TRI-O-THERM S

Mineral thermal insulation plaster

purely mineral thermal insulation plaster based on lime

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

- Thermal conductivity: λ_D = 0.053 W/(mK)
- highly breathable
- high alkalinity to prevent mould and promote the indoor climate
- non-combustible – class A1 according to EN 13501-1

Applications

- for old and new buildings
- on all common substrates
- As cavity-free insulation
- for interior and external use

Properties

- high insulation performance (thermal conductivity: λ_D = 0,053 W/(mK))
- free of biocides and EPS
- High alkalinity, thus preventive against mould and algae
- Positive influence on the indoor climate
- Very good machine runability
- high yield
- entirely mineral-based

Composition

- Natural hydraulic lime (NHL) and small amounts of cement
- Perlite mineral lightweight aggregate according to EN 13055
- additives for regulating and improving workability and product properties

Substrate

Suitable substrates

- light and highly heat-insulating substrates, e.g. lightweight bricks, aerated concrete and lightweight concrete
- normal and heavy masonry
- normal concrete
- sand-lime bricks
- Mixed masonry

Condition / Testing

- 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 substrate must be dry, load-bearing, clean, dust-free and free of adhesion-reducing residues, release agents, efflorescence and sintered coatings.
- The load bearing capacity, particularly of old plaster, must be carefully checked (e.g. carry out tear-off test).
- In special cases, suitable plaster bases, e.g. B. akurit WEL Welnet, required.

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Pretreatment

- Strongly or unevenly absorbent surfaces approx. 60% coverage with akurit ZVP cement pre-spray mortar or tubag FL-V historic pre-spray mortar. Alternatively, if the substrate is sufficiently strong, apply akurit MEP lime cement plaster over the entire surface approx. 10 mm pre-spray and comb horizontally after stiffening.
- On smooth, non or low-absorbent substrates, apply a bonding bridge, e.g. AKURIT UNI-H or UNI-FS approx. 6 mm thick, disperse horizontally with the notched trowel (6 notches) and create a pronounced combed bed. The cover in the grooves should be at least 2 mm in this case. Once sufficiently stiffened, score with the plaster comb / coarse brush to prevent a sinter skin from forming.
- 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.

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

- When mixing by hand, place the amount of water specified in the technical data for an entire bag in a clean container, sprinkle in the entire contents of the bag and mix at low speed without lumps. Use clean tap water.
- When processing with a suitable plastering machine (z. B. PFT G 4),we recommend using the special technical equipment, which consists of a filling hood, rotor with spigot and mixing shaft. In order to achieve an even material flow and to increase the smoothness of the wet mortar, a remixer should be used. This increases the yield and the thermal insulation properties can be improved.
- In principle, a 35mm mortar hose should be used; a 25mm hose may only be connected to the last 5 m. The maximum hose length is 18.3 m.
- Set water supply to processable consistency.
- Keep work interruptions to a maximum duration of 15 to 20 minutes.
- 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

- From a total plaster thickness of > 30 mm akurit TRI-O-THERM S should be applied in several layers. The last layer of the insulating plaster structure should not be more than approx. 20 mm in order to achieve the best possible surface quality when removed. The layer thickness of an individual intermediate layer can be up to **50 mm** depending on the substrate, consistency of the mortar and room climate. The minimum layer thickness indoors is 10 mm and outdoors is 20 mm.
- The surfaces of the individual intermediate layers remain in the spray pattern and do not need to be additionally roughened. As soon as a layer of plaster has stiffened sufficiently, the next layer of plaster can be applied (maximum 2 layers of plaster per day). If an intermediate layer is left standing for longer than 2 – 3 days, the surface must be roughened.
- **Always spray the plaster mortar from bottom to top.**

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Processing time
- Approx. 30 minutes at +20 °C and 65 % relative humidity.
- Mortar that has already started to harden must never be thinned down with additional water, remixed or applied.

Drying / Hardening
- The lime-bonded insulating plaster hardens hydraulically and by carbonation. Therefore, it is important that moisture is available to the insulating plaster for hardening and that a sufficiently long standing time is observed before further coating.
- If the weather conditions are unfavourable (e.g. driving rain, frost, strong sunlight and/or winds), then suitable protection measures must be taken, particularly in the case of freshly coated surfaces.
- **The total standing time must be 1 day per 5 mm plaster thickness, but at least 10 days.**
- Low temperatures lead to delayed strength development.

Subsequent coating / workability
- According to the state of the art, an appropriate reinforcement layer must be applied to the insulating plaster, which serves to protect the insulating plaster. Before starting the reinforcement layer, the insulating plaster must be pre-wet. When using tubag TSM Trass filler and modeling plaster, prime with akurit GTM Mineral Deep Primer.
- Before applying the reinforcing plaster, pre-treat the plaster surface with akurit GTM Mineral Deep