



**SOLTHERM ULTIMATE A1 DASH**  
**SOLTHERM ULTIMATE HD A1 DASH**  
External Wall Insulation System  
on MW boards

**APPLICATION GUIDE**

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# INTRODUCTION

This application guide is designed for use by qualified and Soltherm registered installers, who already have an extensive knowledge of external wall insulation (EWI) install techniques.

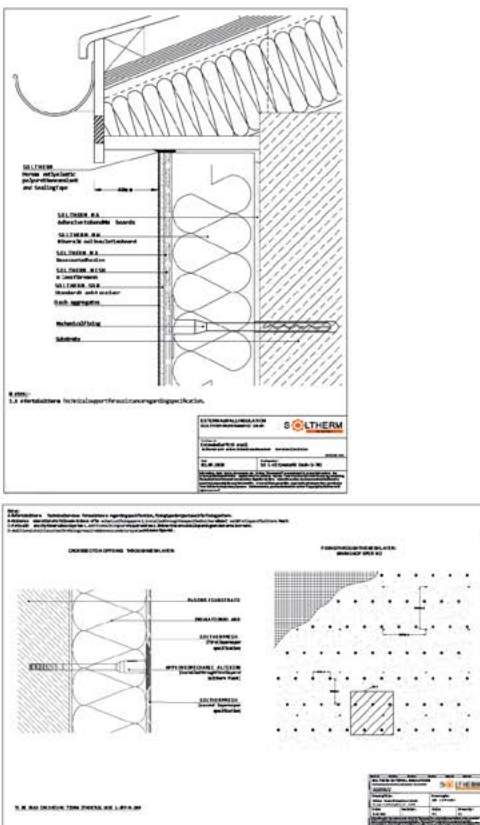
Ultimate A1 Dash and Ultimate HD A1 Dash systems utilise A1 non-combustible mineral wool. The systems achieve fire rating A1 with compliance for use on all projects anywhere in the Ireland. Ultimate systems are available in a variety of finishes and colours, providing designers with unparalleled architectural freedom achieved with a diverse colour palette and multiple textures. All systems have low water absorbency, which protects against the penetration of wind-driven rain, dirt and destructive chemicals within the atmosphere, also preventing failure from freeze-thaw.

Of equal importance is vapour permeability and durability, allowing the systems to breathe whilst protecting the system from day to day damage with a high level of impact resistance offered.

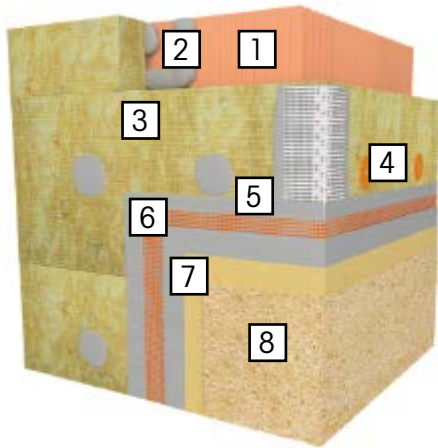
## Important information

Prior to commencing with the installation of the Soltherm Ultimate A1 Dash and Ultimate HD A1 Dash systems, the Soltherm Registered Contractor is required to ensure the following:

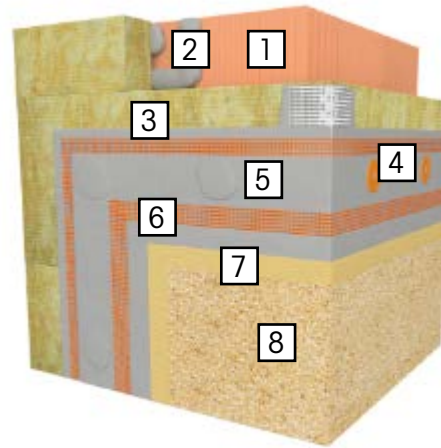
- The installation team have had Soltherm Ultimate A1 Dash training.
- A non-draft project specification has been issued by Soltherm with fixing pattern and any unique detailing requirements.
- Datasheets of all the Soltherm materials are readily available and guidelines contained within are adhered to in relation to application, preparation and health and safety (H&S).
- If the building is high rise, as defined in Building Regulations, the Contracts Administrator has confirmed that the substrate is structurally suitable to carry the EWI system and any structural repairs deemed necessary have been completed to required specification.
- Scaffold and/or access is in accordance with all H&S requirements.
- Enabling works have been completed to a satisfactory standard.
- Windows, walkways, driveways and other features are protected from damage.
- Requirement for mechanical fixing pull out tests.
- Wind load calculations (if required).



# THE SYSTEM



## ULTIMATE A1 DASH



## ULTIMATE HD A1 DASH

### 1. Substrate

The Soltherm Ultimate A1 Dash & Ultimate HD A1 Dash Systems must only be utilised on masonry substrates. The substrate must be clean, dry and primed prior to the application of the system.

### 2. Adhesive: SOLTHERM MA or SOLTHERM UB Special

A1 Insulation adhesive designed specifically for use with mineral wool insulation.

### 3. Mineral Wool Insulation

A1 insulation utilising monodensity or dualdensity mineral wool boards, providing improved fire resistance and thermal performance.

### 4. Mechanical Fixings

ETA approved screw-in or hammerset fixings with steel nails are used. Refer to Soltherm standard details as well as fixing pattern implemented in the specification. Stainless steel fixings (fire fixings) only required above second storey to be installed through 1st layer of reinforcing coat.

### 5. Basecoat: SOLTHERM MB or SOLTHERM UB Special

A1 basecoat designed to encapsulate the reinforcement mesh, providing the system with water resistivity, breathability and impact protection.

### 6. SOLTHERM Glass Fibre Mesh

An alkali resistant reinforcement mesh bedded into the base coat providing increased flexibility, durability and impact resistance.

### 7. SOLTHERM SDR dash receiver












Polymer Modified Dash Receiver with excellent adhesion to basecoat, very low water absorption, offering wide colour palette.

### 8. SOLTHERM dashing aggregates

3-8mm dry dashing aggregates providing a colourful finish with high-end durability.

