

## Specification: Tiling an external timber/metal frame wall

This document contains two related specifications / applications for using Marmox Multiboard as a tile backer board on external steel or wooden walls.

- Ext Wall 4 = applying the Marmox board direct to the frame
- Ext Wall 5 = applying the Marmox board direct to an intermediate 'plywood' layer on the frame

## Specification: Tile backer board direct on an external timber/metal frame

**Product Ref:** Marmox Multiboard

**Product Use:** Intermediate substrate to ceramic, stone and brick tiling on an external timber or metal frame (*a vented curtain wall / rainscreen*).

**Manufacturer:** Marmox Ltd

**Address:** Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP.  
01634 835290; Email: [info@marmox.co.uk](mailto:info@marmox.co.uk); <http://www.marmox.co.uk/>.

**Description:** Extruded polystyrene covered on both sides with fibreglass mesh encased in a c.0.75mm layer of polymer modified concrete which permanently bonds the mesh to the polystyrene.

<b>Dimensions</b>	STD.	Width: 600mm, Length: 1200mm, Thickness: 20, 30, 40, 50, 60mm
<b>allowed for</b>	LONG	Width: 600mm, Length: 2400mm, Thickness: 20, 30, 40, 50, 60mm
<b>this application:</b>	BIG	Width: 1200mm, Length: 2400mm, Thickness: 20mm

**Properties:** Decoupling between the tiled surface and the sub-structure, thermal Insulation unaffected by moisture, waterproofing, and enhanced tile adhesion.

**Authorities:** ISO9001

BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling.

**CE+UK Marking:** EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

**Fixing Method:** The Marmox board is fixed directly to the frame with screws and washers ensuring all board edges are supported.

### CONSTRUCTING THE FRAME FOR HORIZONTALLY ALIGNED (*LANDSCAPE FORMAT*) BOARDS

- Horizontal studs behind the plywood etc are 300mm apart so that when the Marmox boards are subsequently fitted, the long edges of these boards will be in front of them.
- Vertical noggins should be positioned approximately every 600mm. The frame should be in the form of rectangles, 300mm high x 600mm long.

### CONSTRUCTING THE FRAME FOR VERTICALLY ALIGNED (*PORTRAIT FORMAT*) BOARDS

- Vertical studs behind the plywood etc are 300mm apart so that when the Marmox boards are subsequently fitted, the long edges of these boards will be in front of them.
- Horizontal noggins should be positioned approximately every 600mm. The frame should be in the form of rectangles 600mm high x 300mm wide.

## Specification: Tile backer board direct on an external timber/metal frame

- A VCL membrane should be placed against the existing masonry wall and a stud frame with a minimum 50mm air gap is then constructed with centres at 300mm.
- Boards should be aligned in a staggered (Brick-bond) format
- Boards are fixed with corrosion resistant screws + Marmox washers approximately every 300mm
  - STD boards are fixed to 3 studs behind with 5 fixings per stud, **15 fixings per board.**
  - LONG boards are fixed to 3 studs behind with 9 fixings per stud, **27 fixings per board.**
  - BIG boards are fixed to 5 studs behind with 9 fixings per stud, **45 fixings per board.**
- A bead of MSP-360 is applied to all board edges so that it forms a waterproof seal between adjacent boards / walls / ceiling and the stud frame itself and should also be used to seal all screw fixings.
- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive

### Notes:

1. A breather membrane would normally be considered on the outer-side of the insulation but because Marmox Multiboard is a non-breathable waterproof barrier, a breather membrane would not have any purpose in this detail.
2. Marmox washers or similar washers of similar diameter (*c.40mm*) must be used with the thermal block fixings holding the Marmox boards.
3. A 5mm movement gap should be left between the Multiboard and any restraining surface which should be filled with Marmox MSP360.
4. Compounds containing organic solvents must not come into contact with Marmox board.
5. This application is not suitable for use on the outside of buildings at heights above 11m.

## Specification: Tile backer board on external timber/metal frame clad with plywood

**Product Ref:** Marmox Multiboard

**Product Use:** Intermediate substrate to ceramic and stone tiling external walls pre-clad with plywood or exterior boarding

**Manufacturer:** Marmox Ltd

**Address:** Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP.  
01634 835290; Email: [sales@marmox.co.uk](mailto:sales@marmox.co.uk); <http://www.marmox.co.uk/>.

**Description:** Extruded polystyrene covered on both sides with fibreglass mesh encased in a c.0.75mm layer of polymer modified concrete which permanently bonds the mesh to the polystyrene.

<b>Dimensions</b>	STD.	Width: 600mm, Length: 1200mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm
<b>allowed for</b>	LONG	Width: 600mm, Length: 2400mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm
<b>this application:</b>	BIG	Width: 1200mm, Length: 2400mm, Thickness: 12.5, 20mm

**Properties:** Decoupling between the tiled surface and the sub-structure, thermal insulation unaffected by moisture, waterproofing, and enhanced tile adhesion.

**Authorities:** ISO9001

BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling.

**CE+UK Marking:** EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

**Fixing Method:** The Marmox board is fixed to an intermediate plywood (or similar) layer with both tile adhesive and screws and washers.

### CONSTRUCTING THE FRAME FOR HORIZONTALLY ALIGNED (LANDSCAPE FORMAT) AND FOR VERTICALLY ALIGNED (PORTRAIT FORMAT) BOARDS

- Horizontal studs behind the plywood etc are 600mm apart so that when the Marmox boards are subsequently fitted, the long edges of these boards will be in front of them (*with the plywood etc. between*).
- Vertical noggins behind the plywood etc should be positioned approximately every 600mm. The frame should be in the form of squares 600mm x 600mm.
- A VCL membrane is placed against the existing masonry wall.
- The intermediate boarding (*e.g. plywood*) is fixed to the stud frame. It must not show any deflection.
- Plywood, or non-moisture resistant material should not be in contact with the ground.

## Specification: Tile backer board on external timber/metal frame clad with plywood

### BOARDS ARE ALIGNED VERTICALLY or HORIZONTALLY

- *Marmox Boards should ideally be aligned in a staggered (Brick-bond) format.*
- Marmox Boards are aligned so that their long edges correspond to where the studs are behind the plywood.
- Marmox Multiboards, are fixed to the plywood using a thin (2 – 3mm) bed of external grade tile adhesive.
- After curing, reinforce with corrosion resistant screws and Marmox washers through the plywood into each timber/metal vertical stud every c.600mm
  - STD boards (1200mm long): 2 studs with 3 fixings per stud = **6 fixings per board.**
  - LONG boards (2400mm long): 2 studs with 5 fixings per stud, **10 fixings per board.**
  - BIG boards (2400mm long): 3 studs with 5 fixings per stud, **15 fixings per board.**
- A 5mm expansion gap is left between the Marmox boards and the wall which is filled with MSP-360.
- All board joints and screw-fixings are sealed with MSP-360.
- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive

### Notes:

1. A breather membrane would normally be considered on the outer-side of the insulation but because Marmox Multiboard is a non-breathable waterproof barrier, a breather membrane would not have any purpose in this detail.
2. Marmox washers or similar washers of similar diameter (c.40mm) must be used with the thermal block fixings holding the Marmox boards.
3. A 5mm movement gap should be left between the Multiboard and any restraining surface which should be filled with Marmox MSP360.
4. Compounds containing organic solvents must not come into contact with Marmox board.
5. This application is not suitable for use on the outside of buildings at heights above 11m.