Specification to reduce thermal bridge from a steel lintel to a load-bearing external wall

Specification:	**STEELBEAM**
Product ref:	**Marmox Thermoblock**
Manufacturer:	**Marmox UK, Caxton House, 101 Hopewell Drive, Chatham, Kent ME5 7NP.** **01634 835290; Email:** sales@marmox.co.uk; http://www.marmox.co.uk/.

Product Use: Elimination / reduction in cold bridging between the steel beam or lintel and a solid masonry load-bearing wall placed on top. Its use is likely to result in the elimination or reduction of surface condensation and possible mould growth on the internal wall and an improvement in heating costs and a reduction in the ψ value used in SAP/SBEM or DEAP/NEAP calculations.

Description: Marmox Thermoblock is a load-bearing heat-insulating building block consisting of 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.

Properties: Average λ value of 0.05W/mK (*to EN13164/EN13167*)
Mean compressive strength of 9.0N/mm^2 (*to EN772-1*)
Water Absorption <3.5% (*to EN771-4*).

Dimensions: Length = 600mm, Height = 65mm or 100mm, Width = 100mm, 140mm or 215mm
(*140mm high blocks can be produced and supplied for certain projects upon request*)

Marmox Thermoblock is fixed to a steel beam in the exact same way as a concrete block would be fixed, using the exact same mortar which would be used to fix a concrete block.

The Thermoblocks must not be wider than the width of the steel beam.
The Thermoblocks must not be wider than the blocks which will be placed on top.

- A single course of Marmox Thermoblock: 600mm(l) x 100/140/215mm(w) x 65/100mm(ht) is mortared to the steel beam as the starter course in place of the bottom row of blocks.
- To provide a continuous waterproof barrier and improve airtightness, Thermoblock are sealed together with the sealant Marmox MSP-360 by applying a couple of vertical and horizontal stripes to the stepped polystyrene edges. *Approximately 1 tube (300ml) of MSP-360 will be sufficient for 25 blocks*.
- Concrete or aircrete blocks are laid on top of the single course of Thermoblock using normal mortar**.** (*Minimum thickness of mortar = 10mm*).

Authorities: BBA + ISO9001 + ISO14001 + European Technical Assessment 20/0744

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Limitations:

1) only use ONE COURSE of Thermoblocks – do not stack Thermoblocks.

2) Thermoblocks must not be placed where they are visible but always behind a curtain wall, behind concrete, behind cementitious boarding etc.

If this row of Thermoblocks is on the external face of the wall it must be covered with render. To enable better adhesion of render to the exposed polystyrene surface, a piece of fibreglass mesh should be fixed to that outer surface. Fold a piece of fibreglass scrim over the top of the Thermoblock when mortaring the brick on top so that it falls down covering the exposed polystyrene face.

3) Temperatures in excess of 75^{O}C are not appropriate

4) Must not be used with any adhesives, sealants, waterproofing treatments that contain organic solvents. The compatibility of ANY non-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.

5) If adhering a DPM to the vertical side of the Thermoblock (*the blue polystyrene*), do not apply a solvent-based primer to the surface. Priming the XPS is not necessary, the DPM will adhere to the XPS without being primed and some primers can make the surface powdery.