# SYSTEM COMPONENTS & MATERIALS

**IMPORTANT: When using any component, product or material, refer to the technical datasheet before proceeding with the installation.**

<b>FUNGICIDAL WALL WASH</b>	A concentrated biocide for cleaning masonry walls	5L Bottle	Diluted with clean water in accordance with the datasheet. The level of dilution will depend on the severity of the fungal growth on the wall.	
<b>SOLTHERM PROFILES &amp; BEADS</b>	Aluminium, PCG steel & PVC full system & surface mounted profiles.	Mostly 2.5 or 2.0 m in length. Always refer to the specification and quotation	Full system beads are mechanically fixed and surface beads mainly bedded into base coat used as the adhesive. Always refer to the specification.	
<b>SOLTHERM SP</b>	A substrate primer for absorptive substrates	10kg Bucket	Applied directly to the masonry wall by brush, roller or low pressure spray.	
<b>SOLTHERM CS</b>	A substrate primer for smooth, low porous substrates	14kg Bucket	Applied directly to the masonry wall by brush, or roller.	
<b>SOLTHERM MA</b>	Insulation adhesive specifically formulated for mineral wool insulation	25kg bag	Mix thoroughly with clean water (4.8 - 5.3 litre) allow to stand for 5 minutes and remix before applying in accordance with the specification.	
<b>MINERAL WOOL</b>	A1 insulation board	1200x600mm or 1000x600mm slab of varying 10mm incremental thicknesses 50-250mm	If required, the insulation slabs can be cut with a saw to a suitable size.	
<b>MECHANICAL FIXINGS</b>	ETA certified screw-in or hammer set fixings with steel nails.		The fixing is installed through insulation in accordance with the specification.	
<b>SOLTHERM MB</b>	Flexible, polymer modified base coat specifically formulated for application onto mineral wool insulation.	25kg bag	Mix thoroughly with clean water (5.0 - 5.5 litre per bag) allow to stand for 5 minutes and remix before applying in accordance with the specification.	
<b>SOLTHERM UB Special</b>	Grey polymer modified base coat specifically formulated for application onto Grey EPS insulation and MW boards.	25kg bag	Mix thoroughly with clean water (5.0 - 6.0 litres) allow to stand for 5 minutes and remix before applying in accordance with the specification.	
<b>SOLTHERM GLASS-FIBRE MESH</b>	An alkali resistance reinforcement mesh	50x1,1m roll	Cut to size with sharp knife.	
<b>SOLTHERM SDR</b>	Polymer modified and through-coloured dash receiver to achieve a drydash finish.	25kg bag	Mix thoroughly with clean water (5.0 - 5.5 litre per bag), allow to stand for 5 minutes and remix before applying in accordance with the specification.	
<b>SOLTHERM DASHING AGGREGATES</b>	Available in particle sizes of 3 to 8mm, a range of colours to suit Soltherm SDR Dash Receiver. <b>Roughcast Dash Aggregates</b>	25kg bag	It is recommended that the Dashing Aggregates be washed thoroughly prior to use. Some Dashing Aggregates may be susceptible to the natural phenomenon of iron ore staining and in rare instances the façade may suffer from this occurrence too, with the specification.	



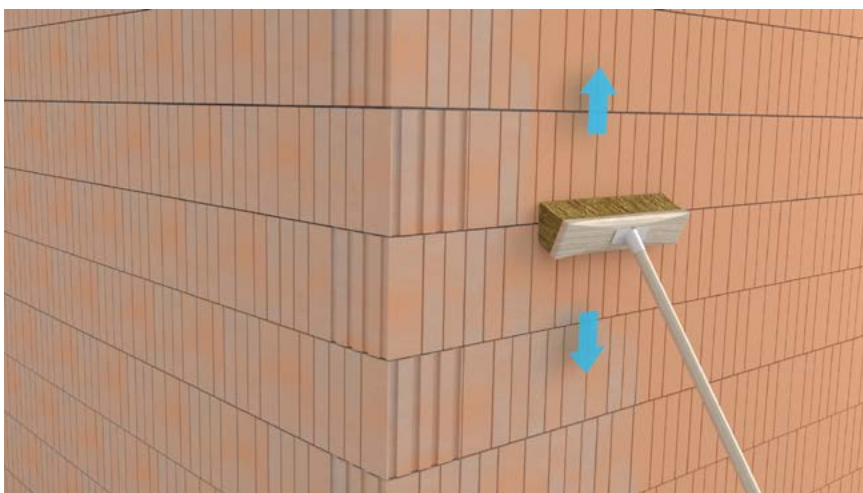
# APPLICATION GUIDE

## SUBSTRATE PREPARATION



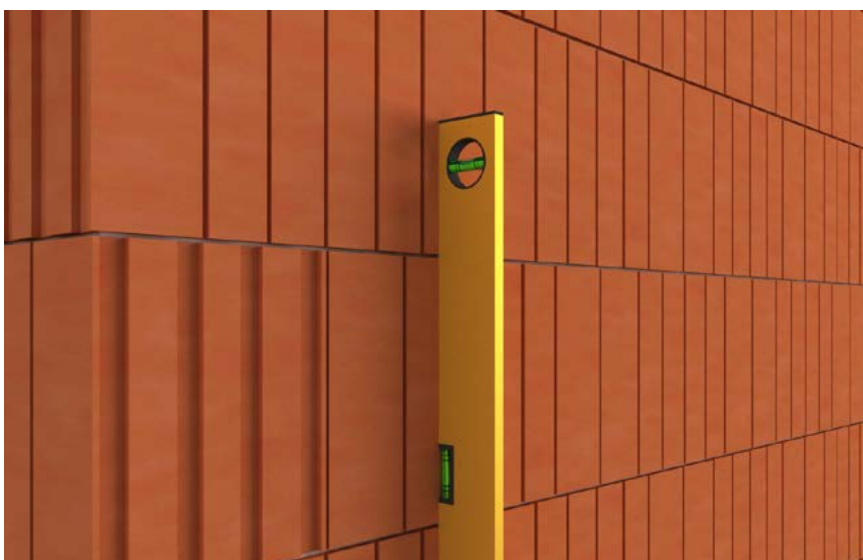
All heavy fungal growth must be removed from the substrate by either scraping or power wash and allowed to dry.

If the system is to be applied to an existing render substrate, it must be hammer tested first.



