

Technical Properties

The major component of Marmox board is rigid extruded polystyrene foam of a closed cellular structure. Marmox Multiboard has a textured coating on both sides (c0.75mm thick) made from polymer-concrete strengthened with carbon nano-tubes encasing an alkali-resistant fiberglass mesh.

Properties of the Foam Component

Property	Assessed to	Rating
Density	DIN 53420	36 kg/m ³
Thermal Conductivity (initial - >5yrs)	EN 13164	0.027 – 0.034W/mK
Compressive Strength (10% deflection)	EN 826	300kN/m ²
Water Absorption (2-day immersion)	EN12087	<1.0% by volume
Water Absorption (Capillary)	DIN 53428	Zero
Coefficient of linear expansion	ASTM E-831	0.07mm/mK
Water Vapour Diffusion Resistivity factor(μ)	EN 12086	110 – 225
Fire Behaviour	EN 13501	Euroclass E
ODP (Ozone Depleting Potential)		Zero
GWP (Global Warming Potential)		<0.29

Properties of Marmox Multiboard

Property	Assessed to	Rating
Declared Thermal Conductivity after 5 years (λ_D)	BS EN 13164	0.036 W/mK
Compressive Strength (at 10% compression)	BS EN 826	>400 kPa (45Tonnes/m ²)
Maximum Tile Loading Weight of the board		Dependent of adhesive and wall type. Typically in excess of 100kg/m ²
Flexural Strength	ASTM C203	> 200kPa
Water Vapour Permeability (S_d)	EN 12086	3.2m
Coefficient of linear expansion	ASTM D-696	$30 \times 10^{-6} K^{-1}$
Fire Propagation	BS 476 - 6	8.1, "class 0"
Spread of Flame	BS 476 - 7	1, "class 0"
Impact Sound Reduction	BS-EN140-8	$\Delta L_w = 21$
Working temperature range		-50 to +75°C

Technical Properties continued

Board Weights and Dimensions

	Short Board: 600mm x 1250mm	Short Board: 600mm x 1250mm	Long Board: 600mm x 2500mm
thickness	Board Weight (kg)	Pack Weight (kg)	Weight (kg)
4mm	2.3	24	N/A
6mm	2.4	20	N/A
10mm	2.7	17	5.4
12.5mm	2.8	18	5.6
20mm	3.1	17	6.2
30mm	3.4	14	6.8
40mm	4.0	13	8.0
50mm	4.2	9	8.4
60mm	4.5	10	9.0

- Dimensional tolerances for standard boards: Thickness +/- 1mm, Width +/- 2mm, Length +/- 5mm
- The boards should be stored dry and flat as incorrect storage can result in temporary curvature.
- Permanent or long-term exposure to direct sunlight should be avoided.

Thermal Specifications

Board thickness (mm)	Thermal resistance R-value (m².K/W)
4	0.11
6	0.17
10	0.28
12.5	0.35
20	0.56
30	0.83
40	1.11
50	1.39
60	1.67

- The cementitious surface is resistant to heat and the chemicals in the sheathing around electric underfloor heating elements making it safe to use with these types of systems.