Specification to eliminate or reduce thermal bridge at the base of an external wall with the basement floor

Specification:	**BASEMENT**
Product ref:	Marmox Thermoblock (Standard Type)
Junction Type:	**E22**
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 of cold bridge at the base of the wall where it mees the basement floor.
Being waterproof, it can be also used as part of the drainage system.

Description: Marmox Thermoblock is a waterproof, thermal insulation product designed to sit at the base of a load-bearing wall. It comprises a block of extruded polystyrene with a polymer-concrete facing on its top and bottom surfaces which are connected by low conductive epoxy-concrete columns there to provide the block with its resistance to compression.

Properties: Average λ value of 0.05W/mK (*to EN13164/EN13167*)
Mean compressive strength of 9.0N/mm^2 (*to EN772-1*)
Fire resistance >120minutes (*to EN1365-1*)
Water Absorption <3.5% (*to EN771-4*).

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

Authorities: ISO9001 + ISO14001 + European Technical Assessment 20/0744
BRE – Certified Thermal Products Scheme, *http://www.bre.co.uk/certifiedthermalproducts/*

A course of Thermoblock replaces the first course of concrete or AAC blocks directly on the basement floor or as the bottom of the basement wall's internal leaf.
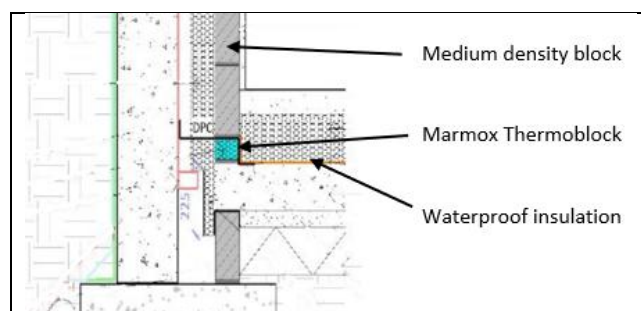
Example
(showing a 98% reduction in the ψ value compared with the default value)

Example

SAP default ψ value = 0.220W/mK
SAP ψ value this example = 0.004W/mK

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A single course of Marmox Thermoblock: 600mm(l) x 100/140/215mm(w) x 65/100mm(ht) is used as the starter course of the inner leaf at a position where it connects the floor insulation to the cavity insulation.

- Thermoblock is fixed to the foundation blocks or concrete slab with normal bricklayers' mortar.
- The length of Thermoblocks can be cut using a brick saw.
- At corners where a 90 degree angle is required, a flat short edge can be achieved either by cutting the block with a brick saw or cutting off the overlap which can be done using a hand saw
- 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.*
- Normal mortar is used to fix the subsequent courses of bricks/blocks on top of the Thermoblock.

Authorities: BBA certified (10/4778) (*The scope of this current certificate does not yet include the 140mm high blocks*)
ISO9001 + ISO14001
BRE – Certified Thermal Products Scheme, *http://www.bre.co.uk/certifiedthermalproducts/*

Please note:
- Thermoblocks should be fully supported and not span voids.
- Thermoblocks must not overhang what they are fixed onto – they must not be wider than the base they are mortared on to.
- The blocks mortared on top of the Thermoblocks cannot be narrower. They should be approximately the same width or slightly wider.
- If using lightweight blocks, this initial layer of mortar on top of the Thermoblock layer should be at least 15mm.
- **Thermoblocks cannot be stacked** – only one single layer is permitted

AS PART OF A DRAINAGE SYSTEM
- Marmox Thermoblocks are not affected by water and can be used in the wettest conditions. If laid with some separation between each other, Thermoblocks can be used to provide drainage channels.
- By using a hand saw to cut off just one of the 15mm interlocks from each block, a block with one 15mm overhang and one straight end results. These can be laid together to create 15mm wide drainage channels every 600mm.