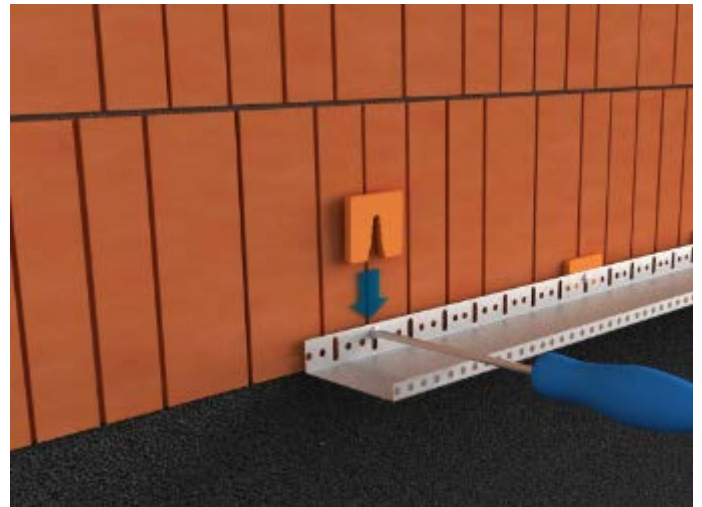
If required, apply FUNGICIDAL WALL WASH to the substrate in accordance with the specification and technical datasheet and allow to dry.

Apply either the SOLTHERM SP or SOLTHERM CS to the substrate in accordance with the specification and technical datasheet and allow to dry.



Surface irregularities and cavities (5 - 15 mm) must be made good with SOLTHERM LRC, irregularities  $\leq$  5 mm can be levelled using SOLTHERM MB or SOLTHERM UB Special.

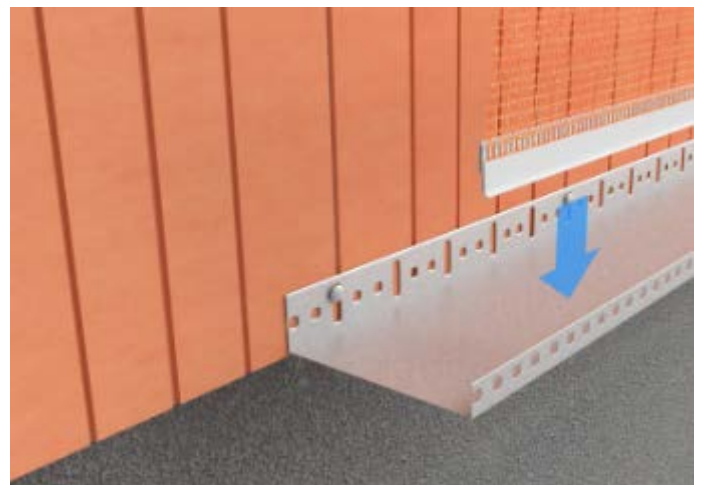
# STARTER TRACK INSTALLATION



The SOLTHERM STARTER TRACK is installed at DPC level and at least 150 mm above ground. The starter track is mechanically fixed at 300 mm centres with specified fixing and approx. 50 mm from the edge.

If the substrate is undulating and not line and level, it is acceptable to use packers.

The SOLTHERM STARTER TRACK must be mitred at external corners and linked together with adjacent profiles using profile joint clips.



Due to the weight of the mineral wool insulation, it may be a requirement to temporarily support the SOLTHERM STARTER TRACK.

Once the starter track is installed, the SOLTHERM CLIP-ON STARTER BEAD can be clipped to the front of the SOLTHERM STARTER TRACK.



If the contract does require insulation below DPC, please refer to your specification and contact Soltherm Technical with any queries relating to the materials, installation techniques and detailing.

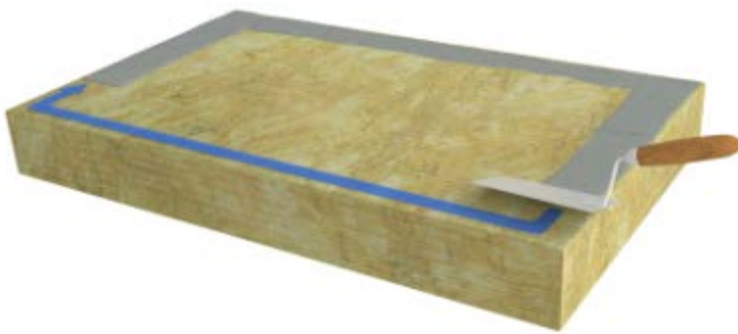
# INSULATION ADHESIVE APPLICATION

**Insulation adhesive, SOLTHERM MA or SOLTHERM UB Special, must be applied in all circumstances.**

There are two approved application options for the installer to choose from.

1. Ribbon & Dab Method – Suitable for substrate that have slight undulations
2. Notch Trowel Method – Suitable for line and level substrates,

Both methods of adhesive application must have a contact layer applied prior, this is to aid adhesion.

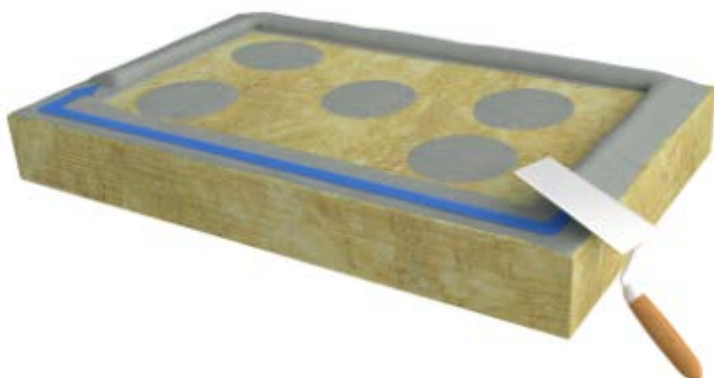


## **Ribbon & Dab Method**

Apply the SOLTHERM MA or SOLTHERM UB Special as a contact layer to the insulation around the perimeter of the board, minimum 30 mm



Repeat the contact layer application for 6-8 large dabs (80-100mm) to the centre of the board.



