

# Specifications for Tile Backer Board wall and floor applications



# Specifications for Tile Backer Board wall and floor applications

Product Ref:	Marmox Multiboard – 600mm wide, 1250mm, 4, 6, 10, 12.5, 20, 30, 40, 50, 60mm thick. Also known as Marmox Board-Pro and Marmox Construction Board.
Product Use:	Internal and external tile backer board.
Product Ref:	Marmox SoundBoard – 600mm wide, 1250mm, 8, 12mm thick. Also known as Marmox Board CS1
Product Use:	Internal, sound isolating tile backer board.

## 1. General Information

This document provides a general introduction to the installation of Marmox tile backer boards (Multiboard and SoundBoard) with common information and British Standards followed by links to specific method statements for fitting to various applications.

**The standard specifications listed are for dry to semi-dry applications. For wetrooms and areas where “tanking” is required, please refer to section 5.2 for additional advice.**

### 1.1 BS5385: 1, 2 & 3

#### WALLS

This British Standard should be considered when installing Marmox Multiboard on internal walls when specifying intermediate layers between the Marmox board and the floor or the wall/frame (for example, placing a layer of plasterboard or timber between a stud frame and the Marmox).

The latest version of BS5385 (2018) now recommends that on walls, “plywood and other wood-based sheets should not be used for direct tiling.” The standard recommends the use of a dimensionally stable substrate such as a Marmox Multiboard.

Plywood can, according to BS5385, still be used as a structural board when overlaid with a tile backer board and in which case the plywood backing must be treated against ingress of atmospheric moisture that could result in movement or warping.

#### FLOORS

BS5385 recommends that: “If a timber sub-floor has to be used as a base for floor tiling, it should be rigid and stable with respect to humidity and moisture changes and should meet the following criteria:

- Sufficiently strong and rigid
- Dead load of up to 0.8KN/m<sup>2</sup>, plus the probably dynamic loading without deflection
- The floor should not deflect more than the span divided by 360
- Floors should be rigid and stable without compressive or deflective movement. If a floor shows any deflection, it cannot be tiled with or without a Marmox board.

### 1.2 Storage

Marmox Multiboards and SoundBoards must always be stored flat. The boards should be left in their original packaging until being used to keep them clean and dust free.

## 2. Floor and Wall Application

On floors and on solid walls, Marmox Multiboard is fixed as if it were a large tile – with tile adhesive. It is advisable to avoid voids between the Marmox board and the wall so a continuous bed of tile adhesive (applied with a notched trowel in straight lines, not swirls) is recommended, certainly when the wall is flat enough. For less flat wall, dotting and dabbing (with tile adhesive not plasterboard adhesive) reinforced with a mechanical fixing is recommended and the boards can also be put directly onto a metal or timber frame.

The following links are to the specific Specification:

**Subsequent numbers are the appropriate board thicknesses (i.e. IW1-4-60 relates to board thicknesses 4 – 60mm)**

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## 2.1 IW = Internal Wall - Tile Backer Board (*short boards, 1250mm long*)

*Click on the reference below to see the desired specification sheet*

- IW1-4-60** (page 20) use as tile backer board on perfectly flat brick or concrete internal Walls
- IW2-12-60** (page 22) use as tile backer board on uneven brick, aircrete or concrete internal walls
- IW3-4-60** (page 23) use as tile backer board on aircrete block internal walls
- IW4-4-60** (page 24) on (flat) plastered walls
- IW5-10-12** (page 26) direct on timber/stud wall frame with 300mm centres
- IW5-20-60** (page 27) direct on timber/stud wall frame with 600mm centres
- IW6-4-60** (page 30) on Plywood-clad internal stud Walls – *fixed with adhesive*
- IW6-12-60** (page 31) on plywood-clad internal stud walls (screw-fix only)
- IW7-10-12** (page 33) on Plasterboard-clad internal 300mm centres stud Walls fixed with screws and washers
- IW7-20-60** (page 35) on plasterboard-clad internal 600mm centres stud walls fixed with screws and washers

## 2.2 EW = External Wall - Tile Backer Board (*short boards, 1250mm long*)

*Click on the reference below to see the desired specification sheet*

- EW1-10-60** (page 6) on external concrete, concrete block (not aircrete) or brick Walls
- EW2-10-60** (page 8) on external aircrete Walls
- EW3-10-60** (page 10) on external rendered wall
- EW5-10-60** (page 12) on external timber /metal framed walls clad with plywood

## 2.3 IF = Internal Floor - Tile Backer Board (*short boards, 1250mm long*)

*Click on the reference below to see the desired specification sheet*

- IF1-4-60** (page 14) on a concrete floor
- IF2-4-60** (page 15) on a plywood sheet flooring
- IF3-4-60** (page 17) on a OSB or Chipboard sheet flooring
- IF4-10-60** (page 18) on a traditional floorboards
- IF5-6-60** (page 19) on raised access flooring

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## 2.4 Marmox SoundBoard on floors

### 2.4 SB = Internal Floor – Acoustic Tile Backer Board

A waterproof, decoupling and thermally insulating tile backer board which also provides impact noise insulation reducing impact sound from being heard in the room below.

*Click on the reference below to see the desired specification sheet*

**SF1-8-12** (page 37) impact sound insulation, thermal insulation and a waterproof barrier to a tiled floor

## 3. Under Tile Heating Systems

Electric underfloor heating systems can be fitted to any Marmox board on a floor, carried out to these specifications. The following instructions should be added.

- Cover the joints between boards with reinforcing tape (scrim tape.) Leave a 5mm gap around the edge and fill with Marmox Multibond.
- Fix the electric under tile heating mat/cables directly onto the Marmox board.
- Pour a self-levelling compound directly onto the Marmox boards (some self-levelling compound suppliers recommend that the boards are primed – this is not usually essential with a Marmox board but their instructions should be followed to validate their guarantees).
- Cover with just enough material to conceal the heating elements.

