

## TECHNICAL DATA SHEET

### LIGHTWEIGHT INSULATION BOARDS

#### DESCRIPTION

**Marmox lightweight insulation board** is a high performance reinforced insulation board made of waterproof extruded polystyrene (XPS), it has a fiberglass reinforcing mesh embedded in a cement polymer mortar on each face.

The boards have straight edges. The colour of the surface is grey, and the core material is light grey. The boards are symmetrical being well formed and regular in thickness.

Marmox Boards are light-weight construction boards.

#### FEATURES

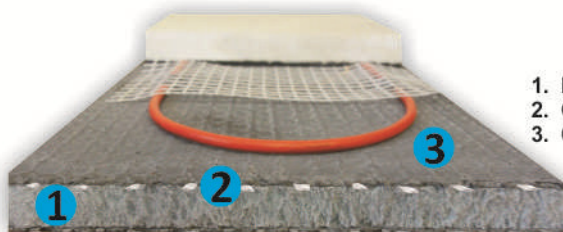
- ◆ Excellent heat insulation
- ◆ Floor tiles will warm up in about 15 minutes
- ◆ Increases effectiveness and efficiency of floor heating systems
- ◆ High thermal insulation
- ◆ Energy efficient plus
- ◆ Cost-effective
- ◆ Extremely strong
- ◆ High compressive strength (withstands 30 tons per m<sup>2</sup>)
- ◆ Rigid
- ◆ Waterproof
- ◆ High U-value (2.7 W/m<sup>2</sup>k for 10mm)
- ◆ Extruded polystyrene (XPS) closed cell structure retains R-value even in moist conditions
- ◆ .600 x 1250 equals 0.75 square metres per board
- ◆ Can be fixed on top of existing tiles
- ◆ Not affected by freeze/thaw cycles
- ◆ Environmentally friendly, CFC and HCFC free
- ◆ Easy to cut with a carpet knife or saw
- ◆ Lightweight 3.4 kg/m<sup>2</sup> for 10mm thickness
- ◆ Will not rot, no water or humidity absorption
- ◆ Waterproof
- ◆ Ready to receive plaster or tiles
- ◆ Can be fixed on concrete or timber floors

#### FURTHER APPLICATIONS

- ◆ No limitations for applications
- ◆ Asbestos free not harmful to one's health
- ◆ Can be fixed to walls
- ◆ They make ideal insulated ceiling boards
- ◆ Ideal for renovation work
- ◆ Used in areas where a plaster board is used, Marmox board is stronger and lighter
- ◆ Surface may be tiled over if used as partitioning or shower walling
- ◆ Sound insulation (20 decibels)

## TECHNICAL SPECIFICATIONS

Thickness (Millimeters)	10
Thickness of insulation (Millimeters)	9
Width (Millimeters)	600
Length (Millimeters)	1250
Weight kg/board	2.20
Density(kg/m <sup>3</sup> )	36 (+-5%) kg/m <sup>3</sup>
Temperature Range	-50°C to +75° C
Thermal conductivity	0.027 W/mK
Compressive strength	0.3N/mm <sup>2</sup> or (3.0kg/cm <sup>2</sup> )
Water absorption	0.2% by submersion
Fire resistance	Class E
Flammability	B1 / BS 476 Part6,7 Class 0
Expansion coefficient	70 x 10 <sup>-6</sup> K
U value W/m <sup>2</sup> K	3.50
Thermal resistance R value m <sup>2</sup> K/W	0.28
Thermal transmittance (W/m <sup>2</sup> x K) 10°C ambient temp difference	2.33
Thermal transmittance (W/m <sup>2</sup> x K) 35°C ambient temp difference	2.52
Quality management systems Bureau Veritas/231739	ISO9001



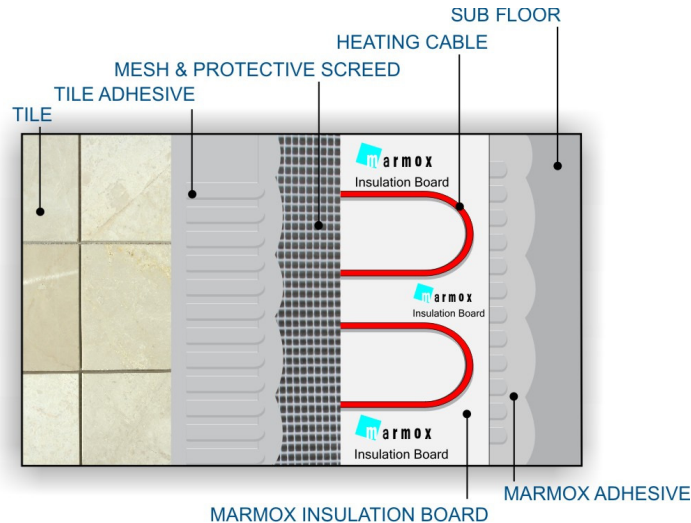
1. Extruded closed cell structured polystyrene (XPS)
2. Glass fibre reinforcing mesh embedded on both sides.
3. Cement polymer mortar coated on both sides.

