

PROJECT:	HAMPTON COURT
PROJECT NR:	
TECH SUB NR:	001
DESCRIPTION:	SOLTHERM RENDER SYSTEM
ISSUE DATE:	01.12.2025
REVISION:	B

TECHNICAL SUBMITTAL	
ATTENTION:	MATT BECKETT
ORG:	HARRIS
ORIGINATOR:	VAIDY. S

	BREL FACADES, 50 River Gardens Walk, Greenwich, SE10 OUB
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The documents listed below have been examined by the Subcontractor for conformity with the design intent and the Contractors obligation under the project agreement

Structural calculations	☐	Static calculations	☐	Fire testing & Certificates	☒
Installation Guide	☒	U Value calculations	☒	Data & Safety sheets	☒
Suppliers Brochure	☒	Condensation risk analysis	☐	Environmental product declaration	☒
Suppliers typical details	☐	Wind calculations	☒	Fixings specification	☒

NOTES:

Revised Soltherm Render Build Up with 100mm Insulation Fixed to External Brick Leaf.
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COMMENTS RETURNED:

RETURN DATE:		COMMENTS:	
STATUS	ACCEPTED		A
	ACCEPTED SUBJECT TO COMMENTS		B
	REJECTED, SEE COMMENTS		C
NAME:		SIGNED:	



Proposed Draft Specification

Project: Hampton Court, Brighton Road,
Worthing, West Sussex, BN11 2EF

Reference: UKSOL_CS_0178- S2 (A)

Author: Sean Hogan

Author Email: Sean.Hogan@soltherm.co.uk

Date Issued: 11/11/2025

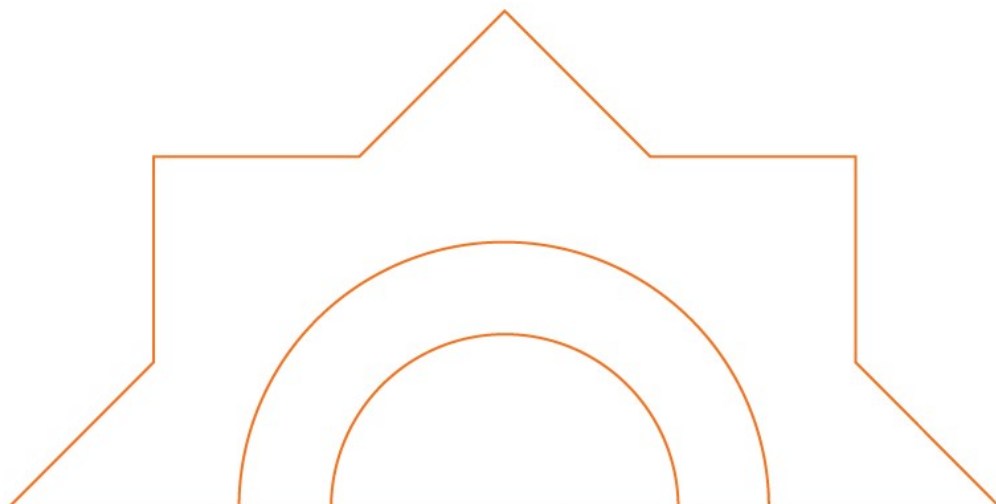
System: Dynamic Silicone to Masonry
(W Deco X Mosaic) High Rise

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Contact Email: stuart.world@soltherm.co.uk

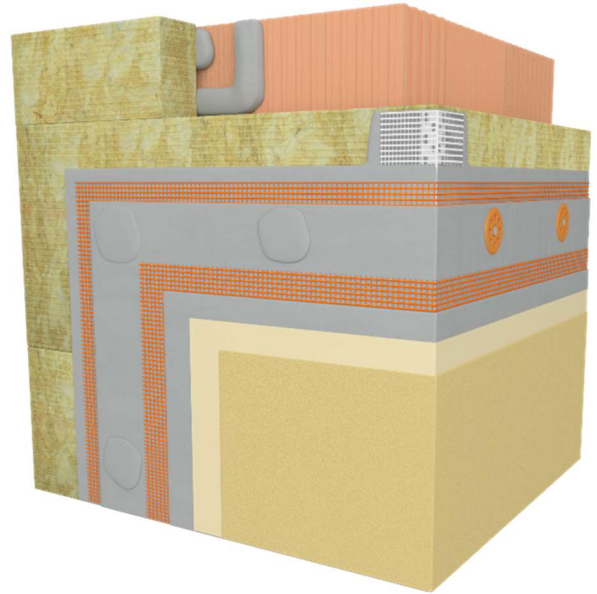
Soltherm External Insulation Ltd. Challenge House,
Sherwood Drive Bletchley, Milton Keynes MK3 6DP



System Overview

Dynamic Silicone – To Main Wall Areas

NB – This graphic is used to illustrate the proposed EWI system only and therefore the substrate shown is indicative only and may not represent the contents of this specification.



Core Products

Product name	Description	UOM	Notes
Soltherm MA	Cementitious Adhesive for Mineral Wool Soltherm MA	25kg Bag	All areas
Soltherm LRC	Cementitious Levelling and Dubbing Render Soltherm LRC	25kg Bag	If required
MW 036 100mm	Soltherm Mineral Wool 036 Insulation Board 0.72m2 100mm	Board or m2	Main walls
R-TFIX-8S-155	R-TFIX-8S- Screw-In Fixing with Steel Nail 8 x 155mm	Box of 200	Min. 2.78 per m2 (Through insulation)
Soltherm MB	Cementitious Basecoat for Mineral Wool Soltherm MB	25kg Bag	First coat
Standard Soltherm Mesh	Alkali Resistant Fibreglass Reinforcement Mesh 158/S	50m Roll	First mesh layer
R-TFIX-8S-155	R-TFIX-8s Screw-In Fixing with Steel Nail 8 x 155mm	Box of 200	Zone A = Min. 6 per m2 (All Areas) Zone B = Min. 5 per m2 (All Areas) (Through first mesh)
MBA-SS-08170	MBA-A2-SS Hammerset Fixings 8 x 170mm	Box of 250	Min. 1 per m2 (Through mesh above second storey)
MKC-SS-85	MKC-SS-85 A2 SS Washer 85mm Diameter	Box of 250	
Soltherm MB	Cementitious Basecoat for Mineral Wool Soltherm MB	25kg Bag	Second coat
Standard Soltherm Mesh	Alkali Resistant Fibreglass Reinforcement Mesh 158/S	50m Roll	Second mesh layer
Soltherm SNP Colour	Silicone Primer Soltherm SNP Colour	25kg Bucket	All areas

Soltherm SFC-P 1.5mm	Silicone Render 1.5mm Soltherm SFC-P 15 Base 30	25kg Bucket	All areas
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Additional Products

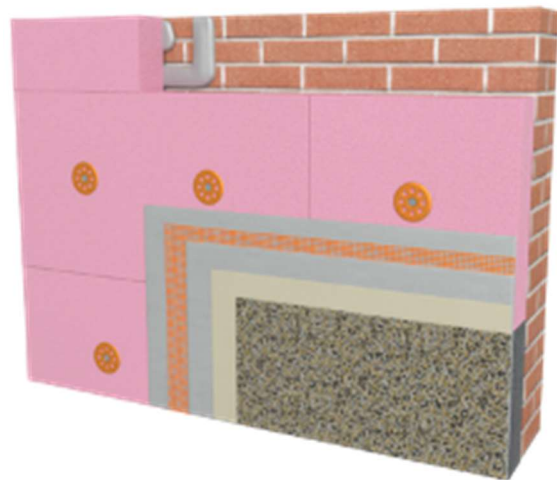
Product name	Description	UOM	Notes
Soltherm SP	Deep penetrating primer for porous substrates Soltherm CS	14kg Bucket	All areas
Soltherm CS	Non-Porous and Critical Substrate Primer Soltherm CS	14kg Bucket	All areas
Fungicidal Wall Wash	Algae and Fungicidal Wall Wash	5L Bottle	All areas
BB100SS	100mm Starter Track Stainless Steel	2.5m Length	Where required
COM6	6mm PVC Clip on Drip Profile with Mesh	2.5m Length	With Starter Track
BBJC	PVC Starter Track Connector Clips	Box of 100	With Starter Track
BS100SS	100mm Stop Profile Stainless Steel	2.5m Length	Where required
ETMB25W	E Type PVC Movement Joint Profile with Mesh	2.5m Length	Where required – Refer to Clause 490
VTMB25W	V Type PVC Movement Joint Internal Corner with Mesh	2.5m Length	
FC1006N	Two Part 100mm Horizontal Movement Joint PPC TBC	2.5m Length	Components for Horizontal Movement Joint Where required – Refer to Clause 490
FCEXTCOM	Two Part Ext Corner for Horizontal Movement Joint PPC TBC	Each	
FCINTCOM	Two Part Int Corner for Horizontal Movement Joint PPC TBC	Each	
FCJOINT	Joint Piece for Horizontal Movement Joint	Each	
EPS Grey 032 10mm	EPS Grey 032 Insulation Board 0.72m2 10mm	Board or m2	
MW 30mm	Soltherm Mineral Wool Insulation Board 0.72m2 30mm	Board or m2	To Reveals/Heads (Where required)
R-FX-N-08L060	R-FX-N-L Hammerset Fixing with Countersunk Head 8x60mm	Box of 100	To fix Full System Beads
TEP410NSS	10mm Bellcast Bead with Nosing (Perforated) SS 3.0m	3.0m Length	Where required
TEP79SS	6mm Stop Bead (Perforated) SS 3.0m	3.0m Length	Where required
TEP79/79SS	6mm Expansion Bead (Perforated) SS 3.0m	3.0m Length	Where required
TEP707SS	Stainless Steel Corner Bead with Mesh Wings 2.5m	2.5m Length	Where required
WR6MESH	6mm PVC Frameseal with Mesh (White) 2.5m	2.6m Length	Where required
Soltherm FTF	Black Nylon Firtree Fixings 029	Box of 1000	To fix Surface Mounted Beads
MBA-SS-08170	MBA-A2-SS Hammerset Fixings 8 x 170mm	Box of 250	Flue penetrations (Max. 225mm Centres)
MKC-SS-85	MKC-SS-85 A2 SS Washer 85mm Diameter	Box of 250	