## 5. Treatment

### 5.1 Cutting the boards

**Marmox Multiboards can be cut easily in straight lines using either a hand-saw or scored and snapped with a Stanley knife. The board can be cut into more intricate shapes using a jig-saw.**

Board edges can only be cut at 90° to the surface, i.e. they cannot be mitred.

### 5.2 Waterproofing

All these specifications are for dry/semi-dry applications and therefore state that all joints should be covered with scrim (reinforcing) tape.

For very wet internal areas (e.g. the floor in a shower, the wall to floor junction in a wetroom, splash pools), Marmox Self-adhesive **Waterproof Tape should be used instead of scrim tape.**

This is a butyl based self-adhesive material which will form a physical waterproof barrier. If Multibond or MSP360 has spilled over areas of boards' surface, this tape will still stick firmly to those areas.

In wetrooms, the use of waterproof corners is recommended. Marmox waterproof corners are not self-adhesive but are fixed using Multibond or MSP360. Like with the S/A waterproof tape, these corners should be used instead of the scrim tape.

### 5.3 Expansion Joints

Marmox Multiboard should not bridge movement joints, expansion joints and/or two substrate materials. Instead, Multiboard should be installed to the edge of the joint and a suitable movement/expansion joint be installed within the tiling.

Additional expansion joints in the floor should be continued through the Marmox layer and into the tiling

### 5.4 Tiling

Cement based tile adhesives should be used. On floors, flexible versions (also known as C2 grade) are recommended.

### 5.5 Minimum Tile Sizes on Floors

Small mosaic tiles are not suitable for use on Marmox Multiboards or SoundBoards, the smallest tiles which can be used are 50mm x 50mm.

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## 5.6 Treatment of exposed foam edges

Some applications will result in there being exposed blue foam edges. Whilst tiles can be fixed to extruded polystyrene with tile adhesive two recommendations are advised depending on the exposed area of blue foam in relation to the size of the tiles.

If less than 50% of the surface area of the tile is going to be fixed directly to the foam (i.e. the majority of the tile is fixed to the cementitious surface) Marmox reinforcing tape should simply be applied over the blue material prior to tiling.

If more than 50% of the tile will be fixed directly to the blue material, Marmox self-adhesive waterproof tape should be applied to the polystyrene material overlapping onto the cementitious coating.

## Specification: Tile backer board on external concrete, concrete block (not aircrete) or brick Walls

Product Ref:	Marmox Multiboard
Product Use:	Intermediate substrate to ceramic and stone tiling external masonry 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:	Width = 600mm, Length = 1250mm, Thickness = 10/12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 10mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	ISO9001 (Bureau Veritas) BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling. <i>This is an approved application but is not covered within the scope of the BBA certificate 09/4687</i>
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed to the masonry with tile adhesive.</b> The masonry wall should be constructed to relevant building standards and not be coated or covered with any surface covering, for example paint, plaster.

### Bonded directly to the masonry

- The masonry should be primed in accordance with the adhesive manufacturer's recommendations.
- Boards can be aligned vertically or horizontally in a staggered (Brick-bond) format.
- **Marmox Multiboards, 600mm x 1250mm x 10/12.5/20/30/40/50/60 mm is fixed onto a continuous bed of external grade tile adhesive (3-5mm thick).**
- A bead of Marmox MSP360 sealant is applied to all board edges.
- For tiling above first storey height (or 2 metres above the ground), the boards are also mechanically fixed with screws and washers positioned every 300mm.
- All screw-fixings are sealed with Marmox MSP360 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.
4. Applying the tile adhesive in straight lines using a suitable notched trowel will give an even and continuous layer without voids. Voids can result in differential curing of the adhesive and increase the risk of interstitial condensation.

**Specification: Tile backer board on external concrete, concrete block (not aircrete) or brick Walls**

**Limitations:**

1. Compounds containing organic solvents must not come into contact with Marmox board.
2. Temperatures in excess of 75°C are not appropriate.
3. Fixing by the dot and dab method (using tile adhesive and concrete dowels) is not allowed 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, 15m in Ireland or 11m in Scotland.

## **Specification: Tile backer board (12.5mm and thicker) on external aircrete Walls**

Product Ref:	Marmox Multiboard
Product Use:	Intermediate substrate to ceramic and stone tiling external masonry 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:	Width = 600mm, Length = 1250mm, Thickness = 10/12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 10mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	ISO9001 (Bureau Veritas) BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling. <i>This is an approved application but is not covered within the scope of the BBA certificate 09/4687</i>
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed to the blocks with tile adhesive and fixings.</b> The masonry wall should be constructed to relevant building standards and not be coated or covered with any surface covering, for example paint, plaster.

### **Bonded directly to the masonry**

- The aircrete blocks should be primed in accordance with the adhesive manufacturer's recommendations.
- Boards can be aligned vertically or horizontally in a staggered (Brick-bond) format.
- **Marmox Multiboards, 600mm x 1250mm x 10/12.5/20/30/40/50/60 mm is fixed onto a continuous bed of external grade tile adhesive (3-5mm thick).**
- **After curing, the bonding is reinforced with fifteen screws and washers** (screws + plugs suitable for aircrete blocks) – every 300mm including all board edges are supported. (As an alternative to screws, washers and plugs, Marmox Dowel fixings may be used)
- A bead of Marmox MSP360 is applied to all board edges.
- All screw-fixings are sealed with Marmox MSP360.
- 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 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.
4. Applying the tile adhesive in straight lines using a suitable notched trowel will an even and continuous layer without voids as voids can result in differential curing of the adhesive and increase the risk of interstitial condensation



**Specification: Tile backer board (12.5mm and thicker) on external aircrete Walls**

**Limitations:**

1. Compounds containing organic solvents must not come into contact with Marmox board.
2. Temperatures in excess of 75°C are not appropriate.
3. Fixing by the dot and dab method (using tile adhesive and concrete dowels) is not allowed 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, 15m in Ireland or 11m in Scotland.

