# Tile Backer Board Specifications for various applications

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## Internal Wall (IW) Specifications

## External Wall (EW) Specifications

## Internal Floor (IF) Specifications

## Specification for use as tile backer board on perfectly flat brick or concrete internal Walls

**Product Ref:** Marmox Multiboard

**Product Use:** Intermediate substrate to ceramic and stone tiling on internal masonry (excluding aircrete) walls.

**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:** 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.

| Dimensions allowed for this detail: | STD. | Width: 600mm, Length: 1250mm, Thickness: 4, 6, 10, 12.5, 20, 30, 40, 50, 60mm |
| --- | --- | --- |
| | LONG. | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| | BIG. | Width: 1200mm, Length: 24000mm, Thickness: 12.5, 20mm |

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

**Authorities:** BBA Certified (*09/4687*), ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice: The Marmox board is fixed to the masonry wall either 1) with tile adhesive only or 2) with fixings.**
The wall should not be coated or covered with any surface covering, for example – paint, plaster.

### 1) With a continuous bed of tile adhesive

- Ensure the wall is flat enough for full bed adhesion, *i.e. <3mm over a 2m span*. If it is uneven, the dotting and dabbing plus mechanical reinforcement method should be used instead.

- 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.

- Marmox Multiboard is fixed onto a continuous bed (*3-5mm thick*) of cement-based tile adhesive, the same adhesive used for subsequently fixing the tiles with.

- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive.

- If a completely waterproof layer is required (*if it is essential to keep moisture out of the masonry*), all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (*scrim tape*)

*Fixing with screws and washers is detailed on the next page….*

## Specification for use as tile backer board on perfectly flat brick or concrete internal Walls

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**2a) Aligned Vertically with screws and Marmox washers**

- *Only possible with a perfectly flat wall* - if the variation is greater than 1mm over a 2m span, boards should be fixed onto a bed of adhesive

- Boards are aligned vertically in a staggered (*Brick-bond*) format.

- Marmox Multiboard is fixed onto the masonry with screws and washers ensuring all board edges are supported.

  For STD board  – 3 vertical rows of 3 fixings = 9 per board

  For LONG board  – 3 vertical rows of 5 fixings = 15 per board

  For BIG board  – 5 vertical rows of 5 fixings = 25 per board

- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive.

- If a completely waterproof layer is required (*if essential to keep moisture out of the masonry*), all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (*scrim tape*)

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**2b) Aligned Horizontally with screws and Marmox washers**

- *Only possible with a perfectly flat wall* - if the variation is greater than 1mm over a 2m span, boards should be fixed onto a bed of adhesive

- Boards are aligned horizontally in a staggered (*Brick-bond*) format.

- Marmox Multiboard is fixed onto the masonry with screws and washers ensuring all board edges are supported.

  For STD board  – 4 vertical rows of 3 fixings = 12 per board

  For LONG board  – 7 vertical rows of 3 fixings = 21 per board

  For BIG board  – 7 vertical rows of 5 fixings = 35 per board

- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive.

- If a completely waterproof layer is required (*if essential to keep moisture out of the masonry*), all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (*scrim tape*)

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**Notes:** 1. All connections to building features e.g. window frames, are sealed with Marmox Multibond.

2. A 5mm movement gap should be created between the Multiboard and any restraining surface which should be filled with Marmox Multibond.

**Limitations:** 1) Compounds containing organic solvents (*including organic based tile sealants*) must not come into contact with Marmox board.

2) Temperatures in excess of 75$^{O}$C are not appropriate.

## Specification for use as tile backer board on uneven masonry internal Walls

**Product Ref:**     Marmox Multiboard

**Product Use:**     Intermediate substrate to ceramic and stone tiling on internal masonry (excluding aircrete) walls.

**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:**     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.

| Dimensions allowed for this detail: | | |
|---|---|---|
| STD. | Width: 600mm, Length: 1250mm, Thickness: 12.5, 20, 30, 40, 50, 60mm | |
| LONG | Width: 600mm, Length: 2500mm, Thickness: 12.5, 20, 30, 40, 50, 60mm | |
| BIG. | Width: 1200mm, Length: 24000mm, Thickness: 12.5, 20mm | |

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

**Authorities:**     BBA Certified (*09/4687*), ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice:**   **The Marmox board is fixed to the masonry wall either with tile adhesive and fixings.**  The masonry wall should not be coated or covered with any surface covering, for example – paint, plaster.

**a) Boards can be aligned vertically** in a staggered (Brick-bond) format.

- Boards are fixed with dabs of cement-based tile adhesive NOT plasterboard adhesive.

- Marmox Multiboard is fixed onto the masonry with the following number of dabs…

  For STD board     – five dabs of tile adhesive (*one in each corner and one in the middle)*

  For LONG board   – eight dabs of tile adhesive (*three along each long edge and two in the centre*)

  For BIG board     – fifteen dabs of tile adhesive (*at c.600mm centres*)

- After curing, Marmox Dowel fixings *see note 2* are used to reinforce the adhesion.

- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive.

- If a completely waterproof layer is required (*if essential to keep moisture out of the masonry*), all board joints are

  covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (*scrim tape*)

## Specification for use as tile backer board on uneven masonry internal Walls

**a) Boards can be aligned horizontally** in a staggered (Brick-bond) format.

- Boards are fixed with dabs of cement-based tile adhesive _NOT plasterboard adhesive_.

- Marmox Multiboard is fixed onto the masonry with the following number of dabs…

    For STD board    – seven dabs of tile adhesive (_three along each long edge and one in the middle_)

    For LONG board  – twelve dabs of tile adhesive (_five along each long edge and two in the centre_)

    For BIG board    – fifteen dabs of tile adhesive (_at c.600mm centres_)

- After curing, Marmox Dowel fixings _see note 2_ are used to reinforce the adhesion.

- Scrim tape (_reinforcing tape_) should be placed over all board joints prior to tiling with adhesive.

