TECHNICAL DATA SHEET

TILE BACKER BOARD

Version 1.0 SEPTEMBER 2022

ONBOARD TILE BACKER SYSTEM

TECHNICAL PROPERTIES

Onboard backer boards are made of high-performance waterproof extruded polystyrene, with a 1mm coating on either side comprising a glass fibre mesh embedded in a polymer-cement mortar.

PROPERTIES OF THE FOAM COMPONENT

PROPERTY	ASSESSED TO	RATING
Density	DIN 53420	34 ± 2 kg/m^3
Thermal Conductivity (initial)	DIN 52612	0.034 Watt/mK
Thermal Conductivity (>5yrs)	ASTM C518	0.036 Watt/mK
Compressive Strength (10% deflection)	DIN 53421	Minimum of 0.3N/mm^2)
Flexural Strength	ASTM C203	0.30 ± 0.02 MPa
Water Absorption (2-day immersion)	ISO2896	0.2% by volume
Thermal Conductivity (>5yrs)	DIN 53428	Zero
Coefficient of linear expansion	N/A	70 x 10^{-6} K^{-1}
Water Vapour Diffusion Resistivity (μ)	DIN 52615	110 - 225 μ
Water Vapour Permeability	ASTM E-96	0.028 ng/Pa.m.s
EU controlled substances content	N/A	N/A

PROPERTIES OF THE TILE BACKER BOARD

PROPERTY	ASSESSED TO	RATING
Thermal Conductivity (> 5yrs)	EN 12667:2001	0.033 - 0.036 Watt/mK
Compressive Strength (10% deflection)	EN 826:1996	Minimum of 0.3N/mm^2
Bond Strength	BS EN 1384	0.3N/mm^2
Maximum Tile Loading Weight	CERAM121107	62kg/m^2
Flexural Strength	ASTM C203	2.05 ± 0.02 MPa
Water Vapour Permeability (Sd)	DIN EN 12086	3.2m
Resistance to body Impact	ETAG 003	3 x 120N/m
Bending Stiffness, E (20mm / 30mm)	EN 12089	601KNmm^2 / 1285 kN/mm ^{2}
Coefficient of linear expansion	N/A	30 x 10^{-6} K^{-1}
Flammability	EN 13501-1	Class E
Impact Sound Reduction	BS-ISO140-8	dLw = 21
Shear Bond Strength	EN 1448	3.32kg/cm^2
EU controlled substances content	N/A	N/A

WORKING TEMPERATURE RANGE: -50 TO +80OC

TECHNICAL PROPERTIES

BOARD WEIGHTS AND DIMENSIONS

THICKNESS	DENSITY (KG/M3)	WEIGHT (KG)	WEIGHT (KG)
		600 X 1250MM	600 X 2500MM
6MM	425	1.87	----
12MM	297	2.18	4.36
20MM	167	2.45	4.9
30MM	121	2.68	5.35
50MM	86	3.15	6.3

DIMENSIONAL TOLERANCES FOR STANDARD BOARDS

Thickness +/- 2mm, Width+/- 2mm, Length +/- 2mm

The boards should be stored dry and flat.
Slight bowing caused by incorrect storage or transport, for example, is not permanent and does not represent a technical defect.
Slight curving can be rectified through storing the boards flat.

THERMAL INSULATION VALUES OF THE BOARD

BOARD THICKNESS	NET THICKNESS XPS IN MM	R-VALUE $(M^2.K)$ /W	U-VALUE W/M^2 X K	λD RATED VALUE
6mm	4mm	0.11	3.63	0.0378
10mm	8mm	0.21	2.62	0.0378
12mm	10mm	0.28	2.23	0.0378
20mm	18mm	0.49	1.55	0.0378
30mm	28mm	0.74	1.10	0.0378
50mm	48mm	1.27	0.69	0.0378

Onboard boards offer thermal insulation that in most constructions satisfies the U-value requirements of different regions building regulations.
The nonconductive surface reduces condensation by masking any cold bridging from the substrate beneath.
The cementatious surface is resistant to heat and the chemicals within the sheathing around electric underfloor heating elements making it safe to use with these types of systems.