### Specification: Tile backer board on external rendered walls

Product Ref:	Marmox Multiboard
Product Use:	Intermediate substrate to ceramic and stone tiling external masonry 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:	Width = 600mm, Length = 1250mm, Thickness = 10/12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 10mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	ISO9001 (Bureau Veritas) BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling. <i>This is an approved application but is not covered within the scope of the BBA certificate 09/4687</i>
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed to the blocks with tile adhesive and fixings.</b> The rendering must be level and sound with any damaged or loose areas of render repaired and filled.

#### **Bonded directly to the masonry**

- 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 600mm x 1250mm x 10/12.5/20/30/40/50/60 mm is fixed onto a continuous bed of external grade tile adhesive (3-5mm thick).**
- **After curing, the bonding is reinforced with fifteen screws and Marmox washers** (screws + plugs suitable for aircrete blocks) – every 300mm including all board edges are supported. (As an alternative to screws, washers and plugs, Marmox Dowel fixings may be used)
- A bead of Marmox MSP360 is applied to all board edges.
- All screw-fixings are sealed with Marmox MSP360.
- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive.

#### **Notes:**

1. If the rendered wall is uneven, consideration should be removing the render and fitting the boards directly on the masonry
2. Using a frame to fix the boards above a rendered wall is not ideal as that would encourage moisture to concentrate within the render.
3. Any secondary coating (e.g. paint) on the render coating should be removed.
4. All connections to building features e.g. window frames, are sealed with Marmox MSP360.
5. Sealing the boards together with Marmox MSP360 ensures a continuous waterproof barrier protecting against ingress of water.

### **Specification: Tile backer board on external rendered walls**

6. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox MSP360.
7. Applying the tile adhesive in straight lines using a suitable notched trowel will an even and continuous layer without voids as voids can result in differential curing of the adhesive and increase the risk of condensation within the render.

#### **Limitations:**

1. Compounds containing organic solvents must not come into contact with Marmox board.
2. Temperatures in excess of 75°C are not appropriate.
3. Fixing by the dot and dab method (using tile adhesive and concrete dowels) is not allowed 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, 15m in Ireland or 11m in Scotland.

## 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 masonry 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:	Width = 600mm, Length = 1250mm, Thickness = 10/12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 10mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	ISO9001 (Bureau Veritas) BS EN 5385-2: Code of practice for the design and installation of external ceramic wall tiling. <i>This is an approved application but is not covered within the scope of the BBA certificate 09/4687</i>
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed to the frame through the 18mm plywood with screws and washers.</b> The metal or timber frame should be constructed to relevant building standards and not demonstrate any deflection.

### Bonded directly to timber clad metal or timber framed wall

#### A) Boards aligned vertically

- The stud frame is constructed not to defect after the installation of the 18mm plywood, additional horizontal noggins may be required to improve the resistance to deflection.
- Studs may be a maximum of 300mm apart.
- Boards should be aligned in a staggered (Brick-bond) format (each board will be fixed to three vertical studs with 5 screws + washers per stud, 15 fixings per board)
- Marmox Multiboards, 600mm x 1250mm x 12.5/20/30/40/50/60 mm aligned vertically in a staggered format are fixed using both a thin (2 – 3mm) bed of external grade tile adhesive and corrosion resistant screws + Marmox Washers through the plywood into the each vertical timber/metal stud.
- A bead of Marmox MSP360 is applied to all board edges so that it forms a waterproof seal between adjacent boards and all screw-fixings are sealed with Marmox exterior grade sealant.
- Scrim tape (Marmox 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**

### **Bonded directly to timber clad metal or timber framed wall**

#### **B) Boards aligned horizontally**

- The stud frame is constructed not to defect after the installation of the 18mm plywood, additional horizontal noggins may be required to improve the resistance to deflection.
- Boards should be supported on by three studs with both short edges supported, centres should match-up with the board size should be c.400mm apart.
- Boards should be aligned in a staggered (Brick-bond) format and to ensure all short edges are supported (each board will be fixed to three vertical studs with 3 screws + washers, 9 fixings per board)
- Marmox Multiboards, 600mm x 1250mm x 10/12.5/20/30/40/50/60mm aligned horizontally in a staggered format are fixed using both a thin (2 – 3mm) bed of external grade tile adhesive and are fixed using corrosion resistant screws + Marmox Washers through the plasterboard into the each vertical timber/metal stud.
- A bead of Marmox MSP360 is applied to all board edges so that it forms a waterproof seal between adjacent boards and all screw-fixings are sealed with Marmox exterior grade sealant.
- Scrim tape (Marmox reinforcing tape) should be placed over all board joints prior to tiling with adhesive.

#### **Notes**

1. Sealing the boards together with Marmox Multibond or MSP360 ensures a continuous waterproof barrier protecting against ingress of water. The plywood MUST be protected against ingress of water through the board junctions. The Marmox board is waterproof so could trap any moisture under the surface which could swell the plywood and push against the Marmox board and possibly dislodge the tiling.
2. The inclusion or omission of a primary waterproof/vapour-proof barrier on or behind the frame should be considered in the light of fact that the Marmox layer is acting as a virtual vapour barrier
3. The layer of Marmox is waterproof and therefore could trap water within the plywood without adequate ventilation.
4. All connections to building features e.g. window frames, are sealed with Marmox MSP360.
5. 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°C are not appropriate.
3. Fixing by the dot and dab method (using tile adhesive and concrete dowels) is not allowed 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, 15m in Ireland or 11m in Scotland.

### **Specification: Tile backer board on a concrete floor**

Product Ref:	Marmox Multiboard (4/6/10/12.5/20/30/40/50/60mm)
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: info@marmox.co.uk; <a href="http://www.marmox.co.uk/">http://www.marmox.co.uk/</a> .
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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas)
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

#### **Specification**

Marmox Multiboard is fixed to the concrete floor on a continuous bed of flexible cement-based tile adhesive.\* Boards are configured in a brick-bond pattern when possible. A 5mm gap is left between the boards and the wall which is filled with Marmox Multibond. Prior to tiling, cover the board joints with scrim tape and ensure that any expansion gaps are filled with Marmox Multibond.