Soltherm EST	Self-Expanding Sealant Tape 15/3-6/17 (Grey)	8m Roll	Where required
Soltherm Sealant	Soltherm Polyurethane Sealant	600ml Foil Pack	Where required
Soltherm 4 Seasons	Setting and Drying Accelerator Soltherm 4seasons	175ml Bottle	Optional

System Overview

Deco X Mosaic – Below DPC/Plinth Level

NB – This graphic is used to illustrate the proposed EWI system only and therefore the substrate shown is indicative only and may not represent the contents of this specification.



Core Products

Product name	Description	UOM	Notes
Soltherm SA	Cementitious Adhesive for EPS & XPS Soltherm SA 25kg	25kg Bag	Adhesive dab method, No Ribbon
XPS SL 80mm	XPS SL Insulation Board 0.75m2 80mm	Board or m2	Below DPC / Plinth
KI-140	KI Hammerset Fixing 10 x 140mm	Box of 250	Min. 4.17 per m2 (Through insulation)
Soltherm UB	Cementitious Basecoat for Eps & XPS Soltherm UB 25kg	25kg Bag	All areas
Standard Soltherm Mesh	Alkali Resistant Fibreglass Reinforcement Mesh 158/S 50m	50m Roll	All areas
Soltherm AP Colour	Primer Soltherm AP Colour 25kg	25kg Bucket	All areas
Soltherm AMC 1.5mm	Mosaic Render 1.5mm Soltherm AMC 15/30kg	15/30kg Bucket	All areas

Additional Products

Product name	Description	UOM	Notes
BB80SS	160mm Starter Track Stainless Steel	2.5m Length	Where required
COM6	6mm PVC Clip on Drip Profile with Mesh	2.5m Length	With Starter Track
BBJC	PVC Starter Track Connector Clips	Box of 100	With Starter Track
BS80SS	160mm Stop Profile Stainless Steel	2.5m Length	Where required
FX-N-08L060	FX-N-L Hammerset Fixing with Countersunk Head 8 x 60mm	Box of 100	To fix Full System Beads

TEP707	Thin Coat PVC Corner Bead with 100 x 150mm Mesh Wings	2.5m Length	Where required
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M21 INSULATION WITH RENDERED FINISH – DRAFT SPECIFICATION

Prior to proceeding with the installation of the proposed system, a Soltherm External Insulations Ltd representative must produce a full non-draft project specification.

It is also assumed the proposed A1 sheathing board is not protected by an external breather membrane and therefore allows the proposed Soltherm system to be adhesively & mechanically fixed.

To be read with Preliminaries / General conditions.

GENERAL

100 REMOVAL OF EXISTING SYSTEM

- The existing cladding system is to be fully removed before installation of the new system.
- A survey must be carried out following removal to assess the structural stability of the blocks, identifying areas requiring repair before the new Soltherm system is installed.
- All repairs must be completed prior to the insulated Soltherm system being installed and signed off by a Soltherm Site Supervisor/Technical Manager.
- Project specific detailing will likely be required on removal of the system.
- Once the structural survey has been carried out on the original substrate and the full wall build up can be confirmed, Soltherm can produce the necessary u-value calculations which will confirm the required insulation thickness and confirm any detailing around fins and plinths which we may need to over sail. Detailing such as this will not be known until the existing system is removed and Soltherm can suitably assess the substrate.

120B SURVEY OF STRUCTURAL SUBSTRATE (MASONRY)

- Timing: Before starting work covered in this specification.
- Responsibility: Client / Contracts Administrator / Registered Contractor
- Objective: To confirm suitability of existing masonry substrate for application of specified external wall insulation system and to coincide with recommendations and allowable system tolerances as stated in 430 suite of specification clauses, PAS 2030: 2019 Specification for the installation of energy efficiency measures in existing dwellings and insulation in residential park homes (where applicable), BS 8000-0: 2014, BS 8000-2.2: 1990 & BS 8000-3:2001.
- Survey report: Submit, covering:
 - The form and condition of the structural substrate.
 - Check line and level. The system can only deal with localised variations.
 - A schedule of repairs and/ or additional works necessary to render the substrate suitable to receive the system.
 - A schedule of services, fixtures and fittings requiring removal to facilitate installation of the system.
 - Proposals for treatment of cold bridges that may occur as a result of installing the system, e.g. at door and window reveals, concrete floor edges, movement joints.
 - Any other relevant information.

160 REMEDIAL WORK

- Remedial work shown to be necessary by structural survey (Clause 120) and to meet requirements of this specification: Contracts Administrator / Registered Contractor responsibility (see 450 suite of clauses)

180C STRUCTURAL SUBSTRATE

- Description: **Existing masonry**
- Preparation: All preparation to follow 430 suite of clauses and as follows:
- Pressure wash substrate to remove any friable material, algae or lichen, and to provide a good key for Soltherm products.
- All necessary repairs to the structure must be carried out by suitably qualified contractors and be complete prior to the application of Soltherm products and systems.
- Pre-Treatments:
 - **Remove** - Existing insulated render system, extent to be determined by contract administrator and agreed within remedial survey.

- **Clean Down** – Clean down, pressure wash or wire brush substrate to remove any friable and/or deleterious material, and to provide a good key for Soltherm products.
- **Fungicidal Wall Wash** - Scrape off, etc, any heavy organic growths and apply one coat of **Soltherm Fungicidal Wall Wash** as per label, to the entire surface by roller or knapsack spray and allow to dry.
- **Non-Porous Substrate Primer** - Apply one coat of **Soltherm CS** by roller or brush to entire surface of wall. **Soltherm CS** is suitable for non-porous substrates due to its quartz content generating effective adhesion and bond. **Soltherm CS** is supplied in 14kg buckets. Refer to technical datasheet of Soltherm Technical for additional information.
- **Localised dubbing out (subject to remedial survey)** - Where applicable, apply one coat of relevant substrate primer to areas to receive dubbing render. Trowel apply **Soltherm LRC** at 5-15mm to areas of masonry to leave line and level ready for main Soltherm system. All dubbing work to be carried out at the in accordance with remedial survey in agreement with Contract Administrator and Soltherm recommendations.
- Any areas of concern still evident after the repairs and treatments have been implemented must be reported to the Client/Contracts Administrator and addressed prior to the application of Soltherm Products.

SYSTEM REQUIREMENTS/MATERIALS

210J EXTERNAL WALL INSULATION SYSTEM:

- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- System reference: **Soltherm Dynamic Silicone**
- Insulation: **Soltherm Mineral Wool 036** (Clause 221A)
 - Thickness: 100mm
 - Method of fixing: Mechanical & Adhesive
- Basecoat render: **Soltherm MB** (Clause 223C)
 - Thickness: 4-6mm
 - Reinforcement: **Standard Soltherm Mesh (x2)**
- Decorative finish: **Soltherm SFC-P** (Clause 226F)
 - Thickness: 1.5mm
 - Primer: **Soltherm SNP Colour** (Clause 225A)
 - Colour: TBC
- System certification: BDA (Ref: BAE-21-215-S-A-UK)
- System performance:
 - General testing: ETAG004 Guideline for European Technical Approval of EWI Systems
 - Fire: A2-s1, d0 to EN13501-1: 2019
 - Effective Life: > 30 years
 - U-Value: **20251112-UKSOL_CS_0178-C4 () New Soltherm Dynamic 100mm 0.33W-m2K**
 - Impact resistance: Category I in accordance with ETAG 004 and EAD 040083-00-0404
- Accessories:
 - Beads/Trim/Profiles: as per Clause 222
 - Weather Pro: **Soltherm 4Seasons Additive** (Clause 229)

210AF EXTERNAL WALL INSULATION SYSTEM (FOR USE BELOW DPC/PLINTH LEVEL):

- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- System reference: **Soltherm Deco X Mosaic**
- Insulation: **Soltherm XPS Insulation** (Clause 221E)
 - Thickness: 80mm
 - Method of fixing: Mechanical & Adhesive
- Basecoat render: **Soltherm UB** (Clause 223)
 - Thickness: 3-5mm
 - Reinforcement: **Standard Soltherm Mesh**
- Decorative finish: **Soltherm AMC** (Clause 226G)
 - Thickness: 1.5mm
 - Primer: **Soltherm AP Colour** (Clause 225B)
 - Colour: TBC
- System certification: ETA (Ref: 15/0069)
- System performance:
 - General testing: ETAG004 Guideline for European Technical Approval of EWI Systems
 - Fire: B-s1, d0 to EN13501-1: 2019-02
 - Effective Life: > 25 years

- Impact resistance: Category I in accordance with ETAG 004 and EAD 040083-00-0404
- Accessories:
 - Beads/Trim/Profiles: as per Clause 222

221A INSULATION TO MAIN WALL AREAS:

- Insulation reference: **Soltherm Mineral Wool 036 (see clause 412A)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
 - Dimensions: 1200 x 600 x 100mm
 - Density (nominal): 105-110 kg/m³ (approx.)
 - Minimum compressive strength: 10kNm⁻² (at 10% compression)
 - Lambda value (λ): 0.036 W/m²K
 - Reaction to fire: A1
- Method of fixing:
- Insulation Fixing: **R-TFIX-8S-155** (refer to clause 412C)
- Insulation Fixing Pattern: refer to Clause 310
- Through Mesh Fixing R-TFIX-8S-155 (refer to clause 412D)
 - Through Mesh Fixing Pattern: refer to Clause 310
- Fire Fixing: **MBA-SS-08170 with MKC-SS-85 Washer** (refer to clause 412G)
 - Fire Fixing Pattern: required above 2 storeys at minimum of 1 per metre squared.
- Adhesive: **Soltherm MA** (refer to clause 412)
- Fire Barrier: See clause 510
- IMPORTANT: Pull out tests will be required, refer to clause 440

INSULATION TO WINDOW/DOOR REVEALS (WHERE REQUIRED):

- Insulation reference: **Soltherm Mineral Wool (see clause 412A)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
 - Dimensions: 1200 x 600 x 30mm
 - Minimum compressive strength: 10kNm⁻² (at 10% compression)
 - Reaction to fire: A1
- Method of fixing:
- Adhesive: **Soltherm MA** (refer to clause 412)

221E INSULATION FOR USE BELOW DPC/PLINTH LEVEL:

- Insulation reference: **Soltherm XPS Insulation (see clause 412A)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
 - Dimensions: 1250 x 600 x 80mm
 - Minimum compressive strength: >300kNm⁻² (at 10% compression)
 - Lambda value (λ): 0.033 – 0.036 W/m²K
 - Reaction to fire: Euroclass E to EN13501-1
- Method of fixing:
- Insulation Fixing: **KI-140** (refer to clause 412C)
 - Insulation Fixing Pattern: refer to Clause 310
- Adhesive: **Soltherm SA** (refer to clause 412)
- NOTE: alternative board dimensions may be supplied subject to manufacturer availability

222 BEADS/TRIMS/PROFILES/RAILS:

- Description: Full System Beads (see clause 411)
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Material: Aluminium / Stainless Steel
- Length: 2.5m
 - Starter track ref: **BB100SS** with **COM6**
 - Stop bead ref: **BS100SS**
 - Vertical movement bead ref: **ETMB25W / VTMB25W** (Internal corner)
 - Horizontal movement bead ref: **FC106N** (with appropriate joints, end caps & corners)
- Method of fixing:
 - Mechanical fixing Ref: **R-FX-N-08L060** (Masonry)

- Bedded into **Soltherm MB** (where applicable)
 - Description: Additional Trims/Profiles
 - Verge/Parapet/Sill profile ref: **by others**
- Note – full system movement joints will be required over where the system continues across dissimilar substrates (refer to clause 490B).**

- Description: Surface Mounted Beads (see clause 411)
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Material: PVC & SS
- Length: 2.5m
 - Bellcast bead ref: **TEP410NSS**
 - Stop bead ref: **TEP79SS**
 - Window protection bead ref: **WR6MESH**
 - External corner bead ref: **TEP707SS**
 - Vertical expansion bead ref: **TEP79/79SS**
 - Horizontal expansion bead ref: Refer to standard details
- Method of fixing:
 - Mechanical fixing Ref: **Soltherm FTF Fixings**
 - Bedded into **Soltherm MB** (where applicable)
- Description: Sealing tape for around doors, windows and other similar abutments
- Material: Hydrophobic foam
- Length: 8m
- Colour: Grey
 - Seal tape ref: **Soltherm EST** Self Expanding Sealing Tape

222 BEADS/TRIMS/PROFILES/RAILS TO BELOW DPC

- Description: Full System Beads (see clause 411)
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Material: Stainless Steel / PVC
- Length: 2.5m
 - Starter track ref: **BB80SS** with **COM6**
 - Stop bead ref: **BS80SS**
- Method of fixing:
 - Mechanical fixing Ref: **FX-N-08L060-RP**
 - Bedded into **Soltherm UB** (where applicable)

223 BASECOAT:

- Product ref: **Soltherm UB Below DPC (refer to clause 413)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Polymer modified basecoat for XPS
 - Size: 25kg bag
 - Thickness: 3-5mm (thin coat systems)
 - Coverage: ≥ 4.0 kg/m² (thin coat systems)
 - Colour: Grey
- Product ref: **Standard Soltherm Mesh (refer to clause 413E)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Raschel weave alkali resistant fibreglass reinforcement mesh
- Areas: Standard areas
 - Method of fixing: Bedded into **Soltherm UB**
 - Roll size: 50 x 1m
 - Colour: Orange

223C BASECOAT:

- Product ref: **Soltherm MB (refer to clause 413C)**

- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Polymer modified basecoat for Mineral Wool & Lamella
 - Size: 25kg bag
 - Thickness: 4-6mm
 - Coverage: ≥ 7.5 kg/m² (double mesh)
 - Colour: Grey
- Product ref: **Standard Soltherm Mesh X2 (refer to clause 413C)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Raschel weave alkali resistant fibreglass reinforcement mesh
- Areas: Standard areas
 - Method of fixing: Bedded into **Soltherm MB**
 - Weight: 158g/m² (± 8 g)
 - Roll size: 50 x 1m
 - Colour: Orange

IMPORTANT: The mesh joints in the second layer of mesh must be stagger bonded approximately 500mm from the joints in the first layer of mesh.

225 PRIMER BELOW DPC:

- Product ref: **Soltherm AP Colour (refer to clause 415)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Primer/undercoat for Mineral, Acrylic & Deco render finishes
 - Size: 25kg bucket
 - Coverage: 0.25-0.40kg/m²
 - Colour: TBC (to match decorative finish)

225A PRIMER MAIN WALLS:

- Product ref: **Soltherm SNP Colour (refer to clause 415A)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Primer/undercoat for Silicone, Silicate-Silicone & Acrylic-Silicone render finishes
 - Size: 25kg bucket
 - Coverage: 0.25 – 0.40kg/m²
 - Colour: TBC (to match decorative finish)

226F DECORATIVE FINISH MAIN AREA:

- Product reference: **Soltherm SFC-P (refer to clause 416F)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Textured silicone render
 - Size: 25kg bucket
 - Grain Size: 1.5mm
 - Coverage: ≥ 2.2 kg/m²
 - Colour: TBC

226L DECORATIVE FINISH BELOW DPC:

- Product reference: **Soltherm AMC (refer to clause 416L)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Textured acrylic finish coat with mosaic structure
 - Size: 15kg or 30kg bucket
 - Grain Size: 1.0mm-1.6mm
 - Coverage: ≥ 2.0 kg/m²
 - Colour: TBC

229 ADDITIONAL PROTECTION (OPTIONAL)

- Product ref: **Soltherm 4Seasons Additive (refer to clause 419)**
- Supplier: Soltherm External Insulations Ltd, Challenge House, Sherwood Drive, Bletchley, Milton Keynes, MK3 6DP
- Description: Setting & drying accelerator for Soltherm Silicone & Acrylic renders. Ideal for application of render at low temperatures or increased relative humidity.
 - Size: 175ml bottle
 - Colour: Milky / Opaque
 - Open time: approx. 1 hour
 After mixing, render with 4Seasons additive can be applied at an ambient and surface temperature of +2°C to +15°C, with a relative humidity up to 85%.

DESIGN

300 SPECIFICATION VARIATION

- Any variation to this specification (or any Soltherm specification) must be agreed prior to commencement of works with Soltherm, who will amend and reissue the specification (and warranty offer where applicable) in accordance with the agreed variation/s.
- Any other relevant or significant variations in the prevailing circumstances and construction method or build-up must also be notified in writing to Soltherm prior to commencement of works.
- Soltherm will not accept any liability for any costs associated with any consequential issues arising from unauthorised variations or un-notified changes in circumstances relating to the application or performance of Soltherm products or systems.