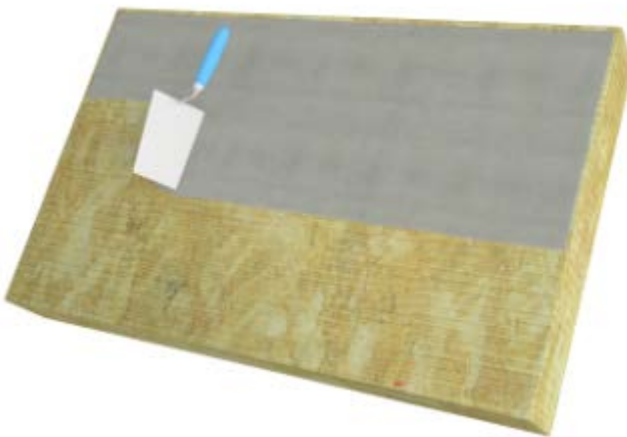
Once the contact layer is applied, apply further insulation adhesive to the perimeter and where the dabs are located.



# INSULATION ADHESIVE APPLICATION



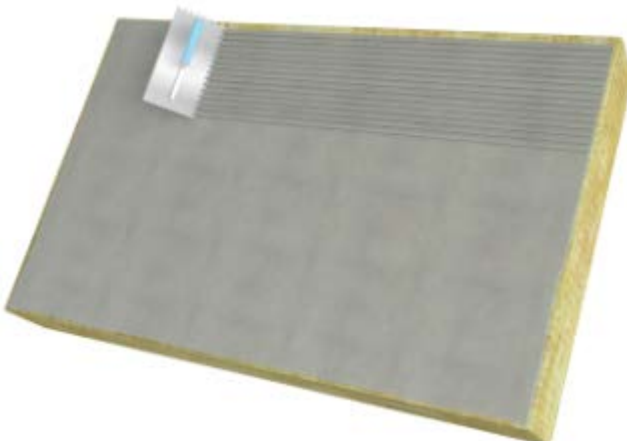
The adhesive thickness of the insulation adhesive layer, after pressing against the substrate wall, must be  $\leq 10$  mm and cover  $\geq 40\%$  of the overall area of the board.



## Notch Trowel Method

A contact layer must be applied to the entire back of the insulation board.

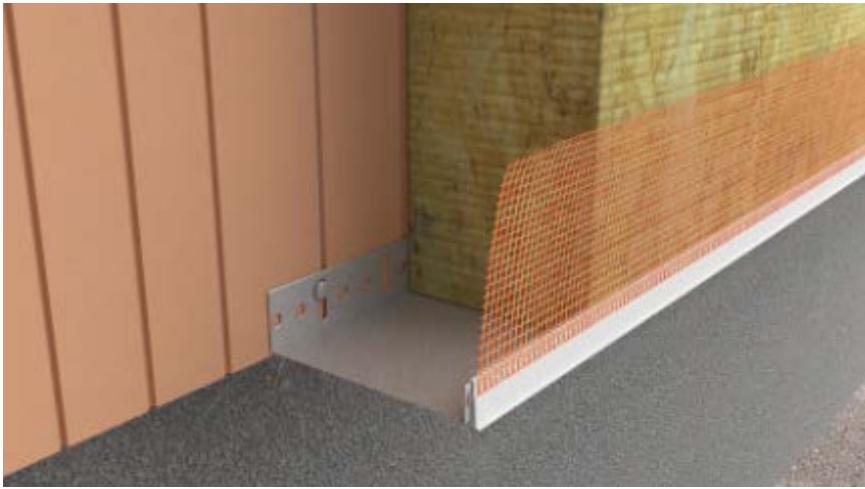
Once the contact layer is employed, the insulation adhesive can be applied with a 10X10 mm notch trowel.



The insulation board is then pressed against the substrate wall and should achieve  $\geq 90\%$  contact area.

**Important Note: The insulation adhesive must be allowed to dry before installing the mechanical fixings.**

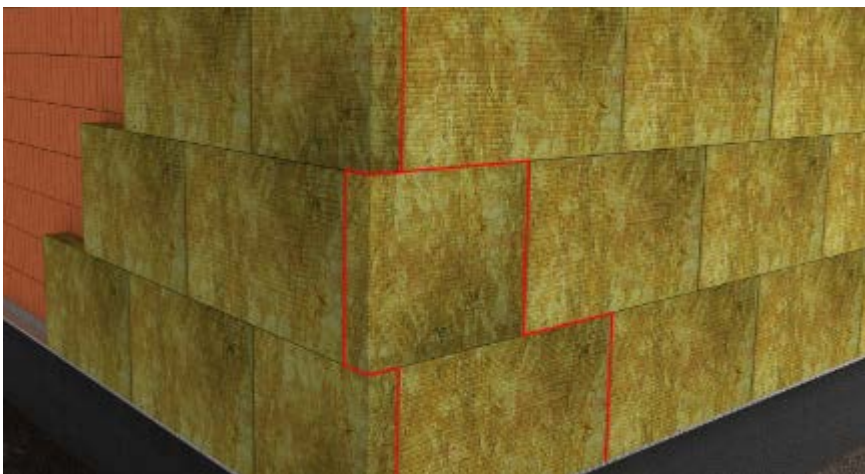
# INSULATION BOARD INSTALLATION



The first course of dual density mineral wool boards are placed into the SOLTHERM STARTER TRACK with the mesh of the clip on bead facing outwards.

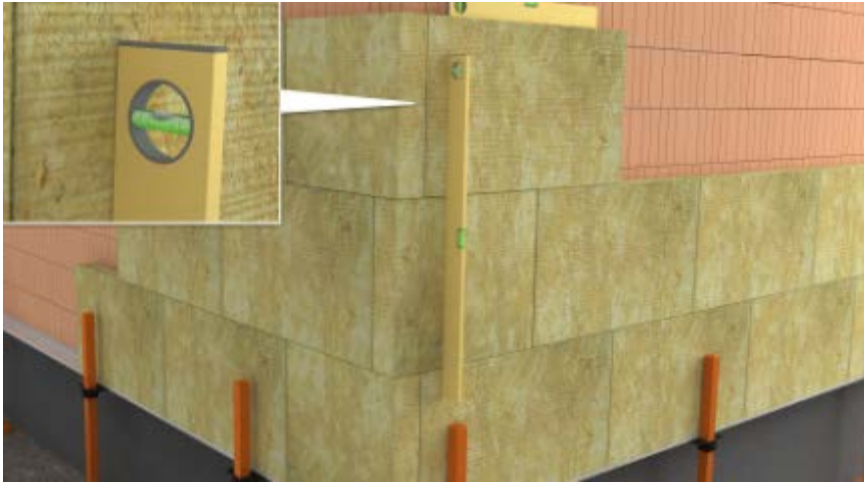


Insulation boards must be placed against the substrate in a brickbond manner achieving a minimum 150 mm stagger with the above/below insulation panel.



