TRI-O-THERM L

Mineral thermal insulation plaster

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T insulating plastering mortar CS I acc. EN 998-1

- with patented components
- entirely mineral-based
- EPS and aerogel-free
- highly breathable
- air space ratio up to 75 %
- building material class A1 (not flammable)
- Thermal conductivity λ_D = 0.048 W/(mK)
- short intermediate service life of approx. 3 hours per layer
- minimum coating thickness: 30 mm
- Total layer thicknesses from 30 up to 120 mm, with plaster base mat 160 mm

Applications

- as exterior and interior insulation
- for old and new buildings
- for all current masonry types and old load-bearing plaster surfaces
- as decoupling layer in the renovation of old buildings and historic monuments
- not suitable for the base joint area

Properties

- entirely mineral-based
- highly thermally insulating
- heat-storing
- EPS and aerogel-free
- very high micropore content in the plaster matrix
- highly breathable
- Very low CO_2 emission per m²
- creamy consistency with easy processing

Composition

- special hydraulically curing binder mix
- natural lightweight mineral aggregate
- additives for regulating and improving workability and product properties

Substrate

Suitable substrates

- mineral-bound substrates

Condition / Testing

- The substrate must be dry, clean, load-bearing, dust-free, absorbent and free of adhesion-reducing residues, release agents, efflorescence and sintered coatings.
- For assessing the plaster primer, VOB/C DIN 18350, Section 3, DIN EN 13914-1/13914-2 as well as the plaster standard DIN 18550-1/18550-2 should be observed.
- The load bearing capacity, particularly of old plaster, must be carefully checked (e.g. carry out tear-off test).

Pretreatment

- Prepare insufficiently load-bearing substrates with akurit WEL Welnet insulating plaster base mat. The plaster base is anchored in the load-bearing substrate with at least 8 anchors per m².
- Weakly absorbent substrates with a mineral bonding bridge using the torn comb bed method or a pre-sprayed plaster, e.g. B. prepare akurit ZVP cement pre-spray mortar or tubag FL-V.
- Concrete substrates with a mineral bonding bridge, z. B. prepare akurit UNI-H or akurit MH gray using the torn comb bed method.
- When using the product in the ceiling area, e.g. on smooth formed concrete, a mineral bonding bridge is to be applied and the akurit WEL Welnet insulating plaster base mat used in addition and anchored in the load-bearing substrate with at least 8 anchors/m² using a claw strip.
- For insulation thicknesses ≥ 120 mm, we recommend the use of an akurit WEL Welnet insulation plaster base mat.

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Processing

Temperature
- Do not process or allow to dry out at air, material or substrate temperatures below +5°C, or if there is a risk of exposure to night frost, or at temperatures above +30°C, or in direct sunlight, or on heated up surfaces, and/or in windy conditions.
- A frost-free drying time adjusted to the layer thickness is to be planned.

Mixing / Preparing / Processing
- For mechanical application, use a suitable plastering machine with insulation plaster equipment (insulation plaster spiral, screw casing 8-1.5 WF (yellow) or 7-2.5 WF (purple) and Rotomix secondary mixer). Adjust the water supply to a workable consistency.
- When delivered in a container with our silo mixing pump Silostar and a hose length of 40 m, adjust the water supply to approx. 350 l and smooth material consistency.
- The delivery distance of the wet mortar is a maximum of 40 to 50 m.
- Hoses with a diameter of 35 mm should be used. The last hose length (max. 10 m) before the spraying device can be reduced to a diameter of 25 mm.
- If the work is interrupted for longer periods, then clean the plastering machine and mortar hoses.
- Do not mix with other products and/or other substances.

Applying / Processing / Assembling
- Apply material to the substrate in layers.
- Individual layer thickness: approx. 25 to 40 mm
- Total application thickness: 30 to 160 mm
- Allow a standing time of at least 3 hours, but no more than 2 days, between the individual plaster layers under optimum weather conditions (+20°C / 65% relative humidity).
- Individual layers can be applied directly on top of each other without additional preparation.
- If work is interrupted for more than 2 days, the last layer must be mechanically roughened and dedusted. For standing times of more than 7 days, we also recommend using the mineral deep primer akurit GTM diluted 2:1 with clean tap water.
- The individual layers must be sufficiently stable before applying the next layer in each case.
- Spray the last layer (maximum 2 cm layer thickness) with a slightly increased addition of water and immediately remove plumb and flush with a suitable tool.

Drying / Hardening
- Required total curing: at least 2 days per cm of layer thickness
- Timings relate to +20°C and 65% relative humidity.
- Bei normalen Temperaturen kann bereits nach 10 Tagen mit dem Auftragen der Grundierung und Armierungslage begonnen werden.
- Bei ungünstigeren Witterungsverhältnissen ist die Standzeit vor der weiteren Beschichtung entsprechend zu verlängern!

Subsequent coating / workability
- Vor dem Aufbringen des Armierungsputzes ist die Oberfläche vollflächig zu rabottieren (Sinterschicht muss vollständig entfernt werden), zu entstauben und zu grundieren.
- Zur Grundierung ist der akurit GTM Mineralischer Tiefengrund einzusetzen. Der Tiefengrund ist im Verhältnis 1:2 mit sauberem Leitungswasser zu verdünnen (1 Teil GTM : 2 Teile Wasser) und mit einer Sprühflasche satt aufzutragen. Am Folgetag kann dann die Armierungslage aufgebracht werden.
- Before applying the reinforcement layer, additional reinforcement arrows are troweled directly onto the base plaster in the areas of wall openings. The reinforcement layer is applied **indoors** with the products akurit SK-MI mineral insulation filler and adhesive mortar, UNI-FS universal fiber filler plaster or KSN natural lime filler in a plaster thickness of 6 – 8 mm with a full-surface insert of akurit GM reinforcement fabric medium applied. In the **outdoor area** the reinforcement layer is applied with the products akurit SK-MI mineraldam filler and adhesive mortar or UNI-FS Universal fiber filler plaster in a plaster thickness of 7 – 9 mm with a full-surface insert of akurit GM reinforcement fabric medium. After a service life of at least 1 day per 1 mm plaster thickness, all thin-layer finish plasters from the akurit delivery program can be used as a finishing plaster.
- Thin-layer mineral finishing plasters with grain sizes ≥ 2 to ≤ 5 mm can be applied as finishing plasters in exterior areas, akurit MO modeling plaster with a maximum application thickness of 5 mm.
- The finishing coat must have a light reflectance value of ≥ 20.

Tool cleaning
- Clean all tools and equipment with water immediately after use.

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Notes

- The optimum result is achieved when all necessary layers are applied promptly! Substrates exposed to salt are not suitable for the direct application of an insulating layer.
- On wall-base surfaces, use a wall-base plaster such as akurit SLP or akurit SLP-it.
- Carefully cover adjacent surfaces and components (e.g. windows, window sills, etc.). Wash off contamination immediately with water.
- Separate any neighbouring components from the plastered area.

Packaging

- loose in silo

Storage

- Store dry and as per instructions.
- Can be stored in silos for at least 6 months from date of manufacture.

Quantity required / Yield

- Consumption: approx. 1.54 kg/m² per cm layer thickness

Technical Data

Product type	T insulating plastering mortar
Category	CS I
Grain	0 – 0,5 mm
Fire behaviour	A1 (non-flammable) in accordance with EN 13501
Set mortar bulk density	approx. 0.20 kg/dm³
Compressive strength	≥ 0.4 N/mm²
Dynamic Young's modulus (E)	ca. 1000 N/mm²
Adhesive tensile strength	≥ 0.08 N/mm² (with fracture pattern A, B or C)
Capillary water absorption	W_c1 (in accordance with EN 998-1)
Water vapour permeability µ	approx. 5 (measured value)
Thermal conductivity	λ_D = 0,048 W/(mK) λ_B = 0,049 W/(mK)

All data are average values that were determined under laboratory conditions according to relevant test standards and application tests. Deviations are possible under practical conditions.

Safety and disposal instructions

Safety

- This product produces an alkaline reaction when it comes into contact with moisture/water. Therefore ensure that skin and eyes are protected. If it should come into contact with the skin or eyes, rinse them thoroughly with water. See a doctor immediately if it comes into contact with the eyes.
- Follow further instructions in the safety data sheet.

GISCODE

- ZP1 (products containing cement, low-chromate)

Disposel

- Dispose of the material in accordance with the official regulations.
- Dispose of hardened product in accordance with the local regulations. Do not allow to enter the sewer system. Dispose of the hardened product in the same way as concrete waste and slurries. Waste code according to the Ordinance on the European Waste Catalogue depending on the origin: 17 01 01 (concrete) or 10 13 14 (concretewaste and concrete slurries).

General notes

This information sheet provides only general recommendations. Should you have any queries relating to a specific application, please contact our technical sales advisor or call our hotline: +49 541 601-601. All of the details given are based on our current knowledge and experience and on the assumption that the materials are professionally applied and used for their normal purpose. All of the details are non-binding and do not release users from their duty to undertake their own tests to ensure suitability for the intended application. Due to the effects of different weather, processing and construction site conditions, no guarantee can be given for the general validity of all details. We reserve the right to make changes as a result of further development of the product and applications engineering. The general rules for construction engineering, the valid standards and guidelines, and the technical working guidelines must be observed. The publication of this technical data sheet renders all previous editions of this data sheet void. Please obtain the latest information from our website.