310 DESIGN

- Complete the detailed design of the system and associated features shown on the drawings to meet the requirements of this specification.
- Refer to Soltherm standard details as well as any bespoke details provided.
- Fixing pattern to be implemented as per below as a minimum:

DRAFT FIXING PATTERN MAIN WALLS				
Zone	Insulation Fixings	Through Mesh Fixings	Fire Fixings*	Relevant Drawings
A	2.78 per m2	Min 6 per m2	1 per m2	UKSOL_CS_0178-D0 {} Fixing Detail Pack
B	2.78 per m2	Min 5 per m2	1 per m2	UKSOL_CS_0178-D0 {} Fixing Detail Pack

DRAFT FIXING PATTERN BELOW DPC				
Zone	Insulation Fixings	Through Mesh Fixings	Fire Fixings*	Relevant Drawings
ALL	Min. 4.17 per m2	N/A	N/A	UKSOL-SFP-M-101

* fire fixings only required above second storey, refer to clause 412G

NOTE – The above draft fixing pattern is subject to receipt of any relevant elevation & floor plan drawings, site pull off adhesion tests / pull out tests, Soltherm wind load analysis & full Soltherm wind load report.

320 INTEGRITY

- The installation must be weather tight under all anticipated conditions. Consult with Soltherm Technical Department for specific details and relating to particular conditions. (Refer to clause 310).
- The installation must be capable of resisting all dead loads and design live loads, including impact and wind loads, and accommodate all thermal movements without damage.
- The render system may not be applied on horizontal surfaces such as parapets and wall heads, it will be necessary to install copings or cappings. (Refer to Soltherm standard details as per Clause 310).
- The system should remain effective for at least 30 years provided any damage is repaired immediately in accordance with Soltherm written instructions and the system is maintained in accordance with Soltherm maintenance instructions.

321 STRUCTURAL REPAIRS

- All necessary repairs to the structure must be carried out by suitably qualified contractors and be complete prior to the application of Soltherm products and systems. It is the sole responsibility of the Contract Administrator to satisfy itself that the repairs identified, have been properly implemented.

325 ADDITIONAL LOAD

- In preparing this specification it is a requirement that the contract administrator and client (or appointed representative) have taken into account the imposed loading of the Soltherm system from wind pressures and associated fixings, pattern and frequency as detailed in the following specification and, therefore, the substrate of the building to which it relates is absolutely sound, free from defects in all respects and is capable of supporting the additional load, type and number of fixings associated with the system.
- Soltherm have not carried out or commissioned a structural survey of the building and recommend that contracts administrator & client implement this course of action if not already done so.

335 IMPACT RESISTANCE OF NON-LOADBEARING VERTICAL SURFACES: CAT I

- Standard areas: Impact resistance Category I in accordance with ETAG 004 and EAD 040083-00-0404 - a zone readily accessible at ground level to the public and vulnerable to hard body impacts but not subjected to abnormally rough use.

340 WIND LOADING

- For design purposes assume the following wind loads:
Refer to current BBA / BDA / ETA Certificate or Soltherm wind loading report if the building is above 11m in height as per the Soltherm High-Rise Building & Complex Project Policy (Refer to Clause 341).

341 SOLTHERM HIGH RISK BUILDING POLICY (HRBP)

- All projects above 11m in height, must fully comply with the Soltherm HRBP.
- The Soltherm HRBP requires the following documents / actions to be provided/implemented, prior to the installation commencing: Thermal & condensation risk undertaken and a construction stage specification issued.
- Fixing pull-out tests must be conducted as per Clause 440.
- A structural wind load report must be produced, containing the following:
 - Confirmed wind loads as per Eurocode EN 1991-1-4; 2005, Actions on structures - Part 1-4; General Actions
 - Wind Actions, including all relevant safety factors.
 - A recommended fixing pattern must be provided taking into consideration the wind loads, pull out tests as per Clause 440, the specified fixings European Technical Approval, pull through resistance and any other relevant testing information.
 - An independent structural report, commissioned by the Client or Contracts Administrator, has been produced confirming the structure is suitable to receive the proposed EWI System and the additional load, type and number of fixings associated with the system.
 - A pre-start meeting must be undertaken where the specification and site issues including storage must be discussed.
- Final sign off of the project by Soltherm Technical Director & release of the final Soltherm project specification.

360 SAMPLES

- Procedure: Submit samples/ examples of designated items for approval. Keep approved samples on site for the duration of the contract for inspection/ comparison purposes.
- Designated items: TBC

380 UNIFORMITY OF COLOUR AND TEXTURE

- Once samples of coatings have been approved, do not change type or proportion of constituent materials unless agreed with Contract administrator and other relevant parties.
- Ensure that supplies of materials are sufficient to give consistent and uniform colour and texture. To minimise variations in colour, avoid dry jointing and continuous surfaces must be completed without breaks.
- Programming of work to coincide with elevation breaks, stoppages and weather is vital.
- Soltherm BriQ Slips & Corner Slips can vary slightly in colour and texture from batch to batch. It is therefore important that the total quantity required for the project is ordered and preferably delivered at one time. Delays in placing total orders or placing multiple orders may result in colour variations. It is advisable to use bricks from multiple boxes to ensure integration of colour variances as encountered with real bricks. Refer to BS 8000-3: 2001 Workmanship on Construction Sites – Code of Practice for Masonry for further guidance.

380A LIGHTNESS VALUE

- Soltherm recommend that Soltherm Decorative Thin Coat Finishes, Primers & Paints for application over insulated render backgrounds should be selected in colours with a lightness value > 30 (HBW value on Soltherm colour charts/palettes).
- Colours with lightness values ≤ 30 can be utilised but Soltherm Technical Department must be consulted prior to colour selection due to the increased solar radiation absorption. In order to reflect some of thermal energy and decrease the temperature on the facade surface, the use of silicone paints and renders formulated with Soltherm cool pigments must be utilised.
- Where darker colours are specified to meet the design requirements of the project, increased frequencies of render expansion joints will be required. Contact Soltherm Technical Services for further information and guidance.

380B AVOIDANCE OF COLOUR SHADING

- Material with different batch numbers must be checked by the registered contractor for colour consistency prior to application. Approval of the contracts administrator or client may also be sought.

INSTALLATION

410 INSTALLATION

- Installer: The system must be installed by a Soltherm registered contractor only.

410A INSTALLATION STANDARDS

- All rendering should be in accordance with the relevant recommendations of BS 13914-1:2016, Design, Preparation & Application External Render & Internal Plastering – External Rendering, BS 8000-0: 2014 Workmanship on Construction Sites – Introduction and General Principles, Soltherm's printed instructions and relevant BBA Certificate/ETA.
- All Soltherm paints and decorative finishes must be applied to dry backgrounds and not during inclement weather conditions, strictly in accordance with Soltherm instructions and the relevant clauses in BS 6150: 2019, Painting of Buildings – Code of Practice and BS 8000-0: 2014 Workmanship on Construction Sites – Introduction and General Principles.

411 INSTALLATION: BEADS/TRIMS/PROFILES

- Full system beads are to be installed horizontally or vertically, true to line and level, above DPC where applicable and in full lengths where possible.
- Beads must be fixed at a max of 300mm centres and at 50mm from the edges of each profile or bedded in relevant adhesive where applicable.
- Adjacent full system beads must be linked together with jointing clips.
- Packing shims must be used where required to maintain true line and level.
- Surface mounted beads are to be installed in one of two ways, beads with pre-adhered mesh are to be bedded into the wet basecoat, whilst beads without pre-adhered scrim are to be fixed to insulation boards prior to application of the basecoat and fixed at max. 300mm centres using **Soltherm FTF Fixings**.
- Adjacent surface mounted beads must have a minimum 200mm x 200mm Standard Soltherm Mesh patch installed in the legs and/or mesh wings of the beads, located centrally to the joint.

412 INSTALLATION: INSULATION ADHESIVE

- For application onto Soltherm Mineral Wool 036 Slabs, the insulation slab should be pre-coated with the specified adhesive and forced into the insulation slab, to improve the adhesion of the following main adhesive application.
- For application onto Soltherm FSC insulation boards, always ensure the upper mesh is facing upwards against the substrate, ready to be adhesively fixed.
- The specified adhesive must be applied to the back of the insulation boards in one of two methods.
- Firstly, the specified adhesive can be applied by trowel to the full area of the back of the insulation board and notched horizontally with a 10mm notch trowel and placed firmly against the substrate. This method is suitable for line and level substrates.
- Alternatively, a dot and dab method can be adopted. The edges of the insulation board must be coated with a minimum 30mm wide band of the specified adhesive and 6-8 large dabs of further adhesive are applied at even spacings across the centre of the board. The specified adhesive must cover at least 40% of the board. The insulation board is then placed firmly against the substrate. This method is suitable for undulating substrates.
- For both adhesive methods, once the insulation board has been pressed against the substrate, the specified adhesive must not exceed a thickness of 10mm.