- If a completely waterproof layer is required (_if essential to keep moisture out of the masonry_), all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (_scrim tape_)

**Notes:**

1. 10mm diameter holes for the fixing dowels are made in the board before applying the dabs of adhesive to ensure that these are in the correct positions.

2. Screws, Marmox washers and wall plugs may be used as an alternative to the Marmox fixing Dowels.

**Limitations:**    1) The maximum **hanging weight** of tiling and adhesive is limited only by the properties of the tile adhesive as similar hanging weights to those achieved with bonding tiles to concrete will be obtained by bonding tiles to Marmox.  Typically, bonded with a continuous bed of adhesive this would be in excess of 100kg/m$^2$. This weight will be less if fixed by this method where the hanging weight is reliant on the fixings and the five dabs of adhesive.

2) Compounds containing organic solvents (_including organic based tile sealants_) must not come into contact with Marmox board.

3) Temperatures in excess of 75$^O$C are not appropriate.

4) The board can compress if point load pressure is applied. A supported square of plywood (_e.g. 5cm x 5cm_) should be fixed into position with tile adhesive replacing the Marmox in the areas where there may be point loading from heavy shelving, hanging lavatories etc.

## Specification for use as tile backer board on aircrete block internal Walls

**Product Ref:** **Marmox Multiboard**

**Product Use:** Intermediate substrate to ceramic and stone tiling on aircrete (AAC) block walls.

**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:** 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.

| Dimensions allowed for this detail: | STD. | Width: 600mm, Length: 1250mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
|---|---|---|
| | LONG | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| | BIG. | Width: 1200mm, Length: 24000mm, Thickness: 12.5, 20mm |

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

**Authorities:** ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

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**General Advice:** **The Marmox board is fixed to the aircrete wall with suitable 'thermal block' mechanical fixings and washers.**

- Ensure the wall is flat, *i.e. <3mm* over a 2m span.

- Boards can be aligned vertically or horizontally in a staggered (*Brick-bond*) format.

- **If the boards are aligned vertically,**

    o Marmox Multiboard - 600 x 1250mm is fixed to the wall with three vertical rows c.600mm apart, of three thermal block fixings + washers (9 per STD board)

    o Marmox Multiboard - 600 x 2500mm is fixed to the wall with three vertical rows c.600mm apart, of five thermal block fixings + washers (15 per STD board)

    o Marmox Multiboard - 1200 x 2400mm is fixed to the wall with five vertical rows c.600mm apart, of five thermal block fixings + washers (25 per STD board)

- **If the boards are aligned vertically,**

    o Marmox Multiboard - 600 x 1250mm is fixed to the wall with four vertical rows c.400mm apart, of three thermal block fixings + washers (12 per STD board)

    o Marmox Multiboard - 600 x 2500mm is fixed to the wall with seven vertical rows c.400mm apart, of three thermal block fixings + washers (21 per STD board)

    o Marmox Multiboard - 1200 x 2400mm is fixed to the wall with seven vertical rows c.400mm apart, of five thermal block fixings + washers (35 per STD board)

- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive.

- If a completely waterproof layer is required, all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (scrim tape)

**Notes:**          1. Marmox washers or similar washers of similar diameter must be used with the thermal block fixings holding the Marmox boards.

2. All connections to building features e.g. window frames, are sealed with Marmox Multibond.

**Limitations:**          1) Compounds containing organic solvents (*including organic based tile sealants*) must not come into contact with Marmox board.

2) Temperatures in excess of 75$^O$C are not appropriate.

3) The board can compress if point load pressure is applied. A supported square of plywood (*e.g. 5cm x 5cm*) should be fixed into position with tile adhesive replacing the Marmox in the areas where there may be point loading from heavy shelving, hanging lavatories etc.

## Specification: Tile backer board on flat plastered Walls

**Product Ref:**      **Marmox Multiboard**

**Product Use:**      Intermediate substrate to ceramic and stone tiling masonry walls (*not including aircrete / AAC block walls*) which already have a layer of plaster or paint.

**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:**      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.

| Dimensions allowed for this detail: | | |
|---|---|---|
| STD. | Width: 600mm, Length: 1250mm, Thickness: 4, 6, 10, 12.5, 20, 30, 40, 50, 60mm |
| LONG. | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| BIG. | Width: 1200mm, Length: 24000mm, 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 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice:**    **The Marmox board is fixed to the plastered, painted or coated wall with screws and washers**

- A 5mm expansion gap around the perimeter of the boards should be planned and filled with Multibond.
- A bead of Multibond is applied to all board edges to ensure moisture is blocked from the plaster.
- Boards can be aligned vertically or horizontally in a staggered (*Brick-bond*) format.
- Marmox Multiboard is fixed to the flat plastered wall with screws and washers every 300mm.
- Screw holes are sealed with a dab of Marmox Multibond.
- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive except in wet areas where Marmox self-adhesive tape should be used instead.
- The plastered surface must be sound and flat.

**Notes:**

1) Using a frame to fix the boards above a plastered wall is not ideal as that could encourage moisture to concentrate within the plaster which could swell and weaken over time. It is preferable, to remove the plaster so that the boards can be bonded directly to the masonry (*Specification IW1*) and provide a stronger, more durable bond.

2) If the plastered wall is uneven, consideration should be removing the plaster and fitting the boards directly on the masonry. Alternatively, if the plastered wall is too uneven for direct bonding, Marmox boards can be fixed to timber battens (*Specification IW5*) providing that the plaster has first been removed

3) Sealing the boards together with Multibond ensures a continuous waterproof barrier protecting against ingress of water – this is particularly important as the plaster coating needs to be kept dry.

## Specification: Tile backer board on flat plastered Walls

**Limitations:**     1) Compounds containing organic solvents must not come into contact with Marmox board.

2) Temperatures in excess of 75$^O$C are not appropriate.

3) The top edges of large format tiles should not line up with the top edge of the Marmox board but be placed over the joints of two or more Marmox boards.

