based insulation materials including those using recycled timber	Product manufacture	Recycled timber by default, all other timber from one of the recognised timber certification schemes in BREEAM issue Mat 03.
Other renewable-based insulation materials using agricultural by-products (e.g. straw)	Product manufacture	By-product manufacture by default

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Dieses Zertifikat bestätigt, dass das Verfahren für die Produktion und/oder den Handel von

Holzwoleplatten – Holzwolemehrschichtplatten

hergestellt und/oder gehandelt durch

Knauf Insulation Operation GmbH

DE-64369 Simbach a. Inn, Heraklithstraße 8

am obigen Standort einer Erstprüfung unterzogen wurde, laufend überwacht wird und den Anforderungen des Regelwerkes



Chain of Custody
PEFC ST 2002:2013.Chain of Custody of Forest Based Products - Requirements

in der jeweils gültigen Fassung entspricht (siehe www.pefc.org), solange die Voraussetzungen erfüllt werden.

Detaillierte Informationen zum Zertifikationsumfang finden sich im Anhang zu diesem Zertifikat.

Zertifikatsnummer: HFA-COC-0710
Datum der Erhaltsstellung: 16.07.2019
Datum der Aussetzung: 16.07.2019
Gültig bis: 15.07.2024



Dr. (FH) Dimitrij Pospelov
Zeichnungsbeauftragter



Dr. Manfred Brandstätter
Leiter der Zertifizierungsstelle

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The mark of responsible forestry.

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.C. using the FSC® Chain of Custody standards* and that ZSELBA SZOLGÁLTATÓ ÉS TERMELŐ KFT of

Site Address: Lenti - Zajda 046HRSZ, Lenti, Zala, 8960, HUNGARY
Registered Address: Béke u 49, Lenti, 8960, HUNGARY

is hereby licensed to use the FSC Logo on and sell as FSC certified 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 <small>Subject to successful annual surveillance</small>
Signed on behalf of Soil Association Certification	 Kevin Jones, Head of Forestry

CA-COC-004-07 Nov 2018 © Prepared by Soil Association Certification Ltd, FSC Licence Code FSCP-A200012
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 A description of the products, sites or services that are included in the scope of the certificate may be obtained from Soil Association Certification on request.
 This certificate itself does not constitute evidence that a particular product supplied by the certificate holder is FSC certified (or FSC controlled wood). Products offered, shipped or sold by the certificate holder can only be considered covered by the scope of this certificate when the required FSC data is clearly stated on invoices and shipping documents.