- The specified adhesive must be allowed to sufficiently cure before proceeding with the installation of the mechanical fixings.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

412A INSTALLATION: INSULATION

- Boards must be applied in rows working across the façade with each row being staggered (brick bond) with the previous row a minimum of 150mm.
- Insulation boards smaller than 150mm must not be used.
- Boards must be staggered at internal and external corners with no vertical joints.
- Gaps between boards should be kept to a maximum of 2mm.
- Gaps in Mineral Wool are to be filled with slithers of Mineral Wool.
- L-Shaped boards must be installed around all opening corners with minimum 150mm cuts.
- Where possible, the surface of all insulation boards should be covered with the basecoat and reinforcement mesh at the end of each working day. This will provide both protection from any wet weather and reduce the risk of damage, fire or vandalism of the boards.
- Any insulation boards that are saturated must be removed and replaced before application of any renders.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

412C INSTALLATION: INSULATION FIXINGS

- Fix boards to the substrate using Soltherm approved mechanical fixing to the specified Soltherm fixing pattern (see clause 310).
- Fixings must always be installed perpendicular to the substrate using the correct sized drill bit and to fixing manufacturer instructions.
- Fixings must always be installed at an embedment depth as per the recommendations of the tensile pull out test report and to fixing manufacturer instructions.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

412D INSTALLATION: THROUGH MESH FIXINGS

- Whilst the specified basecoat is still wet and the Soltherm reinforcing mesh has been bedded in, drill & insert the Soltherm approved mechanical fixing through the wet basecoat, reinforcing mesh & insulation into the substrate at the specified frequency. (see clause 310).
- Fixings must always be installed perpendicular to the substrate using the correct sized drill bit and to fixing manufacturer instructions.
- Fixings must always be installed at an embedment depth as per the recommendations of the tensile pull out test report and to fixing manufacturer instructions.
- Additional fixings must be installed around all openings and external corners at maximum 300mm centres so as to provide the system with an increased wind load capacity in these areas. These fixings must bear 100mm in from the line of the existing substrate edge.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

412G INSTALLATION: FIRE FIXINGS

- Whilst the specified basecoat is still wet and the Standard Soltherm Mesh has been bedded in, drill & insert the Soltherm approved stainless steel fire fixing through the wet basecoat, reinforcing scrim & insulation into the substrate at a minimum of 1 per metre squared. (see clause 221).
- Fixings must always be installed perpendicular to the substrate using the correct sized drill bit and to fixing manufacturer instructions.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

413C INSTALLATION: SOLTHERM MB

- Mix Soltherm MB with clean cold water as per Soltherm Technical Data Sheet.
- Immediately prior to the following basecoat application, the insulation board should be pre-coated with Soltherm MB and forced into the insulation board, to improve the adhesion of the main basecoat application.
- Apply Soltherm MB to the insulation board at an even thickness of 3-4mm.
- Whilst the Soltherm MB is still wet, vertically notch with a notched trowel and lay through Standard Soltherm Mesh ensuring no mesh is visible and is fully encapsulated in the basecoat.
- All reinforcing mesh must maintain a minimum overlap of 100mm with adjacent mesh.
- Additional stress patches of minimum 200x350mm reinforcing mesh must be installed at the corners of all openings at an approximate 45° angle.
- Additional stress patches of minimum 200x200mm reinforcing mesh must also be installed into the internal junction/corner of the opening reveal/head.

- Whilst the Soltherm MB is still wet and if specified, drill and insert through the Standard Soltherm Mesh with main through mesh fixings and stainless steel fire fixings at the specified frequency into the substrate.
- Allow Soltherm MB to sufficiently cure before proceeding with secondary reinforcing mesh application.
- Apply a further coat of Soltherm MB at 1-2mm thick and lay through Standard Soltherm Mesh ensuring no mesh is visible and is fully encapsulated in the basecoat.
- All secondary reinforcing mesh must maintain a minimum overlap of 100mm with adjacent mesh and all mesh joints must be staggered approximately 500mm from the joints the first reinforcing mesh application.
- If required, apply a further slurry coat at circa. 1mm thick and smooth over ensuring no mesh is visible and remove any trowel lines to achieve a smooth and consistent finish.
- Soltherm MB should be at a total thickness of 4-6mm at this stage.
- Allow Soltherm MB to fully cure before rasping any remaining trowel lines or protrusions and proceeding with the installation of the system.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

413 INSTALLATION: SOLTHERM UB

- Mix Soltherm UB with clean cold water as per Soltherm Technical Data Sheet.
- Apply Soltherm UB to the insulation board at an even thickness of 3-4mm.
- Whilst the Soltherm UB is still wet, vertically notch with a notched trowel and lay through Standard Soltherm Mesh ensuring no mesh is visible and is fully encapsulated in the basecoat.
- All reinforcing mesh must maintain a minimum overlap of 100mm with adjacent mesh.
- Additional stress patches of minimum 200x350mm reinforcing mesh must be installed at the corners of all openings at an approximate 45° angle.
- Additional stress patches of minimum 200x200mm reinforcing mesh must also be installed into the internal junction/corner of the opening reveal/head.
- Whilst the Soltherm UB is still wet and if specified, drill and insert through the Standard Soltherm Mesh with stainless steel fire fixings at the specified frequency into the substrate and cover fixing heads with additional Soltherm UB and 100 x 100mm reinforcing mesh patches.
- A further slurry coat at circa. 1mm thick can be applied and smoothed over to ensure no mesh is visible and to remove any trowel lines to achieve a smooth and consistent finish.
- Soltherm UB should be at a total thickness of 3-5mm at this stage.
- Allow Soltherm UB to fully cure before rasping any remaining trowel lines or protrusions and proceeding with the installation of the system.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

415 INSTALLATION: SOLTHERM AP COLOUR

- Mix Soltherm AP Colour with a clean paddle mixer prior to application.
- Apply Soltherm AP Colour to the cured basecoat with a roller or brush ensuring good coverage and leave to dry.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

415A INSTALLATION: SOLTHERM SNP COLOUR

- Mix Soltherm SNP Colour with a clean paddle mixer prior to application.
- Apply Soltherm SNP Colour to the cured basecoat with a roller or brush ensuring good coverage and leave to dry.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

416B INSTALLATION: SOLTHERM AMC

- Mix Soltherm AMC with a clean paddle mixer prior to application.
- Apply Soltherm AMC to the primed basecoat at the thickness of the grain using a stainless steel trowel.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

DO NOT APPLY MATERIALS WITH DIFFERENT BATCH NUMBER ON THE SAME ELEVATION.

416F INSTALLATION: SOLTHERM SFC-P

- Mix Soltherm SFC-P with a clean paddle mixer prior to application.
- Apply Soltherm SFC-P to the primed basecoat at the thickness of the grain using a stainless steel trowel.
- Texture Soltherm SFC-P using a plastic trowel in circular motions to achieve a uniform and consistent finish.
- Refer to Soltherm Technical Services and Soltherm Installation Guides for further information.

DO NOT APPLY MATERIALS WITH DIFFERENT BATCH NUMBER ON THE SAME ELEVATION.

420 ADVERSE WEATHER

- Application of the render system, finishes and paints must not be carried out in inclement weather conditions as described in BS 13914-1:2016 Design, Preparation & Application External Render & Internal Plastering – External Rendering & BS 6150: 2019, Painting of Buildings – Code of Practice respectively.
- Do not use frozen materials and do not apply materials to frost bound surfaces.
- In sunny weather work should commence on the shady side of the building and be continued round following the sun to prevent the rendering drying out too rapidly
- Soltherm materials must not be applied in rain, fog or mist, at temperatures below 5°C or above 25°C and or if exposure to frost, mist or rain is likely to occur during drying.
- Maintain temperature of the work above 5°C until the basecoat/mortar/render has fully hardened.
- Soltherm SA, MA & MA S75 Adhesive products can be applied at ambient temperatures of +1°C and rising, however extended curing periods may be experienced.
- Where Soltherm 4 Seasons-D is specified, cementitious basecoat products must not be applied below 2°C or above 15°C.
- Where Soltherm 4 Seasons is specified, Acrylic & Silicone render products must not be applied below 2°C or above 15°C.
- Protect newly rendered surfaces against rain and snow by covering when precipitation occurs.
- Replace coatings damaged by rain or frost.
- Care must be taken to programme works to avoid the use of darker render colours to reduce the risk of lime bloom in winter months or within adverse weather conditions. Refer to Soltherm technical services for further assistance.
- Where extreme and or excessive weather conditions persist, provision must be given for extensions to work periods within the main contract documents.

425 SCAFFOLDING

- All scaffolding must be installed in line with current HSE publication 'The Working at Height Regulations'.
- Wherever possible independent scaffolding should be used to avoid the need to subsequently make good putlog holes and other breaks in the work.
- Where the scaffolding is required to be tied back to the building it is normal to recommend "box-outs" to reduce the incidence of patches left by putlogs and to provide access points for future scaffolding required for maintenance inspection and repairs.
- The scaffolding must be arranged to enable good access to be obtained to the whole of the face of the building and sufficient clearance for working is to be provided between the scaffolding and the finished surface of the render.
- An allowance must be included for the thickness of the finished system on the face of the building.

426 HEALTH & SAFETY

- It is strictly the contractor's responsibility to ensure that all works are executed in accordance with current health and safety legislation. Guidance must be taken from relevant and current HSE publications.
- Safety scaffolding, the location of rubbish skips, access ladders etc. must be agreed with the client/principal contractor/ principal designer and be in accordance with current Health and Safety regulations.
- The use of all Soltherm materials must be in accordance with relevant Product Data Sheets & Safety Data Sheets.
- Product Data Sheets & Safety Data Sheets are available for all relevant products supplied by Soltherm; available from Soltherm Technical Manager.