## Specification for use as tile backer board on timber/steel stud wall frame with 300mm centres

**Product Ref:**     Marmox Multiboard

**Product Use:**     Intermediate substrate to ceramic and stone tiling on an internal stud wall with 300mm centres.

**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:**     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.

| Dimensions allowed for this detail: | STD. | Width: 600mm, Length: 1250mm, Thickness: 10, 12.5 40, 50, 60mm |
| --- | --- | --- |
| | LONG | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| | BIG. | Width: 1200mm, Length: 24000mm, Thickness: 12.5, 20mm |

THIS SPECIFICATION IS FOR USE WHEN THE CENTRES ARE 300mm IN WHICH CASE ANY THICKNESS 10mm OR GREATER CAN BE USED.
*USE IW5 (600ctr) IF CENTRES ARE 600mm (MINIMUM THICKNESS THEN IS 20mm)*

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

**Authorities:**     BBA Certified (*09/4687*), ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice:** **The Marmox board is fixed directly to the stud frame with screws ad washers every 300mm. All board edges need supporting.**

### A) IF BOARDS ARE ALIGNED VERTICALLY

- The stud frame is constructed not to defect after the installation of the Multiboard

- Additional vertical noggins are required to provide support to all short (horizontal) edges.

- Vertical studs may be a maximum of 300mm apart.

- Boards should be aligned in a staggered (Brick-bond) format

- Boards are aligned to the vertical studs so that both of their long edges are supported by the frame. They are fixed with corrosion resistant screws + Marmox washers every c.300mm

    o STD boards are fixed to 3 vertical studs with 5 screws + washers per stud, 15 fixings per board.

    o LONG boards are fixed to 3 vertical studs with 9 screws + washers per stud, 27 fixings per board.

    o BIG boards are fixed to 5 vertical studs with 9 screws + washers per stud, 45 fixings per board.

- A bead of Multibond is applied to all board edges so that it forms a waterproof seal between adjacent boards / walls / ceiling / stud frame.

- All screw-fixings are sealed with Marmox Multibond.

- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive

**Specification for use as tile backer board on timber/steel stud wall frame with 300mm centres**

**B) IF BOARDS ARE ALIGNED HORIZONTALLY**

- The stud frame is constructed not to defect after the installation of the Multiboard

- Additional vertical noggins are required to provide support to all short (vertical) edges.

- Horizontal studs may be a maximum of 300mm apart.

- Boards should be aligned in a staggered (Brick-bond) format

- Boards are aligned to the horizontal studs so that both of their long edges are supported by the frame. They are fixed with corrosion resistant screws + Marmox washers every c.300mm

    o STD boards are fixed to 3 horizontal studs with 5 screws + washers per stud, 15 fixings per board.

    o LONG boards are fixed to 3 horizontal studs with 9 screws + washers per stud, 27 fixings per board.

    o BIG boards are fixed to 5 horizontal studs with 9 screws + washers per stud, 45 fixings per board.

- A bead of Multibond is applied to all board edges so that it forms a waterproof seal between adjacent boards / walls / ceiling / stud frame.

**Notes:**   1. All connections to building features e.g. window frames, are sealed with Marmox Multibond.

2. The substrate should be constructed in accordance with BS5385 inasmuch that prior to the installation of Multiboard. The frame should be constructed so that all board edges are supported and of material that will not be subject to movement or warping resulting from changes in moisture content.

3. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox Multibond.

**Limitations:**   1) Compounds containing organic solvents (*including organic based tile sealants*) must not come into contact with Marmox board.

2) Temperatures in excess of 75$^{O}$C are not appropriate.

## Specification for use as tile backer board on timber/steel stud wall frame with 600mm centres

**Product Ref:**  Marmox Multiboard

**Product Use:**  Intermediate substrate to ceramic and stone tiling on an internal stud wall with 600mm centres.

**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:**  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.

| Dimensions allowed for this detail: | STD. | Width: 600mm, Length: 1250mm, Thickness: 20, 30, 40, 50, 60mm |
|---|---|---|
| | LONG. | Width: 600mm, Length: 2500mm, Thickness: 20, 30, 40, 50, 60mm |
| | BIG. | Width: 1200mm, Length: 24000mm, Thickness: 20mm |

THIS SPECIFICATION IS FOR USE WHEN THE CENTRES ARE 600mm IN WHICH CASE ANY THICKNESS 20mm OR GREATER CAN BE USED.  *IF CENTRES ARE 300mm, 10 AND 12.5mm BOARDS CAN BE USED – SEE IW5: 10-12*

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

**Authorities:**  BBA Certified (*09/4687*), ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice:**  The Marmox board is fixed directly to the stud frame with screws and washers every 600mm. All board edges need supporting.

### A) IF BOARDS ARE ALIGNED VERTICALLY

- The stud frame is constructed not to defect after the installation of the Multiboard

- Additional vertical noggins are required to provide support to all short (horizontal) edges.

- Vertical studs may be a maximum of 600mm apart.

- Boards should be aligned in a staggered (Brick-bond) format

- Boards are aligned to the vertical studs so that both of their long edges are supported by the frame. They are fixed with corrosion resistant screws + Marmox washers every c.300mm

  - STD boards are fixed to both vertical studs with 5 screws + washers per stud, 10 fixings per board.

  - LONG boards are fixed to both vertical studs with 9 screws + washers per stud, 18 fixings per board.

  - BIG boards are fixed to 3 vertical studs with 9 screws + washers per stud, 27 fixings per board.

- A bead of Multibond is applied to all board edges so that it forms a waterproof seal between adjacent boards / walls / ceiling / stud frame.

- All screw-fixings are sealed with Marmox Multibond.

- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive

**Specification for use as tile backer board on timber/steel stud wall frame with 600mm centres**

### B) IF BOARDS ARE ALIGNED HORIZONTALLY

- The stud frame is constructed not to defect after the installation of the Multiboard

- Additional vertical noggins are required to provide support to all short (vertical) edges.

- Horizontal studs may be a maximum of 600mm apart.

- Boards should be aligned in a staggered (Brick-bond) format

- Boards are aligned to the horizontal studs so that both of their long edges are supported by the frame. They are fixed with corrosion resistant screws + Marmox washers every c.300mm

    - STD boards are fixed to both horizontal studs with 5 screws + washers per stud, 10 fixings per board.