External corners are formed as per a brickwork corner, ensuring a full brickbond.

# INSULATION BOARD INSTALLATION



Always ensure that the insulation board are line and level throughout the façade, paying particular attention to external corners.



L shaped boards must be installed around all openings ensuring that no edge is smaller than 150 mm and no piece of insulation smaller than 150 mm throughout the installation.



**INCORRECT**



**CORRECT**

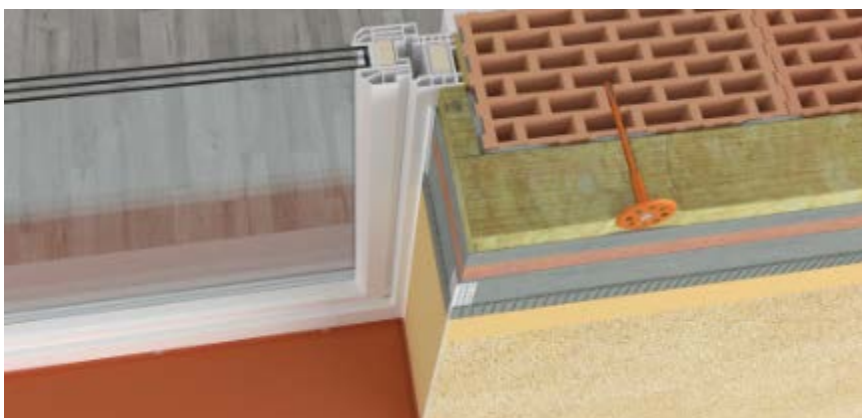
# INSULATION BOARD INSTALLATION



Any gaps between adjacent insulation panels must be filled with mineral wool slithers.



Where windows have recessed reveals and or heads, oversail the insulation board beyond the existing to create a channel to set a 30 mm thick mineral wool insulation strip in place within the reveal, adhesively fit as appropriate.



If windows are flush with the substrate, the main elevation insulation panels can simply over sail onto the window frame a minimum 20 mm.

# FIXING APPLICATION

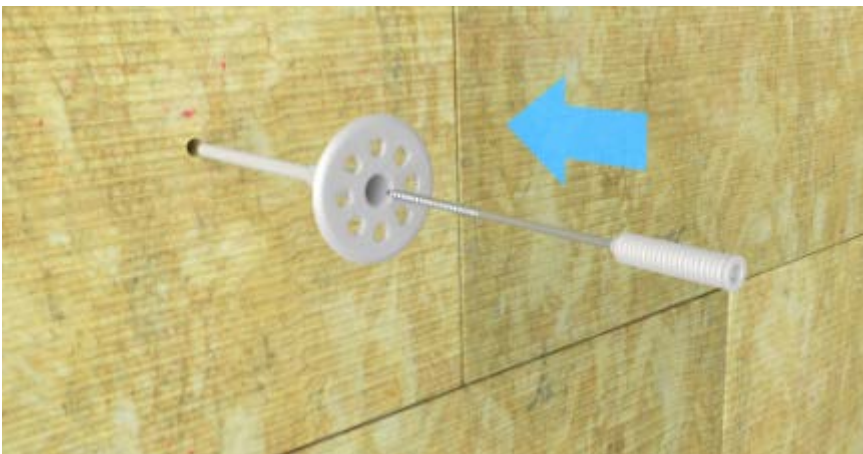
## ULTIMATE A1 DASH

### INITIAL FIXING APPLICATION FOR ULTIMATE HD A1 DASH

Once the insulation adhesive has cured, proceed with the installation of the mechanical fixings.  
Always refer to the specification for the appropriate fixing pattern



Following the specified fixing pattern, first drill through the insulation and into the masonry substrate with an 8 mm diameter drill bit to the appropriate depth.



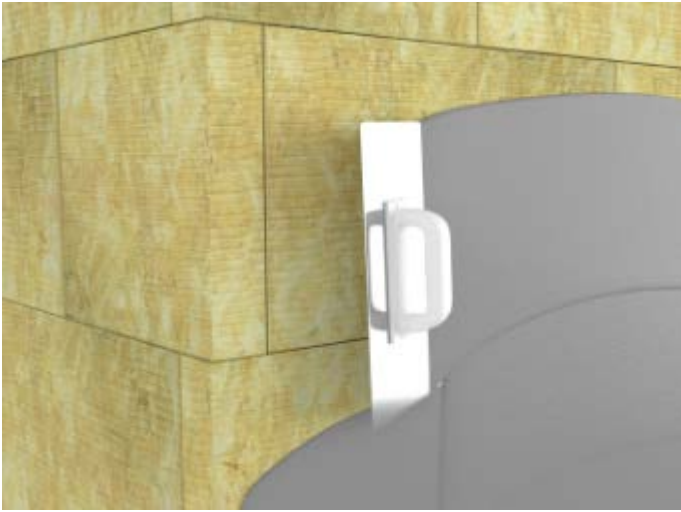
Place the fixing into the pre-drilled hole and push the fixing in until the head of the fixing is flush with the face of the insulation.



Screw or hammer (depending on fixing specification) the fixing into place ensuring the central pin is either flush with the fixing head or slightly recessed. The fixing head should be slightly recessed into the insulation face about 1-2 mm.