#### **If a completely waterproof layer is required**

All board joints are covered with Marmox self-adhesive waterproof tape in-stead of the reinforcing (scrim) tape.

#### **Notes**

\* 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: a) they pierce 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.

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

#### **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.

#### **Limitations**

1. Compounds containing organic solvents (including solvent-based tile sealers) must not be used.
2. Temperatures in excess of 75OC are not appropriate.
3. The board can compress if point load pressure is applied therefore tiles no smaller than 5cm x 5cm should not 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 plywood sheet flooring**

Product Ref:	Marmox Multiboard (4/6/10/12.5/20/30/40/50/60mm)
Product Use:	Intermediate substrate to ceramic and stone tiling on a plywood sub-floor.
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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas)
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

#### **USING TILE ADHESIVE**

Marmox Multiboard is fixed to the plywood on a continuous bed of flexible cement-based tile adhesive. Boards are configured in a brick-bond pattern when possible. A 5mm gap is left between the boards and the wall which is filled with Marmox Multibond. Prior to tiling, cover the board joints with scrim tape and ensure that any expansion gaps are filled with Marmox Multibond

#### **If a completely waterproof layer is required**

All board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing (scrim) tape

#### **USING SCREWS AND WASHERS**

Marmox Multiboard, 600 X 1250 X 4/6/10/12.5/20/30/40/50/60mm is fixed to the plywood using screws and Marmox washers at 300mm centres (15 fixings per board – irrespective of board thickness). Boards are configured in a brick-bond pattern when possible. A line of Marmox Multibond is applied to each board edge sealing and securing the boards together. A 5mm gap is left between the boards and the wall which is filled with Marmox Multibond and a dab of this is also applied over the screw holes for waterproofing.

#### **If a completely waterproof layer is required**

All board joints are covered subsequently with Marmox self-adhesive waterproof tape.

#### **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 pierce 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.

#### **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.

## **Specification: Tile backer board on a plywood sheet flooring**

### **Limitations**

1. Compounds containing organic solvents (including solvent-based tile sealers) must not be used.
2. Temperatures in excess of 75°C are not appropriate.
3. The board can compress if point load pressure is applied therefore tiles no smaller than 5cm x 5cm should not be used on the floor.
4. 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 (4/6/10/12.5/20/30/40/50/60mm)
Product Use:	Intermediate substrate to ceramic and stone tiling on a plywood sub-floor.
Manufacturer:	Marmox Ltd
Address:	Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP. 01634 835290; Email: info@marmox.co.uk; <a href="http://www.marmox.co.uk/">http://www.marmox.co.uk/</a> .
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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas)
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

#### **Specification**

Marmox Multiboard is fixed to the plywood on a continuous bed of flexible cement-based tile adhesive. Boards are configured in a brick-bond pattern when possible. A line of Marmox Multibond along each board edge seals and secures the boards together. A 5mm gap is left between the boards and the wall which is filled with Marmox Multibond.

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

**If a completely waterproof layer is required - recommended on an OSB or chipboard base** all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing (scrim) tape.

#### **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.

#### **Limitations**

1. Compounds containing organic solvents (including solvent-based tile sealers) must not be used.
2. Temperatures in excess of 75°C are not appropriate.
3. The board can compress if point load pressure is applied therefore tiles no smaller than 5cm x 5cm should not 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 traditional floorboards**

Product Ref:	Marmox Multiboard (10/12.5/20/30/40/50/60mm), Marmox Washers, Marmox Multibond
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: 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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 10/12.5/20/30/40/50/60mm
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas)
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

#### **Specification**

The floor must not flex or exhibit any vertical movement

Marmox Multiboard is fixed to the floorboards on a continuous bed of flexible cement-based tile adhesive. Boards are configured in a brick-bond pattern when possible. A 5mm gap is left between the boards and the wall which is filled with Marmox Multibond. Prior to tiling, cover the board joints with scrim tape and ensure that any expansion gaps are filled with Marmox Multibond.

#### **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**

Using Screws and washers is not recommended when fixing Marmox boards onto floorboards as they reduce the decoupling property of the board which is important on top of traditional floorboards.

#### **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.

#### **Limitations**

1. Compounds containing organic solvents (including solvent-based tile sealers) must not be used.
2. Temperatures in excess of 75OC are not appropriate.
3. The board can compress if point load pressure is applied therefore tiles no smaller than 5cm x 5cm should not be used on the floor.
4. If the floor includes expansion joints, Multiboards must not be fitted over them.

### **Specification: Tile backer board on raised access flooring**

Product Ref:	Marmox Multiboard (6/10/12.5/20/30/40/50/60mm)
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. 01634 835290; Email: info@marmox.co.uk; <a href="http://www.marmox.co.uk/">http://www.marmox.co.uk/</a> .
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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 6/10/12.5/20/30/40/50/60mm
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas)
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3

#### **Specification**

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.

#### **Fitting**

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



#### **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.

#### **Limitations**

1. Compounds containing organic solvents (including solvent-based tile sealers) must not be used.
2. Temperatures in excess of 75OC are not appropriate.
3. The board can compress if point load pressure is applied therefore tiles no smaller than 5cm x 5cm should not be used on the floor.