    - LONG boards are fixed to both horizontal studs with 9 screws + washers per stud, 18 fixings per board.

    - BIG boards are fixed to 3 horizontal studs with 9 screws + washers per stud, 27 fixings per board.

- A bead of Multibond is applied to all board edges so that it forms a waterproof seal between adjacent boards / walls / ceiling / stud frame.

**Notes:**      1. All connections to building features e.g. window frames, are sealed with Marmox Multibond.

2. The substrate should be constructed in accordance with BS5385 inasmuch that prior to the installation of Multiboard. The frame should be constructed so that all board edges are supported and of material that will not be subject to movement or warping resulting from changes in moisture content.

3. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox Multibond.

**Limitations:**      1) Compounds containing organic solvents (*including organic based tile sealants*) must not come into contact with Marmox board.

2) Temperatures in excess of 75$^{O}$C are not appropriate.

## Specification: Tile backer board on pre-clad internal stud Walls with 300mm centres

**Product Ref:** **Marmox Multiboard**

**Product Use:** Intermediate substrate to ceramic and stone tiling on timber or metal stud walls which already have a layer of either plywood, OSB or plasterboard on them.

**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:** 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.

| **Dimensions allowed with this detail:** | STD. | Width: 600mm, Length: 1250mm, Thickness: 4, 6, 10, 12.5, 20, 30, 40, 50, 60mm |
|---|---|---|
| | LONG. | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| | BIG. | Width: 1200mm, Length: 24000mm, Thickness: 12.5, 20mm |

THIS SPECIFICATION IS FOR USE WHEN THE CENTRES ARE 300mm IN WHICH CASE ANY THICKNESS CAN BE USED.  *USE IW6 (600centres) IF CENTRES ARE 600mm (MINIMUM THICKNESS THEN IS 12mm)*

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

**Authorities:** BS EN 5385-1: Code of practice for the design and installation of internal floor tiling. ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice:  The Marmox board is fixed onto an intermediate layer of plywood, OSB or plasterboard with screws and washers which need to be secured through this intermediate layer into the frame behind.**

- 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.

- The intermediate boarding is fixed to the stud frame.  It must be confirmed that there is no deflection in this structure before progressing.

- Marmox Boards can be aligned vertically or horizontally in a staggered (*Brick-bond*) format (*each board is fixed through the intermediate boarding into each stud with 5 screws + washers every 300mm.*

  o  STD boards are fixed to 3 vertical studs with 5 screws + washers per stud, 15 fixings per board.

  o  LONG boards are fixed to 3 vertical studs with 9 screws + washers per stud, 27 fixings per board.

  o  BIG boards are fixed to 5 vertical studs with 9 screws + washers per stud, 45 fixings per board.

- A 5mm expansion gap is left between the boards and the wall.

- A bead of Multibond is applied to all board edges as the boards are being installed so that it both adheres the edge of the board to the intermediate board and also forms a waterproof seal between adjacent boards / walls / ceiling.

- All screw-fixings are sealed with Marmox Multibond.

- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive.

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**Specification: Tile backer board on pre-clad internal stud Walls with 300mm centres**

**Notes:**      1. The purpose of including an additional board beneath the Marmox board is twofold: -

   a)   It provides allows for thinner sheets of Marmox board to be used which would otherwise to too flexible.
   b)   **18mm plywood** provides a secure substrate into which fittings and features such as cupboards and shelving can subsequently be put on these walls.

2. All connections to building features e.g. window frames, are sealed with Marmox Multibond.

3. The substrate should be constructed in accordance with BS5385 inasmuch that prior to the installation of Multiboard. The frame should be constructed so that all board edges are supported and of material that will not be subject to movement or warping resulting from changes in moisture content.

4. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox Multibond.

**Limitations:**      1) Compounds containing organic solvents (*including organic based tile sealants*) must not come into contact with Marmox board.

2) Temperatures in excess of 75$^{O}$C are not appropriate.

3) The substrate should be constructed in accordance with BS5385 inasmuch that prior to the installation of Multiboard, the backs and edges of boards subject to movement or warping from changes in moisture content should be treated against the ingress of atmospheric moisture.

## Specification: Tile backer board on pre-clad internal stud Walls with 600mm centres

**Product Ref:**     **Marmox Multiboard**

**Product Use:**     Intermediate substrate to ceramic and stone tiling on timber or metal stud walls which already have a layer of either plywood, OSB or plasterboard on them.

**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:**     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.

| Dimensions allowed with this detail: | STD. | Width: 600mm, Length: 1250mm, Thickness: 12.5, 20, 30, 40, 50, 60mm |
|---|---|---|
| | LONG. | Width: 600mm, Length: 2500mm, Thickness: 12.5, 20, 30, 40, 50, 60mm |
| | BIG. | Width: 1200mm, Length: 24000mm, Thickness: 12.5, 20mm |

THIS SPECIFICATION IS FOR USE WHEN THE CENTRES ARE 600mm IN WHICH CASE ANY THICKNESS CAN BE USED. *IW6: 4-60 CAN BE USED IF CENTRES ARE 300mm (MINIMUM THICKNESS THEN IS 4mm)*

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

**Authorities:**    BS EN 5385-1: Code of practice for the design and installation of internal floor tiling. ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice:**  **The Marmox board is fixed onto an intermediate layer of plywood, OSB or plasterboard with screws and washers which need to be secured through this intermediate layer into the frame behind.**

- Studs should be 600mm apart so that when the Marmox boards are subsequently fitted, all the edges of these boards will be supported.
- The intermediate boarding is fixed to the stud frame. It must be confirmed that there is no deflection in this structure before progressing.
- Marmox Boards can be aligned vertically or horizontally in a staggered (*Brick-bond*) format (*each board is fixed through the intermediate boarding into each stud with 5 screws + washers every 300mm.*
    o STD boards are fixed to both vertical studs with 5 screws + washers per stud, 10 fixings per board.
    o LONG boards are fixed to both vertical studs with 9 screws + washers per stud, 18 fixings per board.
    o BIG boards are fixed to 3 vertical studs with 9 screws + washers per stud, 27 fixings per board.
- A 5mm expansion gap is left between the boards and the wall.
- A bead of Multibond is applied to all board edges as the boards are being installed so that it both adheres the edge of the board to the intermediate board and also forms a waterproof seal between adjacent boards / walls / ceiling.
- All screw-fixings are sealed with Marmox Multibond.
- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive.