# BASE COAT APPLICATION

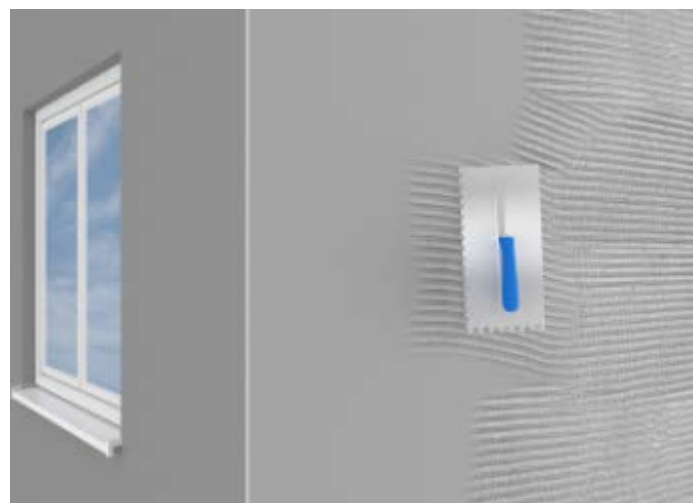
Mix the SOLTHERM MB or SOLTHERM UB Special base coat in accordance with the technical datasheet. Using a clean stainless steel trowel, apply a very tight contact layer of the base coat to the insulation boards, then apply a layer of base coat over the contact layer "wet on wet", 3-4 mm thick.



While the base coat is thoroughly wet, using an 8-10mm notch trowel, apply a vertical notch. Gently lay the reinforcement mesh into the wet base coat, keeping the mesh in the top third of the material and ensuring the mesh has a minimum lap of 100 mm with all adjacent meshes.

Using very light horizontal strokes, gently run a plaster's scarifier (or similar) over the surface of the base coat to provide a suitable key for the dashing mortar coat (dash receiver).

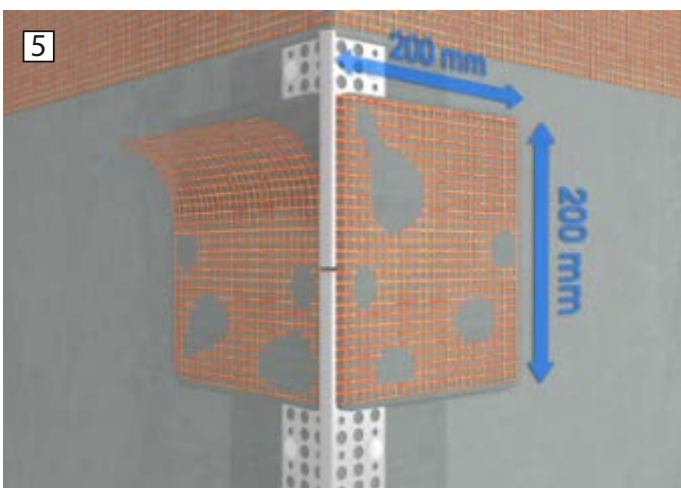
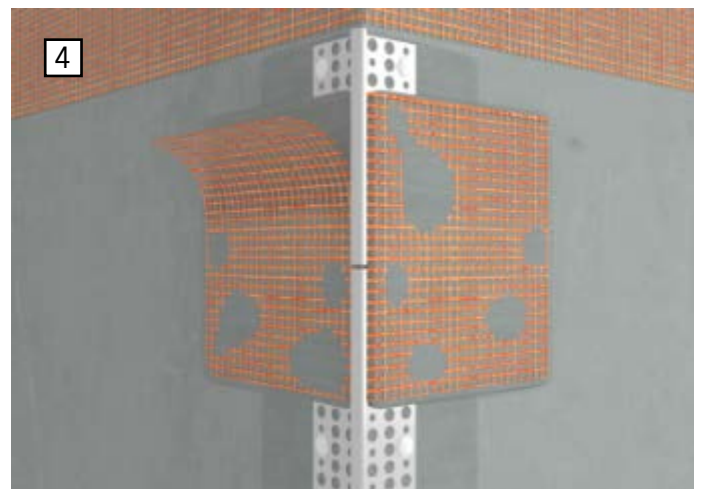
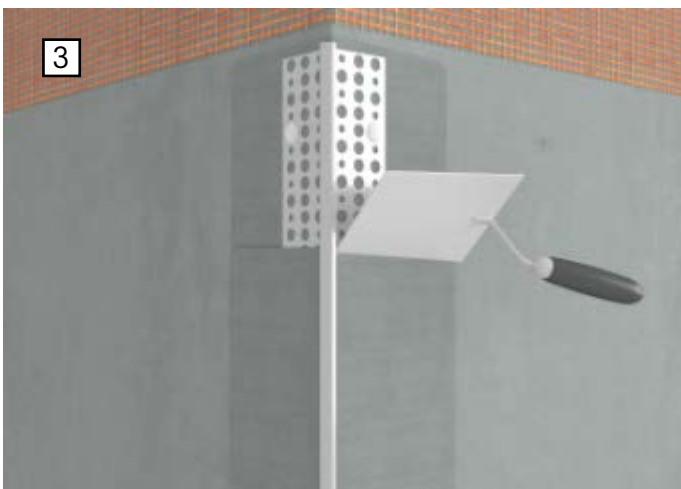
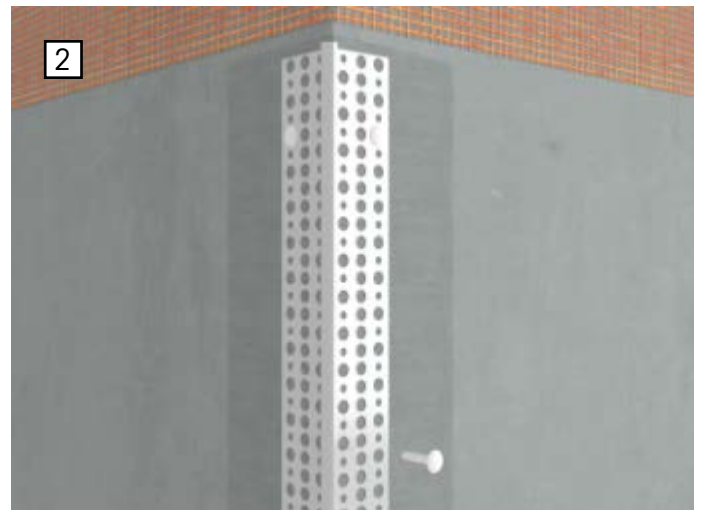
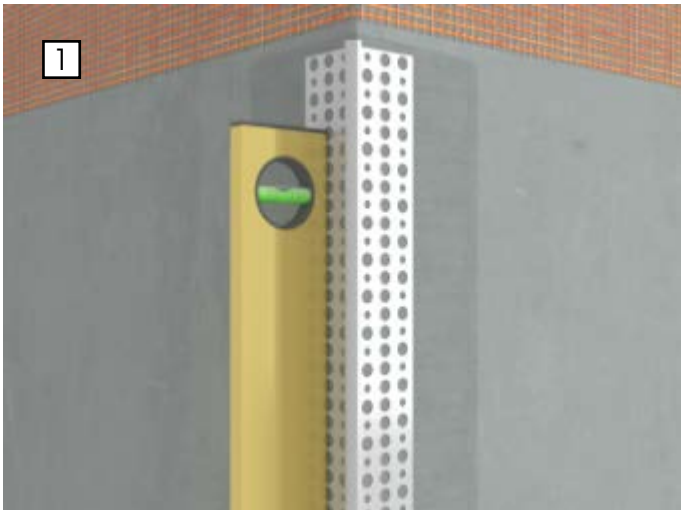
The overall thickness of the base coat for ULTIMATE A1 DASH system should be between 4-6 mm.