## 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 (not aircrete) 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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 4mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas) BS EN 5385-1: Code of practice for the design and installation of internal floor tiling.
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed to the masonry either with tile adhesive or fixings.</b> The masonry wall should be constructed to relevant building standards and not be coated or covered with any surface covering, for example paint, plaster. If the plastered wall is uneven (>3mm)

### **A) 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 recommendations.
- Boards can be aligned vertically or horizontally in a staggered (Brick-bond) format.
- Marmox Multiboard 600mm x 1250mm x 4/6/10/12.5/20/30/40/50/60 mm is fixed onto a continuous bed of cement-based tile adhesive (3-5mm thick).
- 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)

### **B) Aligned Vertically with screws and Marmox washers**

- Ensure the wall is flat enough – if the variation is greater than 3mm over a 2m span, the dotting and dabbing plus mechanical reinforcement method should be used instead.
- Boards are aligned vertically in a staggered (Brick-bond) format.
- Marmox Multiboard 600mm x 1250mm x 4/6/10/12.5/20/30/40/50/60 mm is fixed onto the masonry with three vertical rows of three screws and washers (nine 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, all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (scrim tape)

### **C) Aligned Horizontally with screws and Marmox washers**

- Ensure the wall is flat enough – if the variation is greater than 3mm over a 2m span, the dotting and dabbing plus mechanical reinforcement method should be used instead.

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

- Boards are aligned horizontally in a staggered (Brick-bond) format.
- Marmox Multiboard 600mm x 1250mm x 4/6/10/12.5/20/30/40/50/60 mm is fixed onto the masonry with five vertical rows of three screws and washers (15 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, all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (scrim tape)

### **Notes (for all 3 applications)**

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 of 5mm which should be filled with Marmox Multibond.
4. Applying the tile adhesive in straight lines using a suitable notched trowel will an even and continuous layer without voids as voids can result in differential curing of the adhesive and increase the risk of interstitial condensation.
5. 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<sup>2</sup>.
6. For waterproofing refer to point 5.2 in the general introduction section of the specifications document. This states that Marmox self-adhesive waterproof tape is used instead of scrim tape.

### **Limitations:**

1. Compounds containing organic solvents (including organic based tile sealants) must not come into contact with Marmox board.
3. Temperatures in excess of 75°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 uneven brick, aircrete or concrete internal walls

Product Ref:	Marmox Multiboard, Marmox Dowel Fixings
Product Use:	Intermediate substrate to ceramic and stone tiling on internal masonry walls (including aircrete).
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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 12.5mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas). BS EN 5385-1: Code of practice for the design and installation of internal floor tiling.
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed to the masonry with tile adhesive and fixings.</b> The masonry wall should be constructed to relevant building standards and not be coated or covered with any surface covering, for example paint, plaster.

- Boards are aligned vertically or horizontally in a staggered (Brick-bond) format.
- The dabs of adhesive are (cement-based) tile adhesive NOT plasterboard adhesive.
- Marmox Multiboard 600mm x 1250mm x 12.5/20/30/40/50/60 mm is fixed onto five dabs of cement-based tile adhesive (one in each corner and one in the middle).
- After curing, Marmox Dowel fixings <sup>SEE NOTE 2</sup> 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, 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.
3. All connections to building features e.g. window frames, are sealed with Marmox Multibond.
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°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 directly over one of the dabs 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 a flat internal aircrete 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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 4mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas). BS EN 5385-1: Code of practice for the design and installation of internal floor tiling.
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed to the masonry either with tile adhesive AND fixings.</b> The masonry wall should be constructed to relevant building standards and not be coated or covered with any surface covering, for example paint, plaster.

- 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 "IW2-12-60", should be used instead.
- Boards can be aligned vertically or horizontally in a staggered (Brick-bond) format.
- Marmox Multiboard 600mm x 1250mm x 4/6/10/12.5/20/30/40/50/60 mm is fixed onto a continuous bed of cement-based tile adhesive (3-5mm thick).
- After curing, five Marmox Dowel fixings or screws + washers + plugs 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, 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. All connections to building features e.g. window frames, are sealed with Marmox Multibond.
3. A 5mm movement gap should be created between the Multiboard and any restraining surface of 5mm which should be filled with Marmox Multibond.
4. Multiboard should be adhered with a solid bed of adhesive without voids, as voids can result in differential curing of the adhesive and increase the risk of interstitial condensation.

### Limitations:

1. Compounds containing organic solvents (including organic based tile sealants) must not come into contact with Marmox board.
3. Temperatures in excess of 75°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: Tile backer board on (flat) plastered walls

Product Ref:	Marmox Multiboard
Product Use:	Intermediate substrate to ceramic and stone tiling internal walls with an existing layer of plaster.
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:	Board Width = 600mm, Length = 1250mm, Thickness = 4 – 60mm <b>(Thinnest board suitable for this application = 4mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas). BS EN 5385-1: Code of practice for the design and installation of internal floor tiling.
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed to the plastered wall with screws and washers.</b> It is preferable, if possible, to remove the plaster so that the boards can be bonded directly to the masonry (Specification IW1) and provide a stronger, more durable bond. If not possible, the Marmox board is mechanically fixed to the masonry behind the plaster.  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.

- The plastered surface must be sound and flat.
- 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.
- A bead of Multibond is applied to all board edges including a 5mm expansion gap around the perimeter.
- Marmox self-adhesive waterproof tape should be placed over all board joints prior to tiling with adhesive in wet areas.

#### **Notes:**

1. Using a frame to fix the boards above a plastered wall is not ideal as that would encourage moisture to concentrate within the plaster.
2. 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.
4. All connections to building features e.g. window frames, are sealed with Marmox Multibond.
5. 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 must not come into contact with Marmox board.
2. Temperatures in excess of 75°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 directly over one of the dabs 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**

**Specification: Tile backer board direct on timber/stud wall frame with 300mm centres**

Product Ref:	Marmox Multiboard, Marmox Washers, Marmox Multibond
Product Use:	Intermediate substrate to ceramic and stone tiling on internal stud 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:	Board Width = 600mm, Board Length = 1250/2500mm, Thickness = 10/12.5mm <b>(Thinnest board suitable for this application = 10mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	BBA Certified (09/4687), ISO9001 (Bureau Veritas). BS EN 5385-1: Code of practice for the design and installation of internal floor tiling.
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed directly to the stud frame.</b> If the distance between studs is 600mm, 10 and 12.5mm boards cannot be used – thicker boards (at least 20mm) should be used as shown in specification IW5-20-60.

