

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 x 10 ⁻⁶ K ⁻¹
Fire Propagation	BS 476 - 6	8.1, "class 0"
Spread of Flame	BS 476 - 7	1, "class 0"
Working temperature range		-50 to +75°C

Technical Properties continued

Board Weights and Dimensions

thickness	Short Board: 600mm x 1250mm		Long Board: 600mm x 2500mm	"Big Board" 1250 x 2400mm
	Board Weight (kg)	Pack Weight (kg)	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	11.0
20mm	3.1	17	6.2	12.0
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 (m ² .K/W)
4	0.06
6	0.12
10	0.25
12.5	0.33
20	0.56
30	0.86
40	1.16
50	1.47
60	1.77

- 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.