June 2015

BREEAM INTERNATIONAL NEW CONSTRUCTION

PRODUCT DATA FOR CERTIFICATION

WOOD WOOL - HERAKLITH

BREEAM (Building Research Establishment Environmental Assessment Methodology) International New Construction[1] 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 to get the highest result for BREEAM certification.

BREEAM Credit Category code	Assessment criteria and definition	Knauf Insulation Products contribution	Contributes towards
Hea 02 (Indoor air quality)	Volatile organic compound (VOC) emission levels (post construction): the total volatile organic compound and formaldehyde are measured and reported (thresholds for formaldehyde concentration level ≤ 100µg/m³ and for TVOC≤ 300µg/m³).	HERAKLITH products are certified Blue angel for Indoor Air Quality[2], see annexe 1.	**1 credit**
Hea 03 (Thermal comfort)	To ensure through design that appropriate thermal comfort levels are achieved and controls are selected to maintain a thermally comfortable environment.	Thermal modelling with full dynamic thermal analysis is facilitated through products Building Information Modelling (BIM) files available on line[3].	**1 credit**
Hea 05a/b (Acoustic performance)	To insure the building's acoustic performance, including sound insulation, meets the appropriate standards for its purpose.	Products have high performance acoustic properties (sound absorption following ISO 354) and reduce ambient noise level.	**1 credit**
Ene 01 (Energy efficiency all buildings)	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.	**15 credits**

[1] Technical manual : SD 5075 – 1.0:2013
[2] Low-Emission Thermal Insulation Material and Suspended Ceilings for Use in Buildings RAL-UZ 132
[3] www.bimetica.com

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BREEAM Credit Category code	Assessment criteria and definition	Knauf Insulation Products contribution	Contributes towards
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.	The Environmental Products Declarations (EPDs) are available and third party verified against EN 15804 to allow getting maximum points through Mat 01 calculator, see annexe 2.	**6 credits**
Mat 04 (Insulation all buildings)	At least 80% (by volume) of the thermal insulation used in the assessed building elements must be responsibly sourced.	HERAKLITH products comply with Tier level 3 (see annexe 3) as they are certified both FSC and PEFC.	**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) and products are recyclable.	**3 credits**
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**

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Annexe 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)*	≤ 100 µg/m³
Total organic compounds within the retention range > $C_{16} - C_{22}$ *(TSVOC)*	≤ 20 µg/m³
C substances [12]	≤ 1 µg/m³ per single value
Total VOC without LIC [13, 14]	≤ 50 µg/m³
R value	≤ 1
Formaldehyde	≤ 0.05 ppm

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Annexe 2: 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 componsated 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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Annexe 3: Mat 03 – Insulation – Elements responsibly sourced

From BREEAM International New Construction Technical Manual SD 5075 Version 2013, page 234:

Table - 42: Responsible Sourcing Certification Schemes and their Tier levels

Scheme	Certification level/scope	Tier level
BRE Global BES6001 Product certification (or equivalent)[1]	Excellent	2
	Very good	3
	Good	4
	Pass	5
BRE Global BES6001 Standard certification (or equivalent)[2]	Excellent	2
	Very good	3
	Good	4
	Pass	5
Canadian Standards Association's (CSA) Chain of custody (CoC) Scheme–endorsed by PEFC	Chain of custody (CoC) certification	3
Environmental Management System (EMS)(certified)[3]	Key process and supply chain extraction process[4]	6
Environmental Management System (EMS) (certified)	Key process	7
FLEGT-licensed timber	FLEGT licence	
Forest Stewardship Council (FSC)	Chain of custody (CoC) certification	3
Recycled material	Certified EMS for key process -	6
Reused materials	-	3
Malaysian Timber Certification - endorsed by PEFC	Chain of custody (CoC) certification	6
Programme for the Endorsement of Forest Certification (PEFC)	Chain of custody (CoC) certification	3
Sustainable Forestry Initiative (SFI) – endorsed by PEFC	Chain of custody (CoC) certification with 70% certificate material claim	3