**A) BOARDS 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 fixed to the vertical studs with corrosion resistant screws + Marmox washers every c.300mm**  
1250mm long boards are fixed to three vertical studs with 5 screws + washers per stud, 15 fixings per board.  
2500mm long boards are fixed to three 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.
- If a completely waterproof layer is required, all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (scrim tape)

**Specification: Tile backer board direct on timber/stud wall frame with 300mm centres**

**B) BOARDS 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 fixed to the horizontal studs with corrosion resistant screws + Marmox washers every c.300mm**
  - 1250mm long boards are fixed to three horizontal studs with 5 screws + washers per stud, 15 fixings per board.
  - 2500mm long boards are fixed to three 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 both adheres the edge of the board to the stud and also 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.
- 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. 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°C are not appropriate.

**Specification: Tile backer board direct on timber/stud wall frame with 600mm centres**

Product Ref:	Marmox Multiboard (20/30/40/50/60mm), Marmox Washers, Marmox Multibond
Product Use:	Intermediate substrate to ceramic and stone tiling on internal stud 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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 20/30/40/50/60mm <b>(Thinnest board suitable for this application = 20mm)</b>
Properties:	Decoupling between the tiled surface and the sub-structure. Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	ISO9001 (Bureau Veritas) BS EN 5385-1: Code of practice for the design and installation of internal floor tiling.
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed directly to the stud frame.</b> If the distance between studs is 300mm, 10 and 12.5mm boards can also be used – see specification IW5-10-12.

**A) BOARDS 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.
- Each board will be aligned so that each long edge is supported by a stud.
- Boards are fixed to the vertical studs with corrosion resistant screws + Marmox washers every c.300mm  
1250mm long boards are fixed to the vertical studs with 5 screws + washers per stud, 10 fixings per board.  
2500mm long boards are fixed to three vertical studs with 9 screws + washers per stud, 18 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.
- If a completely waterproof layer is required, all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (scrim tape)

**Specification: Tile backer board direct on timber/stud wall frame with 600mm centres**

**B) BOARDS 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.
- Boards should be aligned in a staggered (Brick-bond) format.
- Each board will be aligned so that all edges are supported by a stud.
- Boards are fixed to the horizontal studs with corrosion resistant screws + Marmox washers every c.300mm  
1250mm long boards are fixed to the horizontal studs with 5 screws + washers per stud, 10 fixings per board.  
2500mm long boards are fixed to the horizontal studs with 9 screws + washers per stud, 18 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.
- 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. 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°C are not appropriate.

## **Specification: Tile backer board on Plywood-clad internal stud Walls – fixed with adhesive**

Product Ref:	Marmox Multiboard (4/6/10/12.5/20/30/40/50/60mm), Marmox Washers, Marmox Multibond
Product Use:	Intermediate substrate to ceramic and stone tiling on internal plywood clad 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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 4/6/10/12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 4mm)</b>
Properties:	Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	ISO9001 (Bureau Veritas) BS EN 5385-1: Code of practice for the design and installation of internal floor tiling. <i>This is an approved application but is not covered within the scope of the BBA certificate 09/4687</i>
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed onto 18mm plywood with tile adhesive AND screws and washers.</b> Cement based tile adhesive is the primary fixing method but to allow for the durability of the timber, additional mechanical fixings into the studs are also recommended.

- The stud frame is constructed not to defect after the installation of the 18mm plywood, additional horizontal noggins may be required to improve the resistance to deflection. This stability must be confirmed.
- Multiboard can be aligned vertically or horizontally in a staggered (Brick-bond) format.
- Studs may be a maximum of 600mm apart.
- A 5mm expansion gap is left between the boards and the wall.
- Marmox Multiboard 600mm x 1250mm x 4/6/10/12.5/20/30/40/50/60 mm should be adhered with a solid bed of adhesive without voids..
- Six Corrosion resistant screws + Marmox Washers (3 along each long side, at c.600mm centres) are placed through the plywood into the timber/metal stud.
- A bead of Multibond is applied into the 5mm expansion gap and all screw-fixings are sealed with Marmox Multibond.
- 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. 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 backs and edges of boards subject to movement or warping from changes in moisture content should be treated against the ingress of atmospheric moisture.
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°C are not appropriate.

**Specification: Tile backer board on plywood-clad internal stud walls (screw-fix only)**

Product Ref:	Marmox Multiboard (12.5/20/30/40/50/60mm), Marmox Washers, Marmox Multibond
Product Use:	Intermediate substrate to ceramic and stone tiling on internal plywood clad 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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 12.5/20/30/40/50/60mm <b>(Thinnest board suitable for this application = 12.5mm)</b>
Properties:	Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing. Enhanced tile adhesion
Authorities:	ISO9001 (Bureau Veritas). BS EN 5385-1: Code of practice for the design and installation of internal floor tiling. <i>This is an approved application but is not covered within the scope of the BBA certificate 09/4687</i>
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed through the 18mm plywood with screws and washers only.</b> The studs must be aligned so that the long edges of the Marmox boards are supported and can be screw-fixed into the studs.

**Boards aligned vertically or horizontally**

- The stud frame is constructed not to defect after the installation of the 18mm plywood, additional horizontal noggins may be required to improve the resistance to deflection.
- Studs may be a maximum of 600mm apart.
- Boards should be aligned in a staggered (Brick-bond) format (each board will be fixed to two vertical studs with 5 screws + washers per stud, 10 fixings per board)
- Marmox Multiboards, 600mm x 1250mm x 12.5/20/30/40/50/60 mm aligned in a staggered format are fixed with corrosion resistant screws + Marmox Washers (supporting the edges) through the plywood into the each timber/metal stud.
- A bead of Multibond is applied to all board edges so that it forms a waterproof seal between adjacent boards and 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 plywood MUST be protected against ingress of water through the board junctions. The Marmox board is waterproof so could trap any moisture under the surface which could swell the plywood and push against the Marmox board and possibly dislodge the tiling. A generous bead of Marmox Multibond (mastic) is applied to all board edges during installation and will also act as an adhesive.
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 backs and edges of boards subject to movement or warping from changes in moisture content should be treated against the ingress of atmospheric moisture.
4. 4) 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 plywood-clad internal stud walls (screw-fix only)**

5. 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°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 directly over one of the dabs replacing the Marmox in the areas where there may be point loading from heavy shelving, hanging lavatories etc.



