Technical Properties

CASA boards are made of high-performance waterproof extruded polystyrene,it has a 1mm coating on either side comprising a glass fibre mesh embedded in a polymer-cement motar.

Properties of the Foam Component

Property	Assessed to	Rating
Density	DIN 53420	36 ± 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
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 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 (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^{O}C

Technical Properties continued

Board Weights and Dimensions

		600*1250mm	600*2500mm
Thickness	**Density (kg/m³)**	**Weight (kg)**	**Weight (kg)**
6mm	425	1.87	N/A
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 CASA board

Board thickness in mm	Net thickness xps in mm	R-value （m².K）/W	U-value W/m² x K	λd Rated value
6	4	0.11	3.63	0.0378
10	8	0.21	2.62	0.0378
12	10	0.28	2.23	0.0378
20	18	0.49	1.55	0.0378
30	28	0.74	1.10	0.0378
50	48	1.27	0.69	0.0378

- CASA 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.