430 CONDITION OF BACKGROUNDS

- Before pre-treatment or application of coatings ensure that backgrounds are structurally sound, weathertight, adequately true and level, dry, free from contamination by dirt, dust, efflorescence or other deleterious substances, and in a suitable condition to receive specified coatings.
- The treatment of backgrounds is subject to remedial survey, clauses 160, 180 suite of clauses, 210 suite of clauses, 430 suite of clauses and full Soltherm recommendations.

430D LINE AND LEVEL OF BUILDING:

- The terms "line and level" used in conjunction with this specification refer only to dealing with minor localised variations in the surface to which the system is applied.
- The system cannot correct major variations in line and level over several storeys in height and over large areas of elevations, and in these cases will basically follow the line of the existing building unless these building irregularities are overcome by a treatment, prior to the application of the External Wall Insulation system.
- Any excessive irregularities, i.e. over plus or minus 10mm, must be rectified prior to the installation to ensure that the insulation boards are installed with a smooth, in-plane finished surface.

- The flatness of the surfaces must be checked, this may be achieved using a straight edge spanning the storey height. Horizontal projections, ledges etc should be removed to provide a level surface to receive the system.
- Where appropriate the contractor must inspect the existing wall and include for a bed coat of Soltherm LRC to take up any variation in the flatness of the backing wall. All in accordance with agreed remedial survey as per clause reference M21, 120 and 160.
- It is essential that any variations within the substrate do not have a detrimental effect on the system; attention must be given to ensure that all fixings minimum specified embedded into the substrate, ensuring the performance of the mechanical fixing and subsequent system performance.

440 PULL OUT TEST(S) ON FIXING PINS

- Objective: Conduct pull out tests prior to the start of the project, with the specified fixings (see 211/221 suite of clauses) to prove suitability of the structural background and determine the size, type and number of fixings. Notice of 10 working days must be given.
- Tests must be conducted to EOTA TR051, by suitably trained persons (fixing suppliers or Soltherm representative) and results supplied to Soltherm Technical Services within sufficient time for evaluation, typically 5 working days.
- Additional pull-out tests can be conducted if instructed to do so by the client, contracts administrator or their representatives, subject to the findings in their structural report, see Clause 325. The location and frequency of the additional tests must be specified by the client, contracts administrator or their representatives.

450 PREPARATION: EXISTING SERVICES, ETC

- Disconnect, make safe and carefully remove all live or used cables etc, to be replaced on completion (Refer to Soltherm standard details as per Clause 310).
- Installers are required to notify BT Openreach before commencing work on the Soltherm system installations so that BT Openreach have the opportunity to survey the property and identify any alterations needed to their equipment or cables; notification of works and this can be done via the following portal www.openreach.co.uk/externalwallinsulation. For further assistance see Green Deal Oversight and Registration Body guidance note ref: ORBCOMM029 - Pre-installation survey requirements for telecoms services.
- All non-treated metalwork including copper pipework, ducting, etc. to be protected against corrosion from Phenolic insulation slabs using a suitable coating system applied strictly in accordance with the manufacturer's recommendations or covered with protective sheathing.
- Remove all television aerials, brackets, lights or tenant's fittings from work surfaces and replace upon completion (Refer to Soltherm standard details as per Clause 310).
- All existing rainwater and waste disposal fittings to be redirected away from the substrate and the Soltherm system surface whilst works proceed. Replace and refix upon completion of work taking into consideration the thickness of the Soltherm system. Mechanical fixing of rainwater goods to follow Soltherm technical manual recommendations (Refer to Soltherm standard details as per Clause 310).
- All gas and balance and mechanical flues to be extended to anticipated line of system in accordance with British Gas recommendations. (See Clause 450A)

450A PREPARATION: FLUE PIPES

- To prevent the possibility of radiated heat starting a fire, a flue-pipe should be separated from combustible material. Therefore flue-pipes must be enclosed in non-combustible insulation; refer to relevant building regulations and Soltherm standard details (Refer to Soltherm standard details as per Clause 310) for guidance.
 - Insulation: **Soltherm Mineral Wool 036 Slabs**
 - Dimensions: 1200 x 600 x 100mm
 - Minimum Distance: 225mm from perimeter of flue-pipe
 - Fire rating: A1 Euroclass
 - Method of fixing:
 - Mechanical Fixing: **MBA-SS-08170** with **MKC-SS-85** Washer @ 225mm centres (masonry)
 - Adhesive: **Soltherm MA**

450B WINDOW CILL PROJECTION

- Where window frames incorporating window cills are to be provided by others, then the cill projection to the drip throat must be 40mm beyond the outside line of the Soltherm system. Refer to Soltherm standard details as per Clause 310 for guidance.

450C PREVIOUSLY PAINTED SURFACES

- Remove all existing paint, bituminous coating etc, by hacking off, needle hammering, abrasive blasting or alternative treatments to expose the entire surface to establish sufficient adhesion. Brush down to remove all loose particles, dust etc.

- Where existing surfaces have been treated with a vapour permeable coating or colourless waterproofing material it may be acceptable and necessary to provide a reinforcing mesh to support the proposed Soltherm render or hack the surface thoroughly to provide an acceptable key. Advice should be sought from Soltherm's technical department.
- It is essential that any NON-VAPOUR PERMEABLE coatings are removed to prevent entrapment of moisture vapour moving through the structure.

450E EXISTING WEEP HOLES

- Remove and dub out all existing weep holes, using Soltherm LRC (5-30mm thick, max. 15mm in any one coat) if considered redundant. Redundant weep holes to be confirmed by the Contract Administrator.

460 CURING

- Allow all coats to dry out thoroughly before applying subsequent coats, refer to relevant BBA/BDA/ETA document or Soltherm installation instructions for full details.
- Sheet out system and or scaffolding with polythene or similar sheeting to allow the renders to cure and dry naturally.
- All necessary precautions must be taken to prevent newly rendered surfaces from drying out too rapidly.
- Allow each coat to dry thoroughly, with drying shrinkage substantially complete before applying next coat.
- In curing and subsequent periods protect from frost and driving rain as per normal system requirements and clauses 410 suite of clauses and 420.

460A PROTECTION

- Adequately protect newly applied external coatings against frost and rain for at least the first 48 hours using polyethylene sheet hung clear over the face, or other approved method.
- Adequate protection should be taken to prevent following trades or removal of scaffolding from soiling or damaging to finished render and insulation system.

490 CONSTRUCTION/MOVEMENT JOINTS

- Horizontal & vertical movement joints are required to replicate any movement allowance identified in the construction.
- Horizontal movement joints are required at maximum every 3 stories; this does not supersede the requirement to replicate any movement identified in the construction.
- Form joints accurately using Soltherm beads/trims/profiles (as per Clause 222) to Architect/Designer locations shown on the drawings. If no guidance is provided, contact Soltherm Technical Department who will be required to visit site and establish movement allowances in the substrate and recommend relevant system movement requirements.
- If modifications to any joint location or design are necessary on site, agree revisions with contracts administrator and confirm in writing with Soltherm before proceeding.
- All movement joints to be designed and installed in accordance with relevant BBA/BDA/ETA Certificate, as per Soltherm standard details (refer to Clause 310) and with Soltherm's approval.

490B DISSIMILAR SOLID BACKGROUNDS FOR RENDERING

- Where the system is to be continued over joints between dissimilar solid backgrounds which are in the same plane, all junctions must have Soltherm movement joints installed over and mechanically fixed with suitable approved fixing or adhesive (refer to clauses 222 & 310).

510 FIRE BARRIERS (WITHIN INSULATION SYSTEM):

- All design and installation of fire barriers must be in locations pre-determined by a suitably qualified fire engineer or others responsible for the project design.

520 SUPPORTS FOR SERVICES/FITTINGS

- Provide secure supports for soil and rainwater pipe brackets and any additional attachments in locations shown on drawings (Refer to Soltherm standard details as per Clause 310). Consult Soltherm Technical Services for fixing methods/details.

530 SEALANT JOINTS

- Locations: at general abutments/interfaces (Refer to Soltherm standard details)
- Sealant: **Soltherm EST Sealing Tape & Soltherm Sealant**
(Soltherm Sealant to be applied once the basecoat has cured, refer to Soltherm Application Guides for further guidance)

- Joints: Formed in accordance with manufacturer's recommendations using any necessary joint fillers, backing strips, etc.

530A SEALANT JOINTS AT OPENINGS

- Locations: at opening reveal/head interfaces (Refer to Soltherm standard details)
- Sealant option A: **WR6MESH with Soltherm Sealant**
- Sealant option B: **Soltherm EST Sealing Tape with Soltherm Sealant**
(Soltherm Sealant to be applied once the basecoat has cured, refer to Soltherm Application Guides for further guidance)
- Joints: Formed in accordance with manufacturer's recommendations using any necessary joint fillers, backing strips, etc.