**Notes:**     1. The purpose of including an additional board beneath the Marmox board is twofold: -

      c)  It provides allows for thinner sheets of Marmox board to be used which would otherwise to too flexible.

      d)  If using 18mm plywood, it provides a secure substrate into which fittings and features such as cupboards and shelving can subsequently be put on these walls.

2. All connections to building features e.g. window frames, are sealed with Marmox Multibond.

3. The substrate should be constructed in accordance with BS5385 inasmuch that prior to the installation of Multiboard. The frame should be constructed so that all board edges are supported and of material that will not be subject to movement or warping resulting from changes in moisture content.

4. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox Multibond.

**Limitations:**     1) Compounds containing organic solvents (*including organic based tile sealants*) must not come into contact with Marmox board.

2) Temperatures in excess of 75$^O$C are not appropriate.

3) The substrate should be constructed in accordance with BS5385 inasmuch that prior to the installation of Multiboard, the backs and edges of boards subject to movement or warping from changes in moisture content should be treated against the ingress of atmospheric moisture.

## Specification: Tile backer board on external masonry (not aircrete) Walls

**Product Ref:** **Marmox Multiboard**

**Product Use:** Intermediate substrate to ceramic and stone tiling on uncoated external concrete or brick walls.

**Manufacturer:** Marmox Ltd
**Address:** Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP.
01634 835290; Email: 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.

| Dimensions allowed for this application: | STD. | Width: 600mm, Length: 1250mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
|---|---|---|
| | LONG. | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| | BIG. | Width: 1200mm, Length: 24000mm, 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 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.
BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling.

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

**General Advice:** **The Marmox board is fixed to the bare masonry wall with a continuous layer of tile adhesive.**

- The concrete, concrete blocks or bricks should be primed in accordance with the tile adhesive manufacturer's recommendations.
- Boards can be aligned vertically or horizontally in a staggered (*Brick-bond*) format.
- Marmox Multiboards are fixed onto a continuous bed of external grade tile adhesive (3-5mm thick).
- A bead of Marmox exterior grade sealant (Marmox MSP-360) is applied to all board edges.
- For tiling above a height of 2 metres, the boards are also be mechanically fixed with screws and washers positioned every 600mm.
- All screw-fixings are sealed with Marmox exterior grade sealant.
- Scrim tape (*reinforcing tape*) should be placed over all board joints prior to tiling with adhesive.

**Notes:**

1. All connections to building features e.g. window frames, are sealed with Marmox MSP360.
2. Sealing the boards together with Marmox exterior grade sealant (MSP360) ensures a continuous waterproof barrier protecting against ingress of water.
3. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox MSP360.

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## Specification: Tile backer board on external masonry (not aircrete) Walls

**Limitations:**

1. Compounds containing organic solvents must not come into contact with Marmox board.

2. Temperatures in excess of 75$^O$C are not appropriate.

3. Fixing by the dot and dab method (using tile adhesive and concrete dowels) is not recommended for external use as this will create a void behind the boards as indeed would applying a continuous bed of adhesive with a swirling action instead of in straight lines.

4. This application is not suitable for use on the outside of buildings at heights above 18m in England and Wales or 11m in Scotland and Ireland.

## Specification: Tile backer board on external aircrete block Walls

**Product Ref:**    **Marmox Multiboard**

**Product Use:**    Intermediate substrate to ceramic and stone tiling on external walls made from aircrete, AAC type block.

**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:**    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.

| Dimensions allowed for this application: | | |
|---|---|---|
| STD. | Width: 600mm, Length: 1250mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| LONG | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| BIG | Width: 1200mm, Length: 24000mm, 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 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.
BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling.

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

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**General Advice:**   **The Marmox board is fixed to the aircrete block wall with 'thermal block fixings' and washers only.**

- Ensure the wall is flat, *i.e. <3mm* over a 2m span.

- Boards can be aligned vertically or horizontally in a staggered (*Brick-bond*) format.

- Boards are fixed to the blocks using suitable 'thermal block fixings' with washers such as Marmox washers or similar which are compatible with the fixing.

- **If the boards are aligned vertically,**
  - Marmox Multiboard - 600 x 1250mm is fixed to the wall with three vertical rows c.400mm apart, of four thermal block fixings + washers (12 per STD board)

  - Marmox Multiboard - 600 x 2500mm is fixed to the wall with three vertical rows c.400mm apart, of seven thermal block fixings + washers (21 per STD board)

  - Marmox Multiboard - 1200 x 2400mm is fixed to the wall with five vertical rows c.600mm apart, of seven thermal block fixings + washers (35 per STD board)

## Specification: Tile backer board on external aircrete block Walls

- **If the boards are aligned vertically,**

    o Marmox Multiboard - 600 x 1250mm is fixed to the wall with five vertical rows c.300mm apart, of three thermal block fixings + washers (15 per STD board)

    o Marmox Multiboard - 600 x 2500mm is fixed to the wall with nine vertical rows c.300mm apart, of three thermal block fixings + washers (27 per STD board)

    o Marmox Multiboard - 1200 x 2400mm is fixed to the wall with nine vertical rows c.300mm apart, of four thermal block fixings + washers (36 per STD board)

- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive.

**Notes:**

1. Marmox washers or similar washers of similar diameter must be used with the thermal block fixings holding the Marmox boards.

2. All connections to building features e.g. window frames, are sealed with Marmox MSP-360.

3. Sealing the boards together with Marmox exterior grade sealant ensures a continuous waterproof barrier protecting against ingress of water.

4. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox MSP360.

**Limitations:**

1. Compounds containing organic solvents must not come into contact with Marmox board.

2. Temperatures in excess of 75$^O$C are not appropriate.

4. This application is not suitable for use on the outside of buildings at heights above 18m in England and Wales and 11m in Scotland and Ireland.

## Specification: Tile backer board on external rendered Walls

**Product Ref:** **Marmox Multiboard**

**Product Use:** Intermediate substrate to ceramic and stone tiling external walls which have an existing render coating.

**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:** 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.

| Dimensions allowed for this application: | | |
|---|---|---|
| | STD. | Width: 600mm, Length: 1250mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| | LONG | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm |
| | BIG | Width: 1200mm, Length: 24000mm, Thickness: 12.5, 20mm |

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

**Authorities:** ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.
BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling.

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

**General Advice:** **The Marmox board is fixed to the wall with both tile adhesive and fixings**. The rendering must be level and sound with ant damaged or loose areas of render repaired and filled.

- The rendered surface must be sound and flat and be primed in accordance with the tile adhesive manufacturer's recommendations.

- Boards can be aligned vertically or horizontally in a staggered (Brick-bond) format.

- Marmox Multiboard is fixed onto a continuous bed of external grade tile adhesive (3-5mm thick).

- Determine the nature of the wall behind the render and select appropriate fixings for that type of wall. After curing, the bonding is reinforced mechanical fixings and Marmox washers. Whether the boards are aligned vertically or horizontally, the following fixing pattern should be followed.

- As an alternative to screws, washers and plugs, Marmox Dowel fixings may be used for concrete (*but not aircrete*) blocks

## 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; 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. |

| **Dimensions allowed for this application:** | | |
|---|---|---|
| | STD. | Width: 600mm, Length: 1250mm, Thickness: 20, 30, 40, 50, 60mm |
| | LONG | Width: 600mm, Length: 2500mm, Thickness: 20, 30, 40, 50, 60mm |
| | BIG | Width: 1200mm, Length: 24000mm, Thickness: 20mm |

| | |
|---|---|
| **Properties:** | Decoupling between the tiled surface and the sub-structure, thermal Insulation unaffected by moisture, waterproofing, and enhanced tile adhesion. |
| **Authorities:** | BBA Certified (*09/4687*), ISO9001 (*Bureau Veritas*). BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling. |
| **CE Marking:** | EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3 |

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

- 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

  **A) IF BOARDS ARE ALIGNED VERTICALLY** both of their long edges are supported by the frame and are fixed with corrosion resistant screws + Marmox metal washers every c.300mm

  - STD boards are fixed to 3 vertical studs with 5 fixings per stud, 15 fixings per board.
  - LONG boards are fixed to 3 vertical studs with 9 fixings per stud, 27 fixings per board.
  - BIG boards are fixed to 5 vertical studs 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.

- All screw-fixings are sealed with MSP-360.

- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive

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

**B) IF BOARDS ARE ALIGNED HORIZONTALLY** both of their long edges are supported by the frame and are fixed with corrosion resistant screws + Marmox metal washers every c.300mm

- o STD boards are fixed to 3 horizontal studs with 5 fixings per stud, 15 fixings per board.
- o LONG boards are fixed to 3 horizontal studs with 9 fixings per stud, 27 fixings per board.
- o BIG boards are fixed to 5 horizontal studs with 9 fixings per stud, 45 fixings per board.

- A bead of Multibond is applied to all board edges so that it forms a waterproof seal between adjacent boards / walls / ceiling and stud frame itself.
- All 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. All connections to building features e.g. window frames, are sealed with MSP-360.

2. The substrate should be constructed in accordance with BS5385 inasmuch that prior to the installation of Multiboard. The frame should be constructed so that all board edges are supported and of material that will not be subject to movement or warping resulting from changes in moisture content.

3. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox MSP-360.

**Limitations:**      1) Compounds containing organic solvents must not come into contact with Marmox board.

2) Temperatures in excess of 75$^{O}$C are not appropriate.

## Specification: Tile backer board on external timber/metal framed walls 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; 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.

| Dimensions allowed for this application: | | |
|---|---|---|
| STD. | Width: 600mm, Length: 1250mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm | |
| LONG | Width: 600mm, Length: 2500mm, Thickness: 10, 12.5, 20, 30, 40, 50, 60mm | |
| BIG | Width: 1200mm, Length: 24000mm, 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 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.
BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling.

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

**General Advice:**   **The Marmox board is fixed directly to the plywood layer with both tile adhesive and screws and washers.**

- 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.
- A layer of 18mm plywood or other external grade boarding is secured to the frame.
- Boards should ideally be aligned in a staggered (Brick-bond) format.
- 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. Whilst installing, apply Marmox MSP360 to all board edges so that it forms a waterproof seal between adjacent boards.
- After curing, reinforce with corrosion resistant screws and Marmox washers through the plywood into each timber/metal stud every c.300mm
    - STD boards are fixed to 3 studs with 3 fixings per stud, 9 fixings per board.
    - LONG boards are fixed to 3 studs with 5 fixings per stud, 15 fixings per board.
    - BIG boards are fixed to 5 studs with 5 fixings per stud, 25 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.
- All screw-fixings are sealed with MSP-360.
- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive

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

**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. All connections to building features e.g. window frames, are sealed with MSP-360.

2. The substrate should be constructed in accordance with BS5385 inasmuch that prior to the installation of Multiboard. The frame should be constructed so that all board edges are supported and of material that will not be subject to movement or warping resulting from changes in moisture content.

3. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox MSP-360.

**Limitations:**
1) Compounds containing organic solvents must not come into contact with Marmox board.

2) Temperatures in excess of 75$^O$C are not appropriate.

3) The top edges of large format tiles should not line up with the top edge of the Marmox board but be placed over the joints of two or more Marmox boards.

4. This application is not suitable for use on the outside of buildings at heights above 18m in England and Wales and 11m in Scotland and Ireland.