# GENERAL SURFACE MOUNTED BEAD APPLICATION

All surface mounted beads are to be installed onto the cured basecoat and are fixed at max. 300 mm centres using firtree SOLTHERM FTF fixings.

All surface mounted beads must have additional reinforcement placed over the join of adjacent beads to prevent cracking in the future.



# GENERAL SURFACE MOUNTED BEAD APPLICATION

Reinforcing patches e.g. 200 x 350 mm to provide additional protection against cracks and scratches in opening corners must be bedded into the standard base coat SOLTHERM MB or SOLTHERM UB Special.

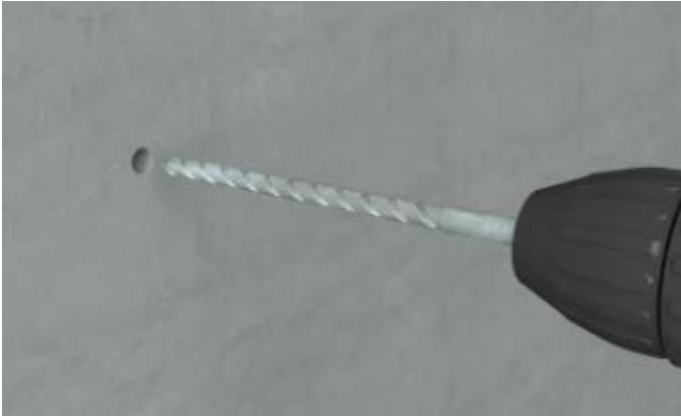




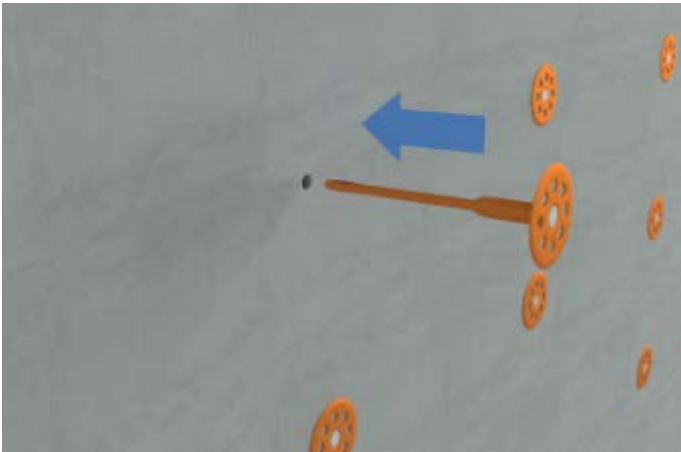
# FIXING THROUGH THE MESH APPLICATION ULTIMATE HD A1 DASH

Whilst the specified basecoat is still wet and the Soltherm reinforcing mesh has been bedded in, proceed with the installation of the mechanical fixings.

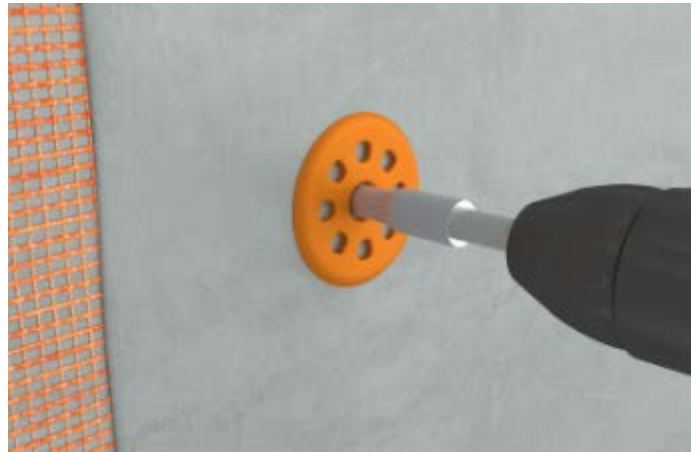
Always refer to the specification for the appropriate fixing pattern.



Following the specified fixing pattern, first drill through the basecoat and mesh, insulation and into the masonry substrate with an 8 mm diameter drill bit to the appropriate depth.



Place the fixing into the pre-drilled hole and push the fixing in until the head of the fixing is flush with the face of the base coat.

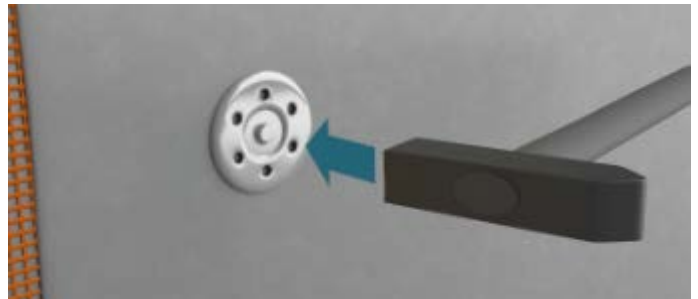


Screw or hammer the fixing into place ensuring the central pin is either flush with the fixing head or slightly recessed. The fixing head should be slightly recessed into the scrim coat face about 1-2 mm.