540 STORAGE OF MATERIALS

- Adequate dry weatherproof and ventilated storage shall be provided for all materials & equipment.
- Factory packaging does not provide sufficient level of protection to allow the materials to be stored outside.
- All materials must be stored on a solid level surface, as such to prevent overturning, slipping, dislodging or collapse.
- Stacks of bagged materials shall be laid in layers crosswise, up to a maximum of 10 layers or 2 pallets.
- Liquid materials in buckets must be stored upright and can be stack up to 2 layers. Where pallets are received on site with buckets stacked 3 high, these can be stored as is but nothing should be stored on top of them.
- Soltherm Adhesives, Renders & Finishes must be stored in temperatures of at least 5°C up to a maximum of 25°C.
- Generally, keep all ancillary materials in original factory packaging to prevent damage due to mechanical impact and moisture.
- Soltherm will not be held responsible for any damage to materials.

550 INSPECTION OF COMPLETED INSTALLATION

- As soon as possible after completion of the work and before removing scaffolding, carry out an inspection with the contract administrator to identify any defects and report immediately.

AFTERCARE & WARRANTY

560 MAINTENANCE

- It is recommended that all facades be inspected at a minimum frequency of once a year.
- Inspections should be carried out in spring accounting for the effects of annual extremes.
- Inspection should also be carried out following works on the facade by other trades, or following installation of new equipment.
- All inspections/and or maintenance actions carried out on the facade must be in full compliance with the appropriate health and safety regulations, and particularly those specifically dealing with working at height. Refer to current HSE publication 'The Working at Height Regulations' for further guidance.
- All maintenance must be carried out in accordance with Soltherm recommended maintenance documentation.
- Soltherm Facades maintenance documents can be obtained from Soltherm Technical Manager.

570 WARRANTY

- The above specification shall be installed in accordance with the appropriate sections of all current relevant codes of practice, Building Regulations, and manufacturer's installation instructions for product supplied by the company. The works shall be installed by a Soltherm Registered Contractor, and, as agreed in the contract, the Soltherm Certificate of 25 Year Warranty shall be issued to the Building Owner from the date of final completion.
- This warranty assures the building owner that, in the event of a latent product defect in the renders, insulation, sealants or associated accessories and adhesives as supplied by Soltherm, Soltherm undertakes to reinstate the System, subject to the terms and conditions of warranty.
- This system warranty is conditional upon the full system being purchased from Soltherm and installed in accordance with the above specification. Substitution of any products, or installation by means other than those described, will invalidate the warranty offered.
- The warranty offered is subject to the terms and conditions set out in the certificate of warranty, available upon request.

SPECIFICATION REVISION LOG			
Rev No.	Date	Description of Revision	Author
A	25.07.2025	Insulation increased from 80mm to 250mm	Ian Sired
B	12.11.2025	Insulation Amended for 100mm	Sean Hogan



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Documentation of the component

Thermal transmittance (U-value) according to BS EN ISO 6946

Source: **own catalogue - Hampton Court Worthing**

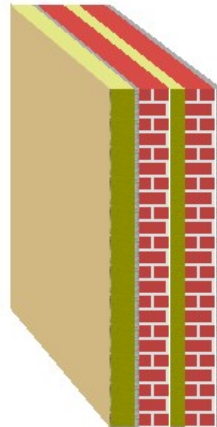
Component: **Existing Masonry Dynamic Silicone - FC 100mm**

1. December 2025

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OUTSIDE

INSIDE



Assignment: External wall

	Manufacturer	Name	Thickness [m], number	Lambda [W/(mK)]	Q	R [m²K/W]
		Rse				0.0400
☒	1	Bolix S.A.	Soltherm SFC-P 15	0.0015	0.670 E	0.0022
☒	2	Bolix S.A.	Soltherm MB	0.0060	0.780 E	0.0077
☒	3	Generic Building Materials	Soltherm Mineral Wool Slab	0.0800	0.036 E	2.2222
		Air gaps	Level 0: dU" = 0.00 W/(m²K)			
☒	4	Bolix S.A.	Soltherm MA	0.0050	0.540 E	0.0093
☒	5	Generic	Generic Render System	0.0130	1.000 E	0.0130
☒	6	Own catalogue	Brick outer leaf & Mortar outer leaf (f = 0.000 / automatic disregard acc. BRE 443)	0.1020	0.770 E	0.1325
☒	7	Generic Building Materials	Mineral wool blown	0.0500	0.040 D	1.2500
		Fixings	Vertical Twist galvanised steel No./m²:	2.5/m²	50.000 D	-
		Fixings	equivalent diameter: 0.0101 m / alpha: 0.800			
		Air gaps	Level 1: dU" = 0.01 W/(m²K)			
☒	8	JT 2	Brick inner leaf JT2 & Mortar outer leaf (f = 0.000 / automatic disregard acc. BRE 443)	0.1020	0.560 E	0.1821
☒	9	Generic Building Materials	Plaster dabs -Gypsum [1200 kg/m³]	0.0015	0.430 D	0.0035
☒	10	BS EN 12524	Gypsum plasterboard	0.0125	0.250 D	0.0500
		Rsi				0.1300
			0.3735			

Documentation of the component

1. December 2025

Thermal transmittance (U-value) according to BS EN ISO 6946

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Source: **own catalogue - Hampton Court Worthing**

Component: **Existing Masonry Dynamic Silicone - FC 100mm**

$$R_T = R_{si} + \sum R_i + R_{se} = 4.04 \text{ m}^2\text{K/W}$$

Correction to U-value for	according to	delta U [W/(m²K)]
Mechanical fasteners	BS EN ISO 6946 Annex F	0.0153
Air gaps	BS EN ISO 6946 Annex F	0.0010
Rainscreen cladding	BR 443	0.0111
		0.0274

$$U = 1/R_T + \sum \Delta U = 0.27 \text{ W/(m}^2\text{K)}$$

Q .. The physical values of the building materials has been graded by their level of quality. These 5 levels are the following

- A: Data is entered and validated by the manufacturer or supplier. Data is continuously tested by 3rd party.
- B: Data is entered and validated by the manufacturer or supplier. Data is certified by 3rd party
- C: Data is entered and validated by the manufacturer or supplier.
- D: Information is entered by BuildDesk without special agreement with the manufacturer, supplier or others.
- E: Information is entered by the user of the BuildDesk software without special agreement with the manufacturer, supplier or others.

$$U = 0.27 \text{ W/(m}^2\text{K)} \quad R_T = 4.04 \text{ m}^2\text{K/W}$$

Documentation of the component

Thermal transmittance (U-value) according to BS EN ISO 6946

Source: **own catalogue - Hampton Court Worthing**

Component: **Existing Masonry Dynamic Silicone - FC 100mm**

1. December 2025

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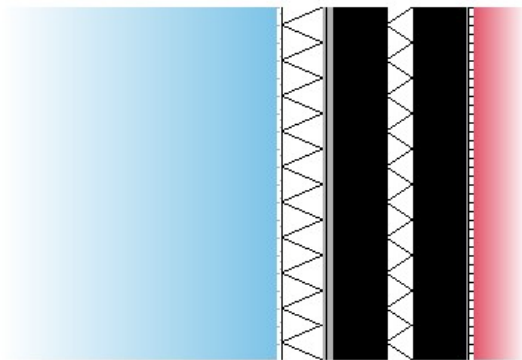
Correction according to BR 443 Rainscreen cladding

User defined input - Pointloss:

Name	Pointloss Chi [W/K]	Ref. quantity [-]	Ref. area [m ²]	delta U [W/(m ² K)]
Rawlplug R-TFIX-8S ETA-17/0161	0.0020	5.56	1.00	0.0111
				0.0111

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The list of material layers shown below may differ from those in the U-value calculation printout. Only material layers which are used in the Condensation Risk Analysis are listed.

Assignment: External wall

Name	Thickn. [m]	lambda [W/(mK)]	Q	μ [-]	Q	sd [m]	R [m²K/W]
Soltherm SFC-P 15	0.0015	0.670	E	150.00	E	0.23	0.0022
Soltherm MB	0.0060	0.780	E	25.00	E	0.15	0.0077
Soltherm Mineral Wool Slab	0.0800	0.036	E	1.00	E	0.08	2.2222
Soltherm MA	0.0050	0.540	E	25.00	E	0.13	0.0093
Generic Render System	0.0130	1.000	E	15.00	E	0.20	0.0130
Brick outer leaf & Mortar outer leaf (f = 0.000 / automatic disregard acc. BRE 443)	0.1020	0.770	E	45.00	E	4.59	0.1325
Mineral wool blown	0.0500	0.040	D	1.00	D	0.05	1.2500
Brick inner leaf JT2 & Mortar outer leaf (f = 0.000 / automatic disregard acc. BRE 443)	0.1020	0.560	E	45.00	E	4.59	0.1821
Plaster dabs -Gypsum [1200 kg/m³]	0.0015	0.430	D	4.00	D	0.01	0.0035
Gypsum plasterboard	0.0125	0.250	D	4.00	D	0.05	0.0500

Q .. The physical values of the building materials has been graded by their level of quality. These 5 levels are the following

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Condensation risk analysis - summary of main results

Calculation according BS EN ISO 13788

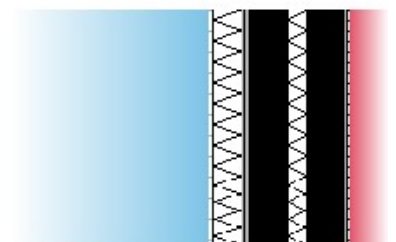
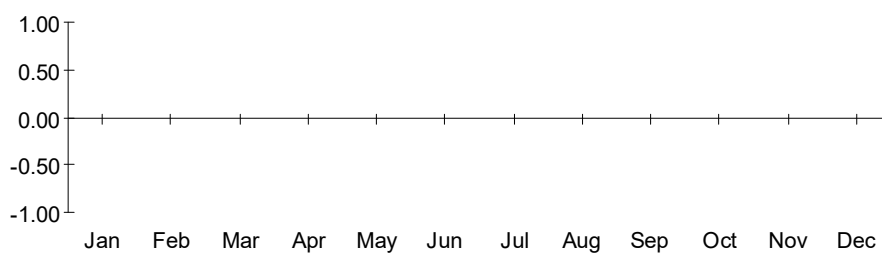


Surface temperature to avoid critical surface moisture:
No danger of mould growth is expected.



