Specification: Internal Wall Insulation for Curved Walls

This document contains two specifications / applications for using Marmox Curved Multiboard to provide a thermally insulating base to enable curved walls to be plastered.

CurvedMasonry = Plastering and insulating an already curved concrete or masonry wall.

CurvedFrame = Plastering and insulating a curved steel or timber frame

IWICurvedMasonry

Specification: Internal Wall Insulation for Curved Masonry Walls

Product Ref: **Marmox Curved Multiboard**

Product Use: Internal insulation of a curved section of the masonry building envelope to subsequently be coated with plaster.

Manufacturer: Marmox Ltd
Address: Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP.
01634 835290; Email: sales@marmox.co.uk; http://www.marmox.co.uk/.

Description: Curved Multiboard is a flexible board comprising a layer of extruded polystyrene covered on both sides with a 1mm thick coating of flexible fibre reinforced polymer concrete.
One face has 2mm wide slices every 20mm running across the 600mm width which penetrate 75% into the board so when squeezed together it can be curved in on itself to create a radius as small as 200mm. The un-serrated face is designed to be tiled/plastered/rendered.

Dimensions: Available in one size only - Width: 600mm, Length: 1200mm, Thickness: 20mm
Curvature: the cuts are only across the 600mm width

Properties: Low thermal conductivity (*c.0.034W/mK*) unaffected by moisture.
Does not expand or contract as temperature and humidity alters.

CE + UKCA: Declaration of Performance for an XPS Insulation Board
EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

Fixing Method: **The Marmox board is fixed to the masonry wall with tile adhesive only. The adhesive is applied to the serrated side.**

SUBSTRATE LAYER

- The surface of the wall should be even and not be coated or covered with any surface covering
- If the brickwork, concrete or masonry surface is too uneven for the board to be fixed with a continuous bed of adhesive, apply a sand/cement render to create a reasonably smooth and even surface.

MARMOX BOARD LAYER

- The masonry should be primed in accordance with the adhesive manufacturer's advice.
- Boards can be aligned vertically or horizontally ideally in a staggered (*Brick-bond*) format.
- The cut surface of the Marmox Curved Multiboard is fixed onto a continuous bed (*3-5mm thick*) of cement-based 'flexible' tile adhesive.
- A 5mm expansion gap is left between the boards and the wall and filled with Marmox MSP-360.
- All connections to building features e.g. window frames are sealed with Marmox MSP-360.

Specification: Internal Wall Insulation for Curved Masonry Walls

PLASTERING: Depending on the required impact resistance required, a single skim or a double application of paster can be put onto the boards.

To achieve a resistance to impact commensurate with 'Medium Duty performance' of plasterboard (*as defined by BS5234*)

- Scrim tape (*Marmox reinforcing tape*) is applied over all joints
- Dampen the surface of the Marmox board.
- Apply two coats of plaster – the first onto the Marmox board surface approximately 2mm thick and a further 1mm approximately one hour later.
- *(To achieve heavy duty performance, an additional layer of fibreglass scrim mesh should be added onto the first coating whilst still wet.)*
- Any exposed (*foam*) edges should be covered with scrim tape before plastering.

For areas where surface impact is will be minimal or light (*such as above head height*)

- Scrim tape (*Marmox reinforcing tape*) is applied over all joints.
- Any exposed (*foam*) edges should be covered with scrim tape
- Dampen the surface of the Marmox board.
- Apply a single coat of plaster at least 2mm thick.

Notes:

1) A Vapour Control Membrane is NOT needed when using a Marmox Multiboard. Provided they are sealed together, they perform the same function.
2) Marmox MSP-360 is not like silicone – it can be plastered over without affecting the bond.
3) No priming of the Marmox board is necessary, the surface is already suitable to receive plaster.
4) Voids and air gaps between the Marmox board and the internal wall surface should be avoided as these can result in interstitial condensation and black mould growth in the void.

IWICurvedFrame

Specification: Internal Wall Insulation for Curved Frame Walls

Product Ref: **Marmox Curved Multiboard**

Product Use: Internal insulation of a wooden or metal frame which curved section of the masonry building envelope to subsequently be coated with plaster.

Manufacturer: Marmox Ltd
Address: Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP.
01634 835290; Email: sales@marmox.co.uk; http://www.marmox.co.uk/.

Description: Curved Multiboard is a flexible board comprising a layer of extruded polystyrene covered on both sides with a 1mm thick coating of flexible fibre reinforced polymer concrete.
One face has 2mm wide slices every 20mm running across the 600mm width which penetrate 75% into the board so when squeezed together it can be curved in on itself to create a radius as small as 200mm. The un-serrated face is designed to be tiled/plastered/rendered.

