

## **Specification to eliminate or reduce thermal bridge at the junction of the wall with the floor or roof**

<b>Product ref:</b>	<b>Marmox Thermoblock (Standard Type)</b>
<b>Manufacturer:</b>	<b>Marmox Ltd</b>
<b>Address:</b>	<b>Marmox UK, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP. 01634 835290; Email: <a href="mailto:info@marmox.co.uk">info@marmox.co.uk</a>; <a href="http://www.marmox.co.uk/">http://www.marmox.co.uk/</a>.</b>

**Description:** Marmox Thermoblock is a load-bearing heat-insulating building block. It is positioned at the foot of a load-bearing or non-load bearing walls to eliminate/reduce the cold bridge or at the top of the wall at the roof/ceiling junction to address the cold bridge there. Marmox Thermoblock consists of two rows of load-carrying epoxy-concrete columns of low thermal conductivity bonded to polymer concrete layers reinforced with fibreglass mesh which comprise the upper and lower surfaces. Thermally insulating Extruded Polystyrene surrounds the columns. Typically it is used at the base of the inner leaf.

**Dimensions:** Length = 600mm, Thickness = 65mm (100mm upon request),  
Width = 100mm, 140mm or 215mm

**Product Use:** Elimination/Reduction of cold bridge at the floor/wall (and roof/wall) junction

**Applications:** The standard grade Marmox Thermoblock can be used: -

- a) At the base of the inner leaf of a masonry wall (below the level of the floor)
- b) At the base of the outer leaf of a wall (below the level of the ground)\*
- c) At the base of a solid masonry wall (below the levels of the floor and the outside ground)\*
- d) At the base of a timber framed wall (below the level of the floor)
- e) Beneath metal door/window frame,
- f) Beneath the floor slab/raft on top of the foundation units.
- g) At the base of a party wall.
- h) At the top of a wall in contact where roof structures cause cold bridging.

*\*when used externally it is advised to coat the exposed XPS face of the block with a simple sand/cement mortar to protect against gnawing animals and insects.*

<b>Specification:</b>	<p><b><u>1) Masonry Wall:</u></b> Place a single course of Marmox Thermoblock (600mm x 100mm/140mm/215mm x 65mm) at the base of the wall in place of the bottom row of blocks/bricks. Fix to the base and to the blocks above with normal mortar. Alternatively, for positioning within a wall (not at the base) mortar the Thermoblocks to the structure below and above it using normal mortar. Ensure that the surfaces above and below the Thermoblock are flat and stable. When being used at the base of a wall, seal the blocks together by placing a small ribbon of Marmox Multibond on the stepped edges to provide a waterproof barrier.</p> <p>The width of the blocks / bricks laid on top of Thermoblock must be the same width as the Thermoblock.</p>
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## **2) Timber Framed Wall:**

**Position Marmox Thermoblock (600mm x 100mm/140mm/215mm x 65mm) on the floor at the base of the wall beneath the sole plate using conventional sand/cement mortar. Seal the blocks together by placing a small ribbon of Marmox Multibond on the stepped edges to provide a waterproof barrier. Fix the sole plate mechanically to the floor by bolting through the Thermoblock**

**The width of the timber frame laid on top of Thermoblock must be the same width as the Thermoblock.**

- Properties:** Average  $\lambda$  value of 0.047W/mK (to EN13164/EN13167), Mean compressive strength of 9.0N/mm<sup>2</sup> (to EN772-1), fire resistance >120minutes (to EN1365-1) Water Absorption <3.5% (to EN771-4).
- Authorities:** BBA certified (10/4778), ISO9001 (Bureau Veritas)
- Fixing system:** Fix to the concrete floor or foundation blocks using a standard brick/block laying sand and cement mortar.  
Fix to the bricks/blocks above using a standard brick/block laying sand and cement mortar. If using lightweight blocks, this initial layer of mortar should be at least 15mm.  
Fixed to wooden frames by securing a sole plate to the upper surface of the Thermoblock through the XPS section (located along the middle of the block)
- A waterproof barrier can be created by sealing the edges with a sealant. Fixed to each other using Marmox Multibond along the joint.
- *Application:* 1 tube for every 25metres of 100mm wide blocks (42 blocks)  
1 tube for every 20 metres of 140mm wide blocks (33 blocks)  
1 tube for every 12 metres of 215mm wide blocks (20 blocks)
- Treatment:** The vertical sides of the Marmox Thermoblock must not be left visible. For typical installation, the exposed face must be completely covered with the floor screed.  
If installed in other areas, this vertical surface must be covered, for example by plaster.
- DPM:** Although when sealed together Thermoblock creates a permanent waterproof barrier, Thermoblock is not officially a DPM. The Damp Proof Membrane must be applied to the wall design as though the Thermoblock were simply another normal block in the wall. Typically, the DPM is fixed above the layer of Thermoblock, either directly on top or on top of the next block above it.
- Limitations:**
- 1) The materials on top of the Thermoblock is the same width as the Thermoblock.
  - 2) Cannot be laid on top of each other.
  - 3) Temperatures in excess of 80°C are not appropriate (*for temperatures above 80°C, use the PIR version*)
  - 4) Effectively creates a waterproof barrier but not classified as a WPC
  - 5) Must not be used in environments where organic solvents such as petrol may come into contact with them.
  - 6) Must not be used with any adhesives, sealants, waterproofing treatments that contain organic solvents. The compatibility of ANY none standard material should be determined by checking whether that material is compatible with polystyrene – if it is not, then it cannot be used with Thermoblock.
  - 7) Should not be used when there would be potential contact with flame applied bitumen membranes (*for these applications use the PIR version*)