



ICC Premiscelati

THERMOKLIMA ECO

HIGH-PERFORMANCE ADHESIVE AND SKIM COAT WITH IMPROVED WORKABILITY FOR THE CONSTRUCTION OF EXTERNAL THERMAL INSULATION COMPOSITE SYSTEMS



Description:

THERMOKLIMA ECO is used as an adhesive and skim coat for the construction of high-quality and impact-resistant thermal insulation systems, such as external facades, attic spaces, basements, etc. It can be used both indoors and outdoors and is ideal for under-tile insulation, ventilated facades, radiator niches, etc. **THERMOKLIMA ECO** is a gray or white cementitious mortar, made of high-strength cement, selected aggregates, mineral fibers, and modified with synthetic elasticizing additives.

Application fields:

Bonding and skimming of polystyrene (expanded or extruded), expanded polyurethane, cork, mineral fiber panels (rock wool) or equivalent, on walls or ceilings, on masonry substrates, concrete, cementitious plasters, mortar mixes, etc. Skimming of absorbent or non-absorbent surfaces: plasters, concrete, precast concrete panels, old paints or plastic finishes, etc.

Preparation of substrates:

Ensure that the substrates are mature, solid and consistent, sufficiently flat, free from oils, grease, dust, loose parts, paints and dirt in general. Any depressions or differences in flatness should be corrected using a skim coat from the **Industria Calce Casertana Srl** catalog. Slightly dusty surfaces can only be covered after treatment with the appropriate ICC GRIP consolidating primer.

Preparation of mortar:

THERMOKLIMA ECO is mixed using a mixer or low-speed drill with a whisk attachment, with approximately 5.3 ÷ 5.8 liters of clean water per 25 kg bag of product, until a creamy, homogeneous mixture free from lumps is obtained. Let the mixture mature for about 10 minutes.

Briefly stir the mortar and begin the operations. The obtained mortar can be used for about 4 hours.

Application:

Check the flatness of the substrate:

- If the panels are applied directly on brickwork (poor flatness), apply a strip of adhesive with dimensions of 5 ÷ 8 cm in width and a thickness of 2 ÷ 3 cm using a trowel. Apply the strip along the entire perimeter of the panel and on the two diagonals to form an "X" in the center of the panel. Only indoors, THERMOKLIMA ECO can also be applied at points with a normal trowel. Press the panel against the surface by tapping it with your hand or a wooden float to ensure good adhesion of the adhesive mortar to the substrate. Always verify that the minimum bonding surface is greater than 40% of the total panel surface.
- On leveled substrates such as plaster, concrete, or reinforced concrete, apply the adhesive on the entire surface of the panel using a 10 mm notched trowel. In outdoor applications or with heavy or large panels, it is always recommended to fully cover the surface of the insulation panel by applying the mortar with a notched trowel; always follow the instructions provided by the panel manufacturer. During the placement of the panels, it is necessary to frequently check the flatness of the surface using a metal straightedge.

In external walls, it is always necessary to additionally fix the panels using specific expansion plugs that should be applied after the adhesive has started to set.

Wait for at least 48 hours for the adhesive to harden, then apply a layer of **THERMOKLIMA ECO** with a thickness of approximately 2 ÷ 3 mm on the entire panel and cover it with a suitable alkali-resistant fiberglass mesh. Using a smooth steel spatula, embed the mesh into the adhesive without smoothing its surface. In the joints, the edges of the mesh should overlap by approximately 10 cm.

Wait for the product to harden for about 24 hours, then apply another layer of **THERMOKLIMA ECO** with a thickness of approximately 2 ÷ 3 mm; the total thickness of the skim coat should be 5 mm. The second skim coat can be "finished in a civil manner" if desired. Additional finishes can only be applied after the curing period (approximately three weeks). It is recommended to apply an acrylic or acrylic-siloxane-based paste coating with elastic and water-repellent characteristics as a surface finish.

Consumption:

- Approximately 3 ÷ 4 kg/m² are needed for "spot" bonding.
- Approximately 4 kg/m² are needed for bonding with a notched trowel on the entire surface.
- Approximately 1.5 kg/m² per mm of applied thickness is needed for skim coating the panels.

TECHNICAL DATA

Consistency	Grey or white powder
Maximum grain size:	0,8 mm
Bulk density (fresh mortar):	1,6 gr/cm ³ approx.
Mixing water per 25 kg bag	5,3 – 5,8 lt
Working time	approx. 4 h*
Allowed application temperatures	from +5°C to +35 °C
Skim coat execution	after at least 24 h* from the installation
Second skim coat execution	after approx. 24 h* from the first

Eventual application of finishings

after approx. 15÷21 days*

FINAL PERFORMANCE

Adhesion to polystyrene panel(EPS)	≥ 0,1 N/mm ² (Broken panel)
Adhesion to concrete	≥ 1 N/mm ²
Adhesion to brick	≥ 0,5 N/mm ²
Thermal conductivity $\lambda_{10,dry,mat}$	0,51 W/m (tabulated value)
Impact and puncture resistance:	Very good
Aging resistance:	Excellent
Moisture resistance:	Excellent

*Data expressed at (23±2)°C and (50±5)% relative humidity. Lower temperatures prolong maturation and hardening times.

Cleaning of equipment:

Wash hands and equipment with plenty of clean water before the product starts to set; mechanical means will be required afterwards.

Hygiene and safety:

EUH 208 Contains cement. May cause an allergic reaction. The Portland cement in the product can cause skin irritation and serious eye damage. Do not breathe dust, ventilate the area during mixing, and adequately protect yourself with gloves, protective clothing, and goggles. Read the instructions on the packaging carefully before use and consult the Safety Data Sheet.

Packaging:

THERMOKLIMA ECO is supplied in 25 kg bags on wooden pallets weighing 1500 kg each.

Storage:

Store the product in intact original packaging in cool, dry areas. Do not disperse the dust. Product compliant with DM 10/05/2004. Cr VI content below 2 ppm. The properly stored product should be used within 6 months from the packaging date stamped on the bag.

Warnings:

- Non Do not use on metal, wood, plastic, or surfaces subject to heavy movement.
- Do not use on particularly smooth panels or panels coated with protective films.
- If necessary, level surfaces with a skim coat from the **Industria Calce Casertana Srl** catalog and wait 48 hours before starting panel installation.
- As a skim coat, do not use in thicknesses greater than 5 mm total.
- In external facades, use mechanical fixing with plastic mushroom head in combination.
- Protect the completed work for at least 48 hours from rain, washing, or freezing and for at least 7 days from direct sunlight.
- Do not apply on frozen substrates or at ambient temperatures below +5°C.
- It is recommended not to add foreign products.

PRODUCT FOR EXCLUSIVE PROFESSIONAL USE

All data and information provided in this technical data sheet, although resulting from laboratory tests and our direct application experience, are purely indicative due to the infinite variables associated with site conditions. Therefore, before applying the product, the user is responsible for determining if it is suitable for their intended use, in the specific hygrothermal and application conditions expected at the time of use, and assumes all responsibility. We are not liable for any damage to people or property resulting from improper use of the product.

