

SOLTHERM UB SPECIAL

Universal Adhesive & Base Coat for EPS, XPS and MW insulation Boards

PRODUCT DESCRIPTION:

- excellent adhesion between mineral substrates and ETICS insulation boards
- suitable for bonding insulation boards and for reinforced base coat with glass-fibre mesh
- water vapour permeable

USE:

SOLTHERM UB SPECIAL is a base coat and adhesive formulated to embed glass fibre mesh in ETICS insulation systems and to bond insulation boards to typical mineral surfaces (such as concrete, masonry walls, cement and lime-cement plasters, etc.) as well as to retrofit, re-insulate walls or install insulation over the existing one. It is also used to level minor irregularities /up to 5 mm/ of mineral substrates and smooth out mineral substrates prior to paint and thin-coat render application.

SUBSTRATE PREPARATION:

Prior to insulation board application:

The surface must be structurally sound, stable, even, clean of surface contaminants that may affect adhesion such as dust, grease, bitumen and other barrier materials. Remove any friable surfaces such as peeling or flaking paint or plaster, loose or crumbling material from the existing wall. Prime porous surface (particularly aerated concrete) with the primer SOLTHERM SP. Prime smooth and non-absorbent surfaces with SOLTHERM CS. For concrete substrates formed in shutterboards (including floors, walls):

- brush off with a stiff brush,
- remove any dust, brittle, loose, crumbling or friable particles from the surface,
- prime with SOLTHERM CS

Level larger gaps and irregularities with the mortar SOLTHERM LRC. Prior to installation of insulation boards to weak, porous substrates or of unknown condition, carry out an adhesion test. To test, attach a few samples of EPS boards (size 5x10x10 cm) to exterior wall in various spots and pull them off by hand after minimum 3 days. The substrate is sufficiently sound and stable if the failure is in the polystyrene. If not, chip off any weak, friable or crumbling material, prime the surface and repeat the adhesion test.

Prior to base coat application:

Attach the insulation boards with mechanical fixings (alternatively, according to the insulation design) and sand with coarse sandpaper or an abrasive rasp and remove the sanding dust. Apply a basecoat over the washer plates of mechanical fixings. Install corner trims or beads, window profiles, movement beads, diagonal mesh strips at the corners of door and window openings using the adhesive SOLTHERM UB SPECIAL and allow to dry. The surface of the bonded insulation boards must be even and continuous. Fill any interstices or gaps between insulation boards with wedges to the depth of insulation. For EPS or XPS boards, the interstices or gaps may be filled with the low-pressure installation foam SOLTHERM PM-L or SOLTHERM ZP.

NOTICE:

If a powdery deposit appears on the surface of insulation boards or the boards are exposed to sunlight for more than 7 days, they need to be sanded and cleaned of the dust.

Preparation of XPS boards with smooth surface:

Rasp smooth XPS boards on both faces and remove dust. Corrugated boards do not require such preparation.

PRODUCT PREPARATION:

Measure the clean water (5.0 ÷ 6.0 litre) into a suitable vessel/bucket and add the material while mixing using a low-speed drill until a homogeneous consistency is achieved. After 5 minutes and another stirring, the mixture is ready to use. Add the same amount of water to each container. Do not admix except water.

APPLICATION:

Insulation board installation:

- dab and ribbon method (do not apply to MW lamella)

Apply the adhesive to the insulation board in strips and dabs i.e. 3-6 cm wide strips around the perimeter of the board with at least three additional dabs of adhesive distributed uniformly over the remaining surface. As soon as the adhesive is applied, place the board on the wall and press firmly with a trowel until it is flush with the surface of previously installed boards. The well-applied adhesive should cover at least 40% of the surface, after pressing to the surface, and the coat thickness should not exceed 10 mm.

NOTICE!

For mineral wool boards, prior to adhesive application, apply adhesive mortar SOLTHERM UB SPECIAL in a thin layer and work into the surface to provide a key for adhesion and a good bond between the adhesive and mineral wool, then spread further material across entire surface of the board as above using the wet-on-wet method.

- notched trowel method

For even and smooth surfaces, insulation boards can be attached using the tooth bed method (10-12 mm notch size). As soon as the adhesive is applied, place the board on the wall and press firmly with a trowel until it is flush with the previously installed board surface.

NOTICE! For mineral wool, always apply a key coat onto which the adhesive layer can bond as provided above. The entire surface or tooth bed method is one of two methods of adhesive application and board installation for polystyrene and mineral wool façade boards, but the only possible for MW lamella.

Insulation boards should be installed in a running bond pattern.

Base coat application:

Use a notched trowel (8-10 mm notch size) to apply a continuous layer of the slurry over the insulation boards to a uniform thickness of approx. 3-4 mm and immediately embed the fibreglass mesh into the base coat so that it is evenly stretched and fully embedded in the base coat. Adjacent mesh strips should overlap not less than 10 cm at mesh seams. The base coat surface should be even and smooth with no reinforcing mesh fabric visible. If not, apply a second thin coat (approx. 1 mm thick) of the base coat to smooth and even the surface, once the first coat has dried. Base coat thickness should be between 3 – 5 mm.

For mineral wool boards, immediately prior to base coat application, trowel the face of mineral wool board with a thin coat of the mortar, work well into wool structure and then, using the wet-on-wet method, apply further material to the required thickness to embed the mesh.

The areas, which are susceptible to mechanical damage (especially plinth and ground area) should have double mesh reinforcement embedded in the base coat, placed in opposite directions towards each other. The next mesh layer should be applied after initial drying of the

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first layer. Reinforced base coat thickness for this solution should be between 4 – 6 mm.

LIMITATIONS AND RECOMMENDATIONS:

- Do not apply to substrates, which are not damp-proofed against capillary absorption.
- Before application, protect or mask surfaces such as windows, doors, window sills, etc.
- Allow fresh cement and lime-cement renders to cure for minimum 28 days, prior to insulation boards installation.
- Plan the surface area to be insulated taking into consideration weather conditions, surface type and workforce.
- Prior to insulation application identify all installations on the building façade or around it to prevent their damaging during mechanical fixing of the insulation (drilling).
- Protect from direct sunlight exposure, precipitation and wind during application operation and drying. Use scaffolding meshes.
- When exposed to sunlight, the graphite-enhanced polystyrene heats up quickly, what may result in deformations of the insulation boards. Therefore, it is recommended to apply the SOLTHERM PTE compound to graphite-enhanced EPS, which will reduce heat absorption by the EPS and in consequence reduce its thermal deformation.
- It is not advisable to attach the reinforcement without spreading the adhesive over insulation boards first.
- Do not reduce the base coat thickness it can substantially reduce the base coat strength and durability,
- Avoid extremely thin adhesive layer as you may experience difficulty with levelling minor irregularities. For EPS and XPS avoid excessive bending or re-tapping the boards.
- Low temperature, increased humidity and improper air circulation extend the drying and setting time of the product.
- Clean tools and hands with running water immediately after use. After drying difficulties with cleaning may be experienced.
- Wipe new stains off soiled surfaces with damp cloth. Hard stains may be removed only mechanically.

PRECAUTIONS:

Due to alkyd reaction of the product, avoid contact with skin and eyes. In case of eye contact, flush eyes with plenty of water and seek medical advice.

TOOLS:

- Agitator or low-speed mixing drill (400÷500 rpm) with hoop paddle.
- Stainless steel big and small plastering trowel or float
- Stainless steel scraper and bucket trowel
- Bucket
- Hand sander (coarse sanding paper) / abrasive rasp for polystyrene

TECHNICAL DATA:

The following technical data are for the temperature of +23 (±2)°C and relative air humidity of 50 (±5)%. Under other conditions the technical data may vary.

Ambient and surface temperature at application and setting:
from +5°C to +25°C

Relative humidity at application and drying and setting:
up to 80%

Bulk density:

approx. 1.62 g/cm³ (±10%)

Colour:

grey

Workability:

≤1.5h

Coefficient of heat conductivity λ:

≤ 0.78 W/(m*K)

Diffusion resistance factor μ:

≤ 25

Packaging:

25 kg bags

No. of containers per pallet and weight:

48 / ca. 1200 kg

Shelf life:

12 months from the date of production provided on the packaging

NOMINAL COVERAGE:

EPS and XPS installation using the dab and ribbon method ≥ 4.0 kg/m²

Notched trowel method to install

EPS and XPS boards ≥ 4.0 kg/m²

mineral wool slabs ≥ 5.0 kg/m²

Base coat application

Single mesh over EPS and XPS boards ≥ 4.0 kg/m²

Single mesh over mineral wool slabs ≥ 4.5 kg/m²

Double mesh over insulation boards > 4.5 kg/m²

For insulation board installation the coverage will vary with the surface levelling and condition as well as the percentage of the insulation board face covering with the adhesive.

For base coat application, coverage will vary with the number of reinforcement layers and base coat thickness.

To determine precise coverage, perform a patch test on the surface. The coverage provided above has been determined for typical application conditions and should be considered estimated values.

STORAGE:

Store in intact containers in temp. between +5°C and +25°C. Protect from damp. Store away from the reach of children.

COMPOSITION:

It is a mixture of hydraulic binders, polymers, fine mineral fillers and modifiers.

Soltherm guarantees product quality but has no control over its application and use. Soltherm takes no responsibility for contractors' and distributors' performance. The information supplied herein is given in good faith based on our current knowledge and latest application methods. The information provided cannot replace designer's and contractor's expertise and does not dismiss anyone from observing good practice and the OHS regulations. Should you have any further queries, carry out the tests or contact Soltherm Customer Technical Support. The publication of this Technical Data Sheet renders older editions invalid.