

STS Professional Insulation Tile Backing Board

Technical Properties

STS Professional Insulation Tile Backing Boards are made of high-performance waterproof extruded polystyrene, there is approx. 1mm of 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	32~34 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
Water Absorption (Capillary)	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	none

Properties of the Cement Coating

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 (S _d)	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	none

- Working temperature range: -50 to +80°C

Technical Properties continued

Board Weights and Dimensions

		600 x 1200mm	1200 x 2400mm
Thickness	Density (kg/m ³)	Weight (kg)	Weight (kg)
6mm	350	1.5	N/A
10mm	235	1.7	N/A
12.5mm	200	1.8	3.7
20mm	140	2.0	N/A

- 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 Tile Backer Board

Board thickness in mm	Net thickness xps in mm	R-value (m ² .K) /W	U-value W/m ² x K	λd Rated value
6mm	4	0.18	5.55	0.034
10mm	8	0.30	3.33	0.034
12.5mm	11	0.37	2.70	0.034
20mm	18	0.60	1.67	0.034

- STS Professional Insulation Tile Backing Boards offer thermal insulation that in most constructions satisfies the U-value requirements of different regions building regulations. The non-conductive surface reduces condensation by masking any cold bridging from the substrate beneath.
- The cementitious 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.