Interstitial condensation:
No condensation is predicted at any interface in any month.

Interstitial condensation and
 evaporation per month gc [g/m²]



Component, condensation range

Surface temperature to avoid critical surface humidity Calculation according BS EN ISO 13788

Location: Thorny Island; Humidity class according BS EN ISO 13788 annex A: 3 Buildings with unknown occupancy; Return period according BS 5250:2021 Once in 10 years (-1°C Ext Temp, +4% Ext RH)

	1	2	3	4	5	6	7	8	9	10	11	12
Month	Te [°C]	phi_e ---	Ti [°C]	phi_i ---	pe [Pa]	delta p [Pa]	pi [Pa]	ps(Tsi) [Pa]	Tsi,min [°C]	fRsi ---	Tsi [°C]	Tse [°C]
● January	4.8	0.900	20.0	0.605	774	640	1413	1767	15.6	0.708	19.1	4.9
February	4.1	0.870	20.0	0.589	712	664	1377	1721	15.1	0.695	19.0	4.3
March	5.8	0.850	20.0	0.594	784	604	1388	1735	15.3	0.667	19.1	5.9
April	7.5	0.810	20.0	0.592	839	544	1383	1729	15.2	0.618	19.2	7.6
May	11.6	0.800	20.0	0.638	1092	398	1490	1863	16.4	0.570	19.5	11.7
June	13.5	0.820	20.0	0.684	1268	331	1599	1999	17.5	0.615	19.6	13.6
July	15.9	0.810	20.0	0.731	1463	246	1708	2135	18.5	0.646	19.8	15.9
August	15.5	0.820	20.0	0.729	1443	260	1703	2129	18.5	0.667	19.7	15.5
September	13.4	0.830	20.0	0.689	1275	334	1610	2012	17.6	0.637	19.6	13.5
October	10.7	0.880	20.0	0.668	1132	430	1562	1952	17.1	0.691	19.4	10.8
November	6.7	0.890	20.0	0.618	873	572	1445	1806	15.9	0.692	19.2	6.8
December	5.8	0.900	20.0	0.613	830	604	1434	1792	15.8	0.703	19.1	5.9

- The critical month is January with $f_{Rsi,max} = 0.708$
 $f_{Rsi} = 0.940$

$f_{Rsi} > f_{Rsi,max}$ the component complies.

Nr Explanation

- External temperature
- External rel. humidity
- Internal temperature
- Internal relative humidity
- External partial pressure $p_e = \phi_e \cdot p_{sat}(T_e)$; $p_{sat}(T_e)$ according formula E.7 and E.8 of BS EN ISO 13788
- Partial pressure difference. The security factor of 1.10 according to BS EN ISO 13788, ch.4.2.4 is already included.
- Internal partial pressure $p_i = \phi_i \cdot p_{sat}(T_i)$; $p_{sat}(T_i)$ according formula E.7 and E.8 of BS EN ISO 13788
- Minimum saturation pressure on the surface obtained by $p_{sat}(T_{si}) = p_i / \phi_{si}$,
where $\phi_{si} = 0.8$ (critical surface humidity)
- Minimum surface temperature as function of $p_{sat}(T_{si})$, formula E.9 and E.10 of BS EN ISO 13788
- Design temperature factor according 3.1.2 of BS EN ISO 13788
- Internal surface temperature, obtained from $T_{si} = T_i - R_{si} \cdot U \cdot (T_i - T_e)$
- External surface temperature, obtained from $T_{se} = T_e + R_{se} \cdot U \cdot (T_i - T_e)$

Documentation of the component
Calculation according BS EN ISO 13788
Source: **own catalogue - Hampton Court Worthing**
Component: **Existing Masonry Dynamic Silicone - FC 100mm**

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Interstitial condensation - main results Calculation according BS EN ISO 13788

| No condensation is predicted at any interface in any month.

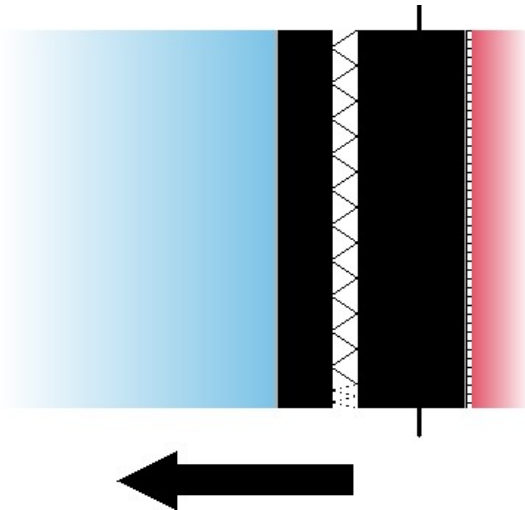
Climatic conditions

Location: Thorny Island; Humidity class according BS EN ISO 13788 annex A: 3 Buildings with unknown occupancy; Return period according BS 5250:2021 Once in 10 years (-1°C Ext Temp, +4% Ext RH)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Internal temperature [°C]	Ti	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Internal rel. humidity [%]	phi_i	60.5	58.9	59.4	59.2	63.8	68.4	73.1	72.9	68.9	66.8	61.8	61.3
External temperature [°C]	Te	4.8	4.1	5.8	7.5	11.6	13.5	15.9	15.5	13.4	10.7	6.7	5.8
External rel. humidity [%]	phi_e	90.0	87.0	85.0	81.0	80.0	82.0	81.0	82.0	83.0	88.0	89.0	90.0

OUTSIDE

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The list of materials shown below may differ from those in the U-value calculation printout. Only material layers which are used in the heat capacity calculation are listed.

Single material layers shown in the U-value calculation printout may be separated to meet the exclusion criteria:

- A .. The total thickness of the layers exceed 0.1 m.
- B .. The mid point in the construction is reached.

For insulation layers the following criteria applies:

- C .. An insulating layer is reached (defined as $\lambda \leq 0.08 \text{ W/(mK)}$).

Name	Thickness [m]	lambda [W/(mK)]	Q	Thermal capacity [kJ/(kgK)]	Q	Density [kg/m³]	Q	Thermal mass kJ/(m²K)	Criteria Exclusion
End of calculation - Cold									
1 Soltherm SFC-P 15	0.0015	0.670	E	1.00	E	1920.0	E	2.9	A, -, C
2 Soltherm MB	0.0060	0.780	E	1.00	E	1500.0	E	9.0	A, -, C
3 Soltherm Mineral Wool Slab	0.0800	0.036	E	1.03	E	110.0	E	0.0	A, -, C
4 Soltherm MA	0.0050	0.540	E	1.00	E	1780.0	E	8.9	A, -, C
5 Generic Render System	0.0130	1.000	E	1.00	E	1700.0	E	22.1	A, -, C
6 Brick outer leaf & Mortar outer leaf (f = 0.000 / automatic disregard acc. BRE 443)	0.1020	0.770	E	0.80	E	1700.0	E	138.7	A, -, C
7 Mineral wool blown	0.0500	0.040	D	1.03	D	12.0	D	0.0	A, -, C
8 Brick inner leaf JT2 & Mortar outer leaf (f = 0.000 / automatic disregard acc. BRE 443)	0.0160	0.560	E	0.80	E	1700.0	E	21.8	A, -, -
8 Brick inner leaf JT2 & Mortar outer leaf (f = 0.000 / automatic disregard acc. BRE 443)	0.0860	0.560	E	0.80	E	1700.0	E	117.0	-, -, -
9 Plaster dabs -Gypsum [1200 kg/m³]	0.0015	0.430	D	1.00	D	1200.0	D	1.8	-, -, -
10 Gypsum plasterboard	0.0125	0.250	D	1.00	D	900.0	D	11.3	-, -, -
Start of calculation - Warm									
	0.3735							130.0	

Heat capacity = 130.0 kJ/(m²K)

The following exclusion criteria apply:

- A .. The total thickness of the layers exceed 0.1 m.
- C .. An insulating layer is reached (defined as $\lambda \leq 0.08 \text{ W/(mK)}$).

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