## **Specification for tile backer board on Plasterboard-clad internal stud Walls fixed with screws and washers**

Product Ref:	Marmox Multiboard (10/12.5mm), Marmox Washers, Marmox Multibond
Product Use:	Intermediate substrate to ceramic and stone tiling on internal plasterboard clad 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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 10/12.5mm
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).
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed through the plasterboard with screws and washers only.</b> The studs must be aligned so that the long edges of the Marmox boards are supported and can be screw-fixed into the studs.

### **A) Boards aligned vertically**

**Marmox Multiboards, 600mm x 1250mm x 10/12.5 mm aligned vertically in a staggered format are fixed using corrosion resistant screws + Marmox Washers through the plasterboard into each vertical timber/metal stud.**

- The stud frame is constructed not to defect after the installation of the plasterboard, additional horizontal noggins may be required to improve the resistance to deflection.
- Studs may be a maximum of 300mm apart.
- Boards should be aligned in a staggered (Brick-bond) format (each board is fixed to three vertical studs with 5 screws + washers per stud, 15 fixings per board)
- A bead of Multibond is applied to all board edges so that it both adheres the edge of the board to the plasterboard 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.
- If a completely waterproof layer is required, all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (scrim tape)

## **Specification for tile backer board on Plasterboard-clad internal stud Walls fixed with screws and washers**

### **B) Boards aligned horizontally**

**Marmox Multiboards, 600mm x 1250mm x 10/12.5mm aligned horizontally in a staggered format are fixed using corrosion resistant screws + Marmox Washers through the plasterboard into each vertical timber/metal stud.**

- The stud frame is constructed not to defect after the installation of the plasterboard, additional horizontal noggins may be required to improve the resistance to deflection.
- Boards should be supported by five studs with both short edges supported, centres should match-up with the board size should be no more than c.300mm apart.
- Boards should be aligned in a staggered (Brick-bond) format and to ensure all short edges are supported (each board will be fixed to five vertical studs with 3 screws + washers, 15 fixings per board)
- A bead of Multibond is applied to all board edges so that it both adheres the edge of the board to the plasterboard 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.
- If a completely waterproof layer is required, all board joints are covered with Marmox self-adhesive waterproof tape instead of reinforcing tape (scrim tape)

### **Explanation of why it is important to seal all the joints**

The plasterboard **MUST** be protected against ingress of water through the board junctions. The Marmox board is waterproof so could trap any moisture under the surface which could swell the plasterboard and push against the Marmox board and possibly dislodge the tiling.

A generous bead of Marmox Multibond (mastic) is applied to all board edges during installation and will also act as an adhesive.

### **Notes:**

1. The plasterboard **MUST** be protected against ingress of water through the board junctions. The Marmox board is waterproof so could trap any moisture under the surface which could swell the plasterboard and push against the Marmox board and possibly dislodge the tiling. A generous bead of Marmox Multibond (mastic) is applied to all board edges during installation and will also act as an adhesive.
2. All connections to building features e.g. window frames, are sealed with Marmox Multibond.
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°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 directly over one of the dabs replacing the Marmox in the areas where there may be point loading from heavy shelving, hanging lavatories etc.

**Specification: Tile backer board (20mm and thicker) on plasterboard-clad internal stud walls fixed with screws and washers**

Product Ref:	Marmox Multiboard (20/30/40/50/60mm), Marmox Washers, Marmox Multibond
Product Use:	Intermediate substrate to ceramic and stone tiling on internal plasterboard clad 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:	Board Width = 600mm, Board Length = 1250mm, Thickness = 20/30/40/50/60mm <b>(Thinnest board suitable for this application = 20mm)</b>
Properties:	Thermal Insulation unaffected by moisture, temperature including freezing. Waterproofing, Enhanced tile adhesion
Authorities:	ISO9001 (Bureau Veritas) BS EN 5385-1: Code of practice for the design and installation of internal ceramic wall tiling. <i>This is an approved application but is not covered within the scope of the BBA certificate 09/4687</i>
CE Marking:	EN13164 – T1 – CS(10\Y)400 – CC(2/1/10)115 – WL(T)3
General Advice:	<b>The Marmox board is fixed through the plasterboard with screws and washers only.</b> The studs must be aligned so that the long edges of the Marmox boards are supported and can be screw-fixed into the studs.

**A) Boards aligned vertically**

- The stud frame is constructed not to defect after the installation of the plasterboard, additional horizontal noggins may be required to improve the resistance to deflection.
- Studs may be a maximum of 600mm apart.
- Boards should be aligned in a staggered (Brick-bond) format (each board will be fixed to two vertical studs with 5 screws + washers per stud, 10 fixings per board)
- Marmox Multiboards, 600mm x 1250mm x 20/30/40/50/60 mm aligned vertically in a staggered format are fixed using corrosion resistant screws + Marmox Washers through the plasterboard into the each vertical timber/metal stud.
- A bead of Multibond is applied to all board edges so that it both adheres the edge of the board to the plasterboard 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.