## APPLICATION PROCEDURE

- All traces of existing materials should be removed from the sub surface. Floors must be level and dust free.
- New concrete slab should be cured before fixing Marmox insulation boards.
- Apply a bed of Marmox adhesive using a 10mm notched trowel, boards are then thoroughly bedded in a staggered brick like pattern, ensuring that no voids remain beneath the boards.

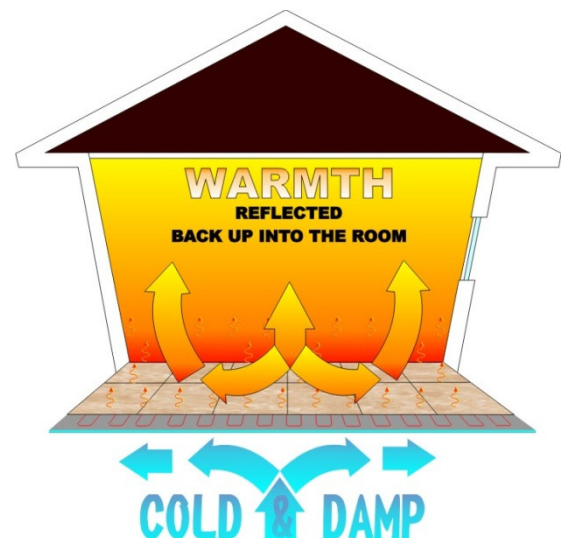
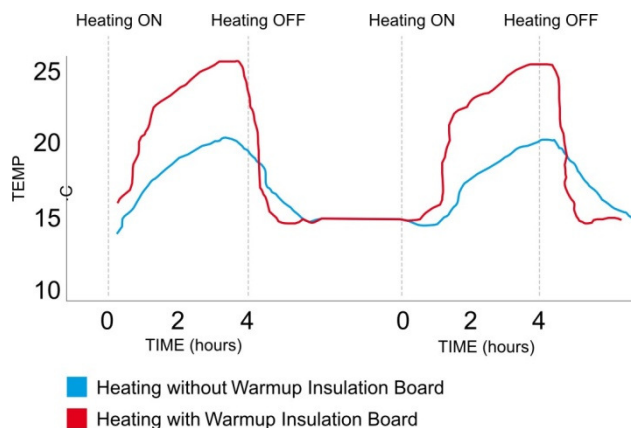
## MARMOX AND FLOOR HEATING

Marmox thermal insulation properties make them the ideal product to use under floor heating elements. That is why most leading floor heating manufacturers recommend using Marmox insulation boards.



- ◆ Without Marmox insulation boards, a great part of the heat created by the heating elements is lost downwards to the concrete slab.
- ◆ When Marmox boards are used, most of the heat created by the heating element is reflected upwards.
- ◆ Switching on your heating system the floors will warm up significantly faster lowering running costs by as much as 50% reducing your carbon footprint as well as being a cost-effective underfloor heating solution.

## THERMAL RESISTANCE



#### MARMOX ADHESIVE AND MARBOND BONDING LIQUID

Marmox Adhesive & Marbond

Marmox adhesive



Universal Bonding Liquid



Marmox insulation board adhesive is a specialized adhesive material formulated to bond Marmox boards to a prepared floor surface for domestic & industrial use. It is a grey powder like mixture mixed with clean water/Marbond bonding liquid (see Marmox Insulation Board Technical Data Sheet) which is troweled onto the prepared floor surface using a 10mm notched trowel.

#### PRODUCT WARRANTY

**10**  
year  
Factory  
Warranty



- Marmox boards come with a 10 year warranty from the date of purchase.
- Warmup Heating Systems Inc believes that information and recommendations in this manual are accurate and reliable. However, it is not intended to be a complete statement of all relevant data.
- Warmup warrants that Marmox products are free from defect caused by faulty manufacture.
- As Warmup we do not have knowledge of site conditions or execution of fixing the boards and we accept no liability for damage which may arise as a result of installation. It is the buyer's responsibility to determine whether Marmox products are suitable for their specific need or not.

#### STORAGE AND HANDELING

- Marmox boards must be stored flat on a level platform.
- Materials must be kept dry during installation.
- Care must be taken to avoid damage to edges, corners and surfaces.

## CERTIFICATIONS



## CONTACT DETAILS

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### ASSOCIATIONS



S.A Wood & Laminate Flooring Association



Electrical Contractors' Association (SA)

### WARMUP.

### CERTIFICATIONS



Underwriters Laboratory approval of products sold in Canada and USA



Heating wires manufactured by Heatsolve Ltd (Ireland)