## Specification: Tile backer board on a concrete floor

**Product Ref:**    **Marmox Multiboard**

**Product Use:**    Intermediate substrate to ceramic and stone tiling on a concrete floor.

**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:**    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.

| Dimensions suitable: | |
|---|---|
| | Width = 600mm, Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm |

**Properties:**     Resistant to external environment and temperatures.
                    Low thermal conductivity (0.034W/mK) unaffected by moisture.
                    Does not expand or contract as temperature and humidity alters.
                    Absorbs lateral movement in the sub-floor to reduce the risk of cracking in the paved/tiled surface.
                    Completely impermeable to water.

**Authorities:**    BBA Certified (*09/4687*), ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice:** Marmox Multiboard is fixed to the concrete floor on a continuous bed (3-5mm) of flexible cement-based tile adhesive

- Boards are configured in a brick-bond pattern when possible.

- Apply a continuous bed of cement-based 'flexible grade' (a.k.a. 'C2 grade') tile adhesive to the floor using a 6-4mm notched trowel.

- Lay and evenly push the Marmox board into position and check the flatness.

- Lay subsequent Marmox boards with a small gap of c.2-3mm between boards

- Apply a line of Marmox Multibond into the gaps between boards which seals the boards together making a waterproof barrier.

- A 5mm gap is left between the boards and the wall which is also filled with Marmox Multibond.

- Reinforcing tape (scrim tape) is applied over the joints just prior to tiling.

**Limitations:**
1) Compounds containing organic solvents (*including solvent-based tile sealers*) must not be used.
2) Temperatures in excess of 75$^O$C are not appropriate.
3) Tiles no smaller than 5cm x 5cm should be used on the floor.
4) Should not be installed upon fresh concrete / screed as the waterproof nature of the board will limit evaporation.
5) If the floor includes expansion joints, Multiboards must not be fitted over them.

## Specification: Tile backer board on a concrete floor

**Notes:**

1. Unless the concrete of the floor is of very poor quality unlikely to provide a good key for the adhesive, it is not necessary to also use mechanical fixings.   Screws and washers are counter-productive because: -

- *they piece the waterproof barrier*
- *they reduce the flexibility of the foam core which is there to absorb lateral movement in the subfloor to prevent tile*/grout cracking.

If additional mechanical fixings are needed, typically five per board (*one in each corner and one in the middle*) are used.

2. Short boards are much easier to fix to floor than long boards (0.6 x 2.5m) or big boards (1.2 x 2.4m) but those dimensions are also approved for this application.

## Specification: Tile backer board on a Plywood sheet flooring

| | |
|---|---|
| **Product Ref:** | **Marmox Multiboard** |
| **Product Use:** | Intermediate substrate to ceramic and stone tiling on a floor of plywood flooring panels. |
| **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:** | 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. |

| | |
|---|---|
| **Dimensions: suitable:** | Width = 600mm, Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm |

| | |
|---|---|
| **Properties:** | Resistant to external environment and temperatures. |
| | Low thermal conductivity (0.034W/mK) unaffected by moisture. |
| | Does not expand or contract as temperature and humidity alters. |
| | Absorbs lateral movement in the sub-floor to reduce the risk of cracking in the paved/tiled surface. |
| | Completely impermeable to water. |
| **Authorities:** | BBA Certified (*09/4687*), ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation. |
| **CE Marking:** | EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3 |

**General Advice:** Marmox Multiboard is fixed to the plywood floor **EITHER** using tile adhesive (*and no screws and washers*) **OR** using screws and washers (*and no tile adhesive*)

USING TILE ADHESIVE

- Boards are configured in a brick-bond pattern when possible.

- Apply a continuous bed of cement-based 'flexible grade' (a.k.a. 'C2 grade') tile adhesive to the plywood floor using a 6-4mm notched trowel.

- Lay and evenly push the Marmox board into position and check the flatness.

- Lay subsequent Marmox boards with a small gap of c.2-3mm between boards

- Apply a line of Marmox Multibond into the gaps between boards which seals the boards together making a waterproof barrier.

- A 5mm gap is left between the boards and the wall which is also filled with Marmox Multibond.

- Reinforcing tape (scrim tape) is applied over the joints just prior to tiling.

MECHANICALLY FIXINGS

- Boards are configured in a brick-bond pattern when possible.

- Marmox Multiboardis fixed to the plywood using screws and Marmox washers at 300mm centres (*15 fixings per board – irrespective of board thickness*).

- Lay subsequent Marmox boards with a small gap of c.2-3mm between boards

## Specification: Tile backer board on a Plywood sheet flooring

- Apply a line of Marmox Multibond into the gaps between boards which seals the boards together making a waterproof barrier.

- A 5mm gap is left between the boards and the wall which is also filled with Marmox Multibond.

- Reinforcing tape (scrim tape) is applied over the joints just prior to tiling.

**Notes:** Using Screws and washers is less effective than using tile adhesive to fix the boards with. Mechanical fixings are counter-productive because a) they piece the waterproof barrier and b) they reduce the flexibility of the foam core which is there to absorb lateral movement in the subfloor to prevent tile/grout cracking.

**Treatment:** To create a waterproof barrier, using a 'mastic gun' apply a bead of Marmox Multibond down each edge as the boards are being laid. Cover the joints between boards with reinforcing tape (*scrim tape*.) Leave a 5mm gap around the edge and fill with Marmox Multibond.
Marmox self-adhesive waterproof tape should be used in extreme wet areas.

**Limitations:**
6) Compounds containing organic solvents (*including solvent-based tile sealers*) must not be used.
7) Temperatures in excess of 75$^{O}$C are not appropriate.
8) Tiles no smaller than 5cm x 5cm should be used on the floor.
9) If the floor includes expansion joints, Multiboards must not be fitted over them.

