

Isotherm F 1

HIGH DEFORMABILITY THIXOTROPIC MINERAL SMOOTHING ADHESIVE, VERY HIGH BONDING, RESISTANT TO THE ACTION OF WATER AND WITH EXCELLENT FINISHING DEGREE. GUARANTEED FOR THE LAYING AND SUBSEQUENT SMOOTHING OF ALL TYPES OF THERMAL INSULATION PANELS ON ABSORBENT SUBSTRATES, BOTH ON WALLS AND CEILINGS. FOR INDOORS AND OUTDOORS.



TECHNICAL DATA SHEET - REV. 01/2024

DESCRIPTION

ISOTHERM F 1 is a high deformability professional mineral smoothing adhesive consisting of hydraulic binders, selected mineral fillers, synthetic resins and special additives. Mixed with water, it turns into an easy-to-work, thixotropic, highly adhesive, water-resistant product that can be applied vertically without the risk of dripping or slipping on thermal insulation panels. ISOTHERM F 1 adheres perfectly to all types of thermal insulation panels and all materials normally used in construction, curing without any particular shrinkage.

Complies with European Standard EN 998-1 for general purpose mortars for internal/external renders (GP) · Compressive strength class IV (CS IV) · Capillary water absorption W2.

FIELDS OF APPLICATION

ISOTHERM F 1 is used in the construction of thermal insulation systems for bonding all types of thermal insulation panels normally used in construction (EPS, polyurethane, cork, rock wool, glass wool, wood fibre, etc.) and for subsequent finishing smoothing with glass fibre reinforcement mesh in between. ISOTHERM F 1 can be used on walls and ceilings, for exterior insulation and interior insulation, directly on cement or cement-lime plaster, on masonry or concrete substrates, on fibre cement slabs, on concrete or brick blocks.

SUBSTRATE PREPARATION

The substrates must be sufficiently dry and seasoned, flat, solid, compact, free of crumbling or inconsistent parts, without any dust and greasy substances or any material that could compromise perfect product adhesion. In the presence of old, peeling or flaking paint, it will be necessary to remove it completely by brushing or hydro-cleaning. In the presence of downgraded concrete structures, remove detaching concrete (hydro-sandblasting or high pressure water wash recommended). Reconstruct the initial concrete volumes and even out the surface with thixotropic, fibre-reinforced, shrinkage-compensated mineral mortar PRATIKO R 3 TIXO.

The cementitious substrates must be sufficiently dry, with an overall curing time of at least 28 days. Brick substrates must be thoroughly dusted and slightly moistened in hot weather. Gypsum substrates must be perfectly dry (maximum

residual moisture 0.5 %), sufficiently hard, clean, and previously treated with PRIMER A 16 synthetic resin-based insulating primer. Very porous, highly absorbent and chalking surfaces must be treated with RASOTECH PRIMER CONSOLIDANTE ultra-fine-particle synthetic resin in water dispersion.

APPLICATION

To prepare the mixture, pour a 25-kg bag of ISOTHERM F 1 in a clean container with 6.5-7 litres of clean water and mix until smooth and free of lumps. Let the mixture rest for a few minutes, remixing quickly before use. This mixture remains workable for about 4 hours at a temperature of +23°C.

Applying the mixture as an adhesive

On sufficiently even and flat substrates, apply the ISOTHERM F 1 mixture directly to the entire surface of the back of the panel using a notched trowel or trowel along the perimeter edges plus at least two central beads. If the substrate is not flat, in any case with height differences < 4 cm, apply ISOTHERM F 1 mix along the perimeter edges plus three central beads. Adapt the height of the adhesive layer to the flatness of the substrate. After laying, compress the panels well with small translational movements to ensure good adhesion to the substrate, checking flatness with a straight edge. Always take care that there are no leftovers of adhesive spread on the contour of the panels to avoid cracks between the joints. It is necessary to place the appropriate mechanical fixings, especially on large surfaces and near corners, after the adhesive has completely hardened (24-48 hours depending on environmental conditions) to ensure perfect application stability.

Applying the mixture as a smoothing agent

After complete drying of the adhesive (at least 48 hours after application, depending on weather conditions), spread an even thickness of ISOTHERM F 1 over the entire surface using a notched trowel. Fresh on fresh, proceeding from top to bottom, place the ARMOFLEX 160 glass fibre technology mesh and press it down with a smooth trowel so that it is incorporated into the smoothing coat. Make overlaps of at least 10 cm between one ARMOFLEX 160 mesh and the next. Finish skimming with a further application of product and skim until a strong, flat, smooth, even surface is obtained, suitable for receiving the finishing coat, which should only be applied when the skimming is well hardened and cured.

YIELD

As an adhesive for bonding thermal insulation panels: 2.5-4 kg/m².

As a smoothing agent: 1.2 kg/m² per mm of thickness.

RECOMMENDATIONS

- ◆ Do not use ISOTHERM F 1 on metal surfaces, wood and wood derivatives, fibre cement, substrates subject to strong dimensional changes.
- ◆ Do not use for bonding panels with a smooth non-stick surface such as: XPS with skin, printed high-density EPS, mineral fibres coated with kraft paper, etc.
- ◆ Additional mechanical fastening with plastic mushroom head anchors is always required.
- ◆ Protect the covering from rain, wash-out and direct sunlight until the product is fully hardened.

PACKAGING

ISOTHERM F 1 is available in 25 kg polyethylene coated paper bags on 1500 kg pallets. Store the product in a dry place and in its original packaging, well closed. In these conditions its stability is of at least 12 months.

SAFETY INSTRUCTIONS

The product contains cement that on contact with body perspiration produces an irritant alkaline and sensitising reaction for the skin. Use suitable clothing, gloves and protective glasses. Consult the Safety Data Sheet for more information to use the product safely.

SPECIFICATIONS

Bonding and smoothing of thermal insulation panels in the construction of thermal insulation systems by applying a highly deformable mineral smoothing adhesive in compliance with Standard EN 998-1 for general purpose mortars for

indoor/outdoor plastering of class CS IV, type **ISOTHERM F 1** by COLMEF Srl. Application as an adhesive should be done with a notched trowel or trowel directly on the entire surface of the reverse side of the panel, if there are flat substrates, or in beads and dots if there is no flatness of the masonry. Application as a smoothing agent must be carried out after the adhesive has completely dried, by means of a smooth trowel directly on the thermal insulation panels, incorporating a technological glass fibre mesh in the thickness, such as ARMOFLEX 160 by COLMEF Srl.

TECHNICAL DATA

Compliant with Standard:	EN 998-1
Class:	GP-CS IV W2
Appearance:	powder
Colour:	grey white
Volume mass EN 1015-10 (kg/m ³):	1260
Mixing ratio:	6.5-7 litres of water for 25 kg of powder
Particle size (mm):	ISOTHERM F1 1.2: ≤ 1,2 ISOTHERM F1 0.6: ≤ 0,6
Open time:	≥ 20 min.
Waiting time for finishing:	7 days
Resistant to ageing:	excellent
Allowed application temperature:	from +5 °C to +35 °C
Operating temperature:	from -30 °C to +90 °C

FINAL PERFORMANCE according to EN 998-1 Class GP-CS IV W2

	Requirements	Results	Test method
Compressive strength at 28 days (N/mm ²):	CS I (0.4 to 2.5) CS II (1.5 to 5.0) CS III (3.5 to 7.5) CS IV (≥ 6)	9.79 (Cl. CS IV)	EN 1015-11
Flexural strength (N/mm ²):	-	4.74	EN 1015-11
Adhesion to the substrate (N/mm ²):	declared value and failure mode	≥ 0.575 (FP) A	EN 1015-12
Adhesion on XPS (N/mm ²):	-	≥ 0.113 (FP) C	EN 1015-12
Capillary water absorption (kg/m ² min ^{0.5}):	W _c 0 (not specified) W _c 1 (c ≤ 0.40) W _c 2 (c ≤ 0.20)	W _c 2	EN 1015-18
Water vapour permeability coefficient (μ):	-	20.9	EN 1015-19
Thermal conductivity (W/mK):	-	0.42	EN 1745

DATA DETECTION AT +23°C - 50% R.H. AND IN ABSENCE OF VENTILATION

The information in this bulletin is based on our best experience. We cannot be held liable for any product misuse. We therefore recommend anyone who intends to use this product to assess whether it is suitable for the intended application and to perform preliminary tests in any case. Always refer to the latest updated version of the technical data sheet available at www.colmef.com.

FOR MORE INFORMATION OR PARTICULAR USES, CONTACT THE COLMEF TECHNICAL SUPPORT DEPARTMENT.

COLMEF SRL | Z.I. Ponte d'Assi | 06024 - Gubbio (PG) ITALY | Tel. +39 075923561 | info@colmef.com | www.colmef.com