**Specification: Tile backer board (20mm and thicker) on plasterboard-clad internal stud walls fixed with screws and washers**

**B) Boards aligned horizontally**

- The stud frame is constructed not to defect after the installation of the plasterboard, additional horizontal noggins may be required to improve the resistance to deflection.
- Boards should be supported on by three studs with both short edges supported, centres should match-up with the board size should be c.600mm apart.
- Boards should be aligned in a staggered (Brick-bond) format and to ensure all short edges are supported (each board will be fixed to three vertical studs with 3 screws + washers, 9 fixings per board)
- Marmox Multiboards, 600mm x 1250mm x 20/30/40/50/60mm aligned horizontally in a staggered format are fixed using corrosion resistant screws + Marmox Washers through the plasterboard into the each vertical timber/metal stud.
- A bead of Multibond is applied to all board edges so that it both adheres the edge of the board to the plasterboard 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 plasterboard **MUST** be protected against ingress of water through the board junctions. The Marmox board is waterproof so could trap any moisture under the surface which could swell the plasterboard and push against the Marmox board and possibly dislodge the tiling. A generous bead of Marmox Multibond (mastic) is applied to all board edges during installation and will also act as an adhesive.
2. All connections to building features e.g. window frames, are sealed with Marmox Multibond.
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°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 directly over one of the dabs replacing the Marmox in the areas where there may be point loading from heavy shelving, hanging lavatories etc.

**Specification for use a tile backer board providing decoupling, impact sound insulation, thermal insulation and a waterproof barrier to a tiled floor.**

Product Ref:	Marmox SoundBoard
Product Use:	Waterproof intermediate substrate to ceramic and stone tiling on internal flooring decoupling the sub-floor from the tiled surface in addition to providing thermal insulation and impact noise insulation. Typically used in shared accommodation buildings where a tiled floor would otherwise result in noise levels being heard in the rooms below out of specification with Part E / Section 5 of the building regulations (England & Wales / Scotland). <b>Can be used on concrete or timber floors</b>
Manufacturer:	Marmox Ltd
Address:	Marmox UK Ltd, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP. 01634 835290; Email: info@marmox.co.uk; <a href="http://www.marmox.co.uk/">http://www.marmox.co.uk/</a> .
Description:	Extruded polystyrene coated on one sides with fibreglass mesh encased in a c.0.75mm layer of polymer modified concrete and on the other side, a 2mm thick layer of SBR rubber
Dimensions:	Width = 600mm, Length = 1250mm, Thickness = 8mm / 12mm
Properties:	Impact Sound Insulation on a tiled surface ( $\Delta L_w$ ) = 20dB. Resistant to external environment and temperatures. Low thermal conductivity $\lambda = 0.034\text{W/mK}$ unaffected by moisture. Does not expand or contract as temperature and humidity alters. Absorbs lateral movement in the sub-floor reducing the risk of cracking at the tiled surface. Completely impermeable to water.
Authorities:	HBRC (sound reduction), BBA (BBA certified tile backer board component), QMS: ISO9001.
CE Marking:	No corresponding European Standard.
General Advice:	Marmox SoundBoard is fixed using tile adhesive to the timber/concrete floor with the rubber side down with tiling on its upper surface. Flexible tile adhesive or Multibond can be used on any substrate.

**Method 1, Fixing with Tile Adhesive**

- The floor should be level, secure, clean and primed.
- Marmox SoundBoard is fixed (rubber side down) to the concrete floor on a continuous bed of flexible cement-based tile adhesive applied with a 6/8mm trowel.
- Boards are configured in a brick-bond pattern when possible.
- A 5mm gap is left between the boards and the wall which is filled with Marmox Multibond.
- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive.

**Method 2, Fixing with Marmox Multibond (for use in dry areas only)**

- The floor should be level, secure, clean and primed.
- A bead of Marmox Multibond applied to the rubber side of the SoundBoard around the board's perimeter and zig-zagged through the middle. One tube should be used for every two boards.
- Marmox SoundBoard is fixed (rubber side down) to the concrete floor and not disturbed for 24 hours.
- Boards are configured in a brick-bond pattern when possible.
- A 5mm gap is left between the boards and the wall which is filled with Marmox Multibond.
- Scrim tape (reinforcing tape) should be placed over all board joints prior to tiling with adhesive.

**Specification for use a tile backer board providing decoupling, impact sound insulation, thermal insulation and a waterproof barrier to a tiled floor.**

**Additional Applications**

**Using as a Perimeter Flanking Board**

Marmox SoundBoard can be cut into strips and used as Flanking Boards at the base of the walls at tile level. This provides a rigid physical barrier which the tiles can be butted up to which is acoustically isolated from the masonry of the wall.

- The SoundBoard is cut into appropriate width strips.
- It is fixed to the base of the wall (with the rubber side facing inwards.) so that the base of the tiles /timber flooring / grout can butt up to it without it showing.
- It is adhered to the wall with Multibond. However, Multibond is not an instant grab adhesive so if the wall is uneven or difficult to adhere to, a non-solvent based grab adhesive may be substituted.
- Ensure there is still a c.5mm expansion gap between the edge of the boards on the floor and the flanking strips which is filled with Multibond.

**With electric Under-tile Heating**

- Ensure boards are secured to sub-floor as above.
- Ensure all board joints are taped.
- Fix the underfloor heating elements directly onto the concrete surface of the Multiboard using the appropriate fixings.
- Cover with a layer of self-levelling compound to just cover the wires.

**Limitations:**

1. Marmox SoundBoard is designed for FLOORS ONLY, it reduces impact sound so would be ineffective on walls.
2. Not suitable for mechanical fixing (screws will reduce acoustic properties).
3. Compounds containing organic solvents (including solvent-based tile sealers) must not be used.
4. Temperatures in excess of 75°C are not appropriate.
5. The board can compress if point load pressure is applied therefore tiles no smaller than 5cm x 5cm should not be used on the floor.
6. Should not be installed upon fresh concrete / screed as the waterproof nature of the board will limit evaporation.
7. If the floor includes expansion joints, SoundBoard must not be fitted over them.
8. If being used on a floor that is likely to get wet, the boards should be fixed with tile adhesive (method 1) rather than with multibond (method 2) and Marmox self-adhesive waterproof tape is used over all the joints.