## Specification: Tile backer board on a OSB or Chipboard sheet flooring

**Product Ref:**     **Marmox Multiboard**

**Product Use:**     Intermediate substrate to ceramic and stone tiling on a timber sub-floor made of OSB or chipboard.

**Manufacturer:**  Marmox Ltd
**Address:**          Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP.
                          01634 835290; Email: 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.

| Dimensions: suitable: | Width = 600mm, Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm |
|---|---|

**Properties:**      Resistant to external environment and temperatures.
                          Low thermal conductivity (0.034W/mK) unaffected by moisture.
                          Does not expand or contract as temperature and humidity alters.
                          Absorbs lateral movement in the sub-floor to reduce the risk of cracking in the paved/tiled surface.
                          Completely impermeable to water.

**Authorities:**     ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation.

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

**General Advice:**  Marmox Multiboard is fixed to this type of floor USING BOTH a continuous bed (3-5mm) of flexible cement-based tile adhesive and also screws and washers.

- Boards are configured in a brick-bond pattern when possible.

- Apply a continuous bed of cement-based 'flexible grade' (a.k.a. 'C2 grade') tile adhesive to the timber floor using a 6-4mm notched trowel.

- Lay and evenly push the Marmox board into position and check the flatness.

- Lay subsequent Marmox boards with a small gap of c.2-3mm between boards

- Apply a line of Marmox Multibond into the gaps between boards which seals the boards together making a waterproof barrier.

- When the adhesive has cured, add five screws and Marmox washers per board (*one in each corner and one in the middle*).

- A 5mm gap is left between the boards and the wall which is also filled with Marmox Multibond.

- Reinforcing tape (scrim tape) is applied over the joints just prior to tiling.

**Limitations:**
- Compounds containing organic solvents (*including solvent-based tile sealers*) must not be used.
- Temperatures in excess of 75$^{\circ}$C are not appropriate.
- Tiles no smaller than 5cm x 5cm should be used on the floor.
- If the floor includes expansion joints, Multiboards must not be fitted over them.

July 2022

## Specification: Tile backer board on a traditional floorboards

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|---|---|
| **Product Ref:** | **Marmox Multiboard** |
| **Product Use:** | Intermediate substrate to ceramic and stone tiling on a floor comprising separate traditional floorboards. |
| **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:** | 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. |

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|---|---|
| **Dimensions suitable**: | Width = 600mm, Length = 1250mm, Thickness = 10/12.5/20/30/40/50/60mm |

| | |
|---|---|
| **Properties:** | Resistant to external environment and temperatures. |
| | Low thermal conductivity (0.034W/mK) unaffected by moisture. |
| | Does not expand or contract as temperature and humidity alters. |
| | Absorbs lateral movement in the sub-floor to reduce the risk of cracking in the paved/tiled surface. |
| | Completely impermeable to water. |
| **Authorities:** | ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation. |
| **CE Marking:** | EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3 |

**General Advice:** Marmox Multiboard is fixed to the floorboards with continuous layer of tile adhesive (*and no screws and washers*)

- The floorboards **must not flex or exhibit any vertical movement**. Any movement must be eliminated before fixing the Marmox boards.

- Boards are configured in a brick-bond pattern when possible.

- Marmox Multiboard is fixed to the floorboards on a continuous bed of flexible cement-based tile adhesive applied with a 8/6mm notched trowel. If the floor is particularly uneven, a 20mm trowel may be used.

- Lay and evenly push the Marmox board into position and check the flatness.

- Lay subsequent Marmox boards with a small gap of c.2-3mm between boards

- Apply a line of Marmox Multibond into the gaps between boards which seals the boards together making a waterproof barrier.

- A 5mm gap is left between the boards and the wall which is also filled with Marmox Multibond.

- Reinforcing tape (scrim tape) is applied over the joints just prior to tiling.

**Limitations:**
1. Compounds containing organic solvents (*including solvent-based tile sealers*) must not be used.
2. Temperatures in excess of 75$^O$C are not appropriate.
3. Tiles no smaller than 5cm x 5cm should be used on the floor..

## Specification: Tile backer board on raised access flooring

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|---|---|
| **Product Ref:** | **Marmox Multiboard** |
| **Product Use:** | Intermediate substrate to ceramic and stone tiling on metal raised access flooring panels. |
| **Manufacturer:** | Marmox Ltd |
| **Address:** | Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP.<br>01634 835290; Email: 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. |

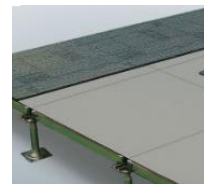| | |
|---|---|
| **Dimensions: suitable**: | Width = 600mm, Length = 1250mm, Thickness = 6/10/12.5/20/30/40/50/60mm |

| | |
|---|---|
| **Properties:** | Resistant to external environment and temperatures.<br>Low thermal conductivity (0.034W/mK) unaffected by moisture.<br>Does not expand or contract as temperature and humidity alters.<br>Absorbs lateral movement in the sub-floor to reduce the risk of cracking in the paved/tiled surface.<br>Completely impermeable to water. |
| **Authorities:** | ISO9001 (*Bureau Veritas*), Energy Saving Trust Recommended for insulation. |
| **CE Marking:** | EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3 |

**General Advice:** **Marmox Multiboard (*min thickness 6mm*) is adhered to the metal panels with a thin bed (*3 - 4mm*) of cement-based flexible tile adhesive only (*no mechanical fixings*). A c.5mm expansion gap is left around the perimeter and filled with Marmox Multibond.**

- Consult the adhesive manufacturer of a suitable material suitable for bonding to metal – it will generally be necessary to prime the surface before applying the adhesive using a 6 to 8mm trowel.

- Fix with tile adhesive only, *do not reinforce with screws and washers as this will reduce the decoupling effect of the boards*.

- Loosely butt the boards up to each other in a brick-bond pattern.

- Any movement joints in the raised flooring system should be incorporated into the Marmox board and the tiling.

- Prior to tiling, cover the board joints with scrim tape and ensure that any expansion gaps are filled with Marmox Multibond.

**Limitations:**
1. Compounds containing organic solvents (*including solvent-based tile sealers*) must not be used.
2. Temperatures in excess of 75$^O$C are not appropriate.
3. Tiles no smaller than 5cm x 5cm should be used on the floor.