# FIRE FIXING INSTALLATION ULTIMATE A1 DASH & ULTIMATE HD A1 DASH



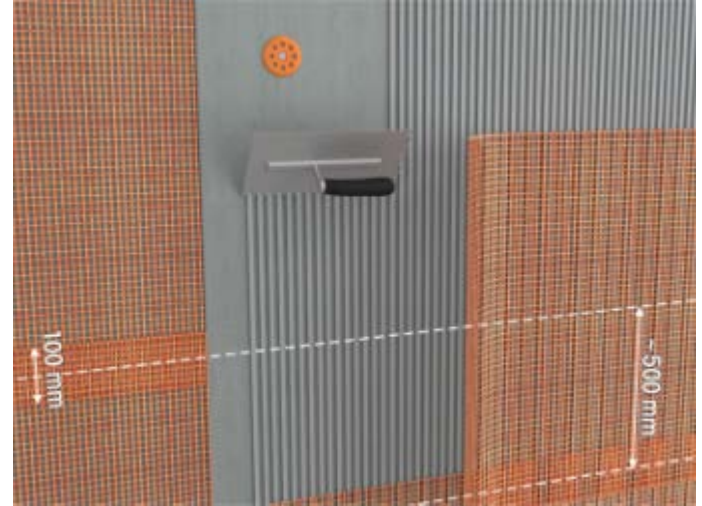
Drill an 8 mm diameter hole through the scrim and wet base coat at the required depth. Insert the stainless steel fixing into the hole with your hand as far as physically possible.



Using a hammer, gently hit the fixing centrally until it is recessed within the mesh and base coat approx. 1-2 mm. While the base coat is still wet for ULTIMATE A1 DASH, place a mesh patch (100x100mm) over the fixing head and smooth over with additional base coat if required.

# BASE COAT WITH SECOND MESH APPLICATION ULTIMATE HD A1 DASH

Allow SOLTHERM MB or SOLTHERM UB Special to sufficiently cure before proceeding with secondary reinforcing mesh application. In case of salt efflorescence sighting on the surface of the first reinforcing coat, prior to application of second reinforcing coat, it must always be dry cleaned with a brush and removed thoroughly. Then apply substrate primer SOLTHERM SP exactly once in one layer.



Apply a further coat of SOLTHERM MB or SOLTHERM UB Special at 1-2mm thick and lay through Standard SOLTHERM MESH ensuring no mesh is visible and is fully encapsulated in the base coat.

All secondary reinforcing mesh must maintain a minimum overlap of 100 mm with adjacent mesh and all mesh joints must be staggered approximately 500 mm from the joints the first reinforcing mesh application.



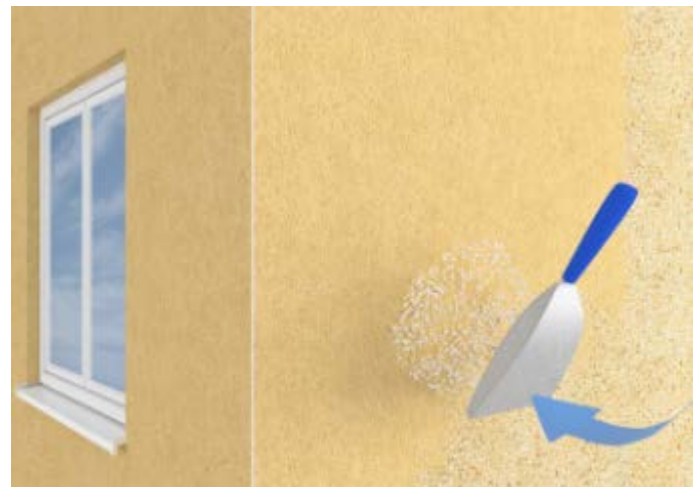
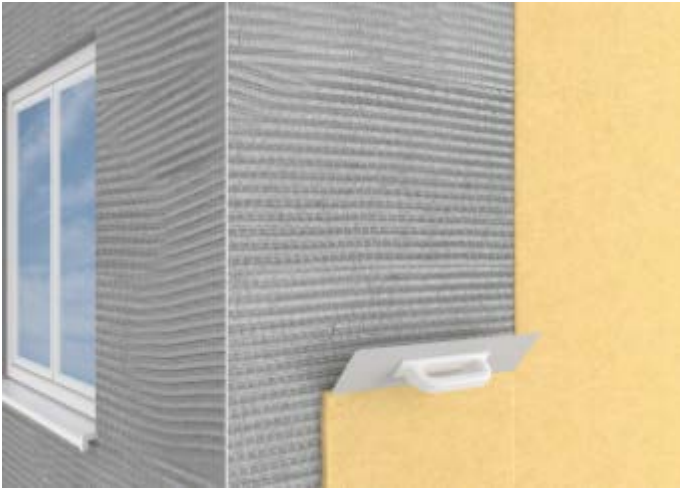
Using very light horizontal strokes, gently run a plaster's scarifier (or similar) over the surface of the base coat to provide a suitable key for the dashing mortar coat (dash receiver).

The overall thickness of the base coat for ULTIMATE HD A1 DASH system should be between 5-6 mm.

Allow SOLTHERM MB or SOLTHERM UB Special to fully cure before rasping any remaining trowel lines or protrusions and proceeding with the installation of the system.

# DASH RECEIVER AND DASHING AGGREGATES APPLICATION

Using a clean stainless steel trowel apply dash receiver SOLTHERM SDR to the cured basecoat at an even thickness of 6-10mm. Whilst SOLTHERM SDR is still wet, throw in the clean SOLTHERM Dashing Aggregate into the render ensuring good coverage and a consistent density of aggregate across the façade. Immediately, if required, tamp the aggregate particles lightly into the SOLTHERM SDR render with a wood float, and ensure a good bond is achieved.



For plain opening, reveals/ingoes & heads, it is recommended SOLTHERM SDR is applied over 2 passes 'wet on wet' to an even thickness of 6-10mm. Once SOLTHERM SDR has sufficiently cured, a sponge float can be used to remove trowel lines and achieve a smooth and consistent finish. If required, apply SOLTHERM SNP & SOLTHERM STC-P Silicone Paint as per project specification.

Once the system has fully cured, apply mastic seals to all interfaces in accordance with specification.



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