Dimensions: Available in one size only - Width: 600mm, Length: 1200mm, Thickness: 20mm
Curvature: the cuts are only across the 600mm width

Properties: Low thermal conductivity (*c.0.034W/mK*) unaffected by moisture.
Does not expand or contract as temperature and humidity alters.

CE + UKCA: Declaration of Performance for an XPS Insulation Board
EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

Fixing: *Depending on the required impact resistance required, two methods are available…*

Standard Fixing Method: **The Marmox Curved board is fixed directly to the frame with screws and washers every 300mm with the serrated side on the inside** (*in contact with the frame*)**.**

Fixing Method for a More Robust Surface: **The Marmox Curved board is fixed onto an intermediate layer of GRG or timber etc** (*timber is not suitable if used in areas of high humidity*) **with screws and washers secured through the intermediate layer into the frame behind.**

Sub layer and Studwork

- Studs should be 300mm apart so that when the Marmox boards are subsequently fitted, all the edges of these boards will be supported - additional horizontal noggins may therefore be required.

    - *If an intermediate stabilising layer is required*, 6mm plywood, glass reinforced gypsum (GRG) panels, Tricoya sheathing would be suitable for most applications.
    - *If an intermediate stabilising layer is required* the intermediate boarding is fixed to the stud frame in accordance with the manufacturer's recommendations and must not show any deflection or tension.

Specification: Internal Wall Insulation for Curved Frame Walls

BOARDS LAID VERTICALLY *("PORTRAIT RATHER THAN "LANDSCAPE")*

- Vertical studs supporting the long edges should be 300mm apart so that when the Marmox boards are subsequently fitted, both edges and the middle of these boards will be supported
- Boards should be aligned in a staggered (*Brick-bond*) format when feasible.
- They are fixed with corrosion resistant screws + Marmox washers every c.300mm (*i.e. fixed to 3 vertical studs with 5 screws + washers per stud, 15 fixings per board*.)

BOARDS LAID HORIZONTALLY *("LANDSCAPE" RATHER THAN "PORTRAIT")*

- Vertical studs supporting the short edges should be 300mm apart so that when the Marmox boards are subsequently fitted, both short edges will be supported.
- Boards should be aligned in a staggered (*Brick-bond*) format when feasible.
- They are fixed with corrosion resistant screws + Marmox washers every c.300mm (*i.e. fixed to 5 studs with 3 screws + washers per stud, 15 fixings per board*.)

MARMOX BOARD LAYER FOR BOTH ALIGNMENTS

- A generous bead of MSP-360 is applied to all board edges as the boards are being installed so that it adheres the edge of the board to the next board and also to the frame (*or backing board if present*) behind.
- A 5mm expansion gap is left between the boards and the wall which is filled with Marmox MSP-360.
- All screw-fixings are sealed with Marmox MSP-360.
- All connections to building features e.g. window frames are sealed with Marmox MSP-360.

PLASTERING: Depending on the required impact resistance required, a single skim or a double application of paster can be put onto the boards.

IWICurvedFrame

Specification: Internal Wall Insulation for Curved Frame Walls

To achieve a resistance to impact commensurate with 'Medium Duty performance' of plasterboard (*as defined by BS5234*)

- Scrim tape (*Marmox reinforcing tape*) is applied over all joints
- Dampen the surface of the Marmox board.
- Apply two coats of plaster – the first onto the Marmox board surface approximately 2mm thick and a further 1mm approximately one hour later.
- *(To achieve heavy duty performance, an additional layer of fibreglass scrim mesh should be added onto the first coating whilst still wet.)*
- Any exposed (*foam*) edges should be covered with scrim tape before plastering.

For areas where surface impact is will be minimal or light (*such as above head height*)

- Scrim tape (*Marmox reinforcing tape*) is applied over all joints.
- Any exposed (*foam*) edges should be covered with scrim tape
- Dampen the surface of the Marmox board.
- Apply a single coat of plaster at least 2mm thick.

Notes:

1. A Vapour Control Membrane is NOT needed when using a Marmox Multiboard. Provided they are sealed together, they perform the same function.
2. Marmox MSP-360 is not like silicone – it can be plastered over without affecting the bond.
3. No priming of the Marmox board is necessary, the surface is already suitable to receive plaster.
4. Ventilation must be provided behind the Marmox boards to prevent interstitial condensation.