

# KOMBI

## Mineral adhesive and putty mortars for polystyrene

25 kg



### Main advantages:

- High adhesion to the base and to polystyrene;
- High resistance to the formation of contraction cracks;
- Optimal physical resistance;
- Easy method of application and evening of the surface;
- No runoff from vertical surfaces;
- Universal application.

### Purpose:

Mineral mortars for fixing of polystyrene insulation panels (expanded and extruded) to the base and for application of a layer reinforced with glass fibre mesh in **KABE THERM EPS\*** > (pg. 6 – 11) insulation systems. They can be used for evening (unevenness up to 5 mm) and smoothing of mineral bases before application of paints and thin layers of render. The system can be used on all typical mineral surfaces (such as concrete, cellular concrete, cement or cement-calceiferous render, sandstone, as well as on unfinished walls made from bricks, blocks, hollow bricks, and other such ceramic or sand-calceiferous materials) as well as on surfaces coated with an adherent coat of facade paint or a thin-coat render. The **KOMBI** mortars are used for the insulation of exterior walls of buildings in the technology of jointless insulating systems – JIS.

\*) when using the product in an insulating system, the manufacturer grants a guarantee only in the case where all components of the **KABE THERM EPS** > (pg. 6 – 11) systems are used.

### Technical data:

**Basic binding agent:** hydraulic and polymer binding agents with modifiers;

**Volumetric density:** about 1.5÷1.6 g/cm<sup>3</sup>;

**Mixing proportions:** about 5.5÷6.5 l of water per 25 kg of mortar;

**Period of suitability of use after mixing with water:** about 2 hours;

**Drying time in the open:** ≥ 20 min.

**Colour:** light grey;

**Consumption:**

- for fixing of polystyrene panels – about 4.0 kg/m<sup>2</sup>;
- for application of the reinforced layer – about 4.0 kg/m<sup>2</sup>.

**Temperature of use (of the air and base):** from +5C to +25 C

**Packaging:** Single use paper packaging containing 25 kg of the product.

**Storage:** Store in the tightly sealed, original packaging in a dry area ensuring protection against moisture and frost.

**NOTE:** Keep out of reach of children.

**Period of suitability for use:** 12 months from the date of production on the product packaging for factory sealed packaging.

### METHOD OF USE:

#### Preparation of the base:

The base for fixing insulation panels must be stable (no scratches and cracks), degreased, clean, and dry as well as free from stains and efflorescence of biological or chemical origin. In the case of algae and/or fungus growth, the base should be cleaned mechanically, then washed with pressurised water and safeguarded by the appropriate algae- and fungicide according to the manufacturer's guidelines. The base must be safeguarded against capillary pulling up of moisture and against seepage of water coming from atmospheric precipitation. All loose layers not connected with the surface (loose render or flaking paint coatings) are to be removed. In the case when unevenness of the base exceeds 1 cm, the wall should be initially evened using an evening mortar. Absorbent bases are to be primed using the **BUDOGRUNT ZG** > (pg. 35) preparation prior to application of the evening mortar. The drying period of the preparation applied to the surface is about three hours under optimal weather conditions (for a temperature of +20°C and a relative air humidity of 55%). The base for application of paints and thin layers of render must be even, that is why in the case of significant unevenness of the base (from 5 to 15 mm), the wall should be initially evened using an evening mortar; and then, the entire surface should be luted with the **KOMBI** adhesive and putty mortar. For a lesser unevenness (up to 5 mm) the surface can be evened out and smoothed using the **KOMBI** adhesive and putty mortar.

Absorbent surfaces are to be primed using the **BUDOGRUNT ZG** > (pg. 35) preparation before application of evening and/or putty mortars. Before commencing fixing of polystyrene panels on uncertain bases, an adhesion test should be carried out.

This test is based on the fixing of several (8-10) polystyrene samples (with dimensions of 10 x 10 cm) in different places on the facade and manual tearing off of these samples after 3 days. The surface is adequate when the tear-off takes place in the layer of the polystyrene. In the case of tear-off of the entire sample with adhesive and a layer of the surface, it is necessary to remove the weak layer of the surface and ground it using the **BUDOGRUNT ZG** > (pg. 35) primer. After the preparation has dried, another adhesion test should be carried out. If this test also gives a negative result, additional mechanical affixation or special preparation of the base should be considered.

#### Preparation of the mortar:

Gradually pour the entire contents of the packaging into a container with a measured amount of cool water (5.5-6.5 litres) while constantly mixing (using a low-speed mixer/drill with agitator), until a uniform mass free of pellets is obtained. After a waiting period of 5 minutes and further mixing, the mortar is ready for use. The period of suitability for use of the mortar mixed with water is equal to about 2 hours (for an ambient temperature of +20°C).

#### Fixing polystyrene panels:

On even surfaces, polystyrene panels may be fixed using the planar method. For this purpose, a portion of adhesive and putty mortar should be applied to the panel, and a thin layer should be spread evenly using the straight edge of a float. During this activity, the mortar should be pressed to the panel surface using the float. Next, an additional portion of the mortar should be applied onto the panel and spread using the toothed edge of the float (minimum tooth dimensions 10 x 10 mm). After the mortar is applied, the panel should be immediately applied to the wall in the designated place and pressed so as to obtain an even surface with neighbouring panels. Panels are to be fixed in a staggered arrangement, slid in tightly against those fixed earlier. The surplus mortar that is squeezed out should be removed so that none remains on the edges of the panels. Mortar that has been applied correctly should cover the entire surface of the panel, and the thickness of the layer of mortar after fixing should not exceed 1 cm. After the mortar has been bound sufficiently (a minimum of 48 hours is required), the fixed panels can be affixed using the appropriate mechanical fasteners, in accordance with the insulation design. In order to obtain an even surface of the affixed panels, the entire face of the polystyrene should be sanded with a float with coarse sandpaper.

When fixing polystyrene panels on uneven surfaces, the adhesive and putty mortar should be applied to panels using the strip-point method. For this purpose, apply the prepared mortar in strips of a width of 3-6 cm to the entire perimeter along the outside edges of the panel, with 6-8 cakes of mortar with diameters of 10-12 cm uniformly distributed on the panel. The strips of mortar on the perimeter are to be formed into the shape of a prism, by running the float at an angle of 45° to the surface of the panel. After the mortar is applied, the panel should be immediately applied to the wall in the designated place and pressed so as to obtain an even surface with neighbouring panels. Panels are to be fixed in a staggered arrangement, slid in tightly against those fixed earlier. The surplus mortar that is squeezed out should be removed so that none remains on the edges of the panel. Mortar that has been applied correctly should cover at least 40% of the surface of the panel, and the thickness of the layer of adhesive mortar after fixing should not exceed 1 cm. After the mortar has been bound sufficiently (a minimum of 48 hours is required), the fixed panels can be affixed using the appropriate mechanical fasteners, in accordance with the insulation design. In order to obtain an even surface of affixed panels, the entire face of the polystyrene should be sanded with a float with coarse sandpaper.

#### Application of the reinforced layer:

First, the edges of window and door openings are to be strengthened by fixing a glass fibre mesh (with dimensions of 25 x 30 cm) diagonally (that is, at an angle of 45°) in the corners of these openings using the **KOMBI** adhesive and putty mortar. The reinforced layer can be applied on the surfaces of polystyrene panels that have been evened out and cleaned (after sanding) not earlier than three days from the time of their fixing. For this purpose, the adhesive and putty mortar should be applied to the surface in a constant and uniform layer (of a thickness of about 3-4 mm) of the width of the reinforcing mesh. Next, the applied layer of mortar should be drawn through with the toothed edge of the float, and the glass fibre mesh should be immediately immersed in it. The immersed mesh should be uniformly taut and completely immersed in the mortar. After immersion of the mesh, the entire surface of the layer should be precisely evened out, with the use of an additional portion of mortar if absolutely necessary. Neighbouring strips of mesh are to be fixed with an overlap of no less than 10 cm. Traces of the float remaining after evening are recommended to be sanded with sandpaper. The thickness of a layer reinforced with one layer of mesh should be between 3 and 5 mm.

#### Drying:

The drying period of an applied reinforced layer is equal to a minimum of three days (under drying conditions with a temperature of +20°C and relative air humidity of 65%). After this period passes, a primer can be applied, and after it dries, the render may be applied.

**Note:** Low temperature and high air humidity may lengthen the drying time of the mortar.

#### Guidelines for application:

In order to avoid differences in colour and unevenness, it is necessary to apply surfaces constituting a separate architectural entirety within one work cycle. During the application and drying of the adhesive and putty mortar, the weather should be free of rain with an air temperature from +5°C to +25°C. Wash tools with water just after concluding work. Work on surfaces directly exposed to sunlight, strong wind, and high air humidity should be avoided. For the purpose of the protection of the not fully dried reinforced layer against the harmful effects of atmospheric conditions, the use of the appropriate protective meshes on the scaffolding is recommended.

**Note:** The **KOMBI** mortar is a strong alkaline, eyes and skin should be protected. Protective clothing should be used during work. In case of contact with eyes, they should be washed immediately with a large amount of water, and if irritation occurs, a doctor should be contacted.