

# akurit TRI-O-THERM L

## Mineral insulating plaster

### Mineral thermal insulation plaster

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 0.048 W/(mK)
- short intercoat times of at least 2.5 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 historical monuments
- not suitable for the base joint area
- for external and interior use

## 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<sub>2</sub> emission per m<sup>2</sup>

## 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 m<sup>2</sup>.
- Prepare low-absorbent substrates with a mineral bonding bridge using the combed bed method or a pre-spray plaster.
- In the case of concrete subsurfaces, apply a mineral bonding bridge, such as akurit UNI-H or akurit MH grey, using the combed 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/m<sup>2</sup> using a claw strip.

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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 finishing by machine, use a suitable plastering machine with insulating plaster apparatus, a suitable worm pump and in-line mixer. Please note our separate machinery recommendation! Set water supply to processable 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 approx. 40 – 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.
- Single layer thickness: approx. 25 – 35 mm
- Total application thickness: 30 – 160 mm
- Allow a standing time of at least 2.5 hours between the individual layers of plaster.
- The individual layers must be sufficiently stable before applying the next layer in each case.
- Individual layers can be applied directly on top of each other without additional preparation.
- 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. After sufficient surface strength, thoroughly roughen the entire surface with a suitable tool, e.g. grid scraper.

### Drying / Hardening

- Required total curing: at least 2 days per cm of layer thickness
- Timings relate to +20°C and 65% relative humidity.

### Subsequent coating / workability

- Before applying the reinforcement plaster, pre-treat the plaster surface with akurit GTM Mineral Deep Penetrating Primer.
- In normal weather conditions, the reinforcement layer can be applied after a standing time of at least 10 days or 1 day per 10 mm layer thickness.
- Before applying thin layer of finish coat, a maximum 8 mm thick reinforcement plaster made of akurit UNI-FS universal fibre smoothing plaster or akurit KSN lime filler natural (only indoors) must be applied with akurit GM reinforcement mesh, medium, inserted over the whole area. In the areas of wall openings, in addition apply reinforcement arrows directly onto the base plaster with a spatula. In outdoor areas, use akurit SK light or SK white filling and adhesive mortar to create the reinforcement layer.
- Thin layers of mineral facing plaster with grain sizes  $\geq 2$  to  $\leq 5$  mm can be applied in outdoor areas as finish coats.
- The finishing coat must have a light reflectance value of  $\geq 20$ .

### Tool cleaning

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

### Notes

- 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.

## Quantity required / Yield

- Consumption: approx. 1.47 kg/m<sup>2</sup> per cm layer thickness
- yield: approx. 6500 l fresh mortar per t

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## Technical Data

|                                    |  |
|------------------------------------|--|
| <b>Product type</b>                | T insulating plastering mortar   |
| <b>Category</b>                    | CS I   |
| <b>Grain</b>                       | 0 – 0,5 mm   |
| <b>Fire behaviour</b>              | A1 (non-flammable) in accordance with EN 13501                               |
| <b>Set mortar bulk density</b>     | approx. 0.22 kg/dm <sup>3</sup>  |
| <b>Compressive strength</b>        | ≥ 0.4 N/mm <sup>2</sup>  |
| <b>Dynamic Young's modulus (E)</b> |  |
| <b>Adhesive tensile strength</b>   | ≥ 0.08 N/mm <sup>2</sup> (with fracture pattern A, B or C) N/mm <sup>2</sup> |
| <b>Capillary water absorption</b>  | W <sub>c</sub> 1 (in accordance with EN 998-1)                               |
| <b>Water vapour permeability μ</b> | approx. 5 (measured value)   |
| <b>Thermal conductivity λ</b>      | 0,048 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)

### Disposal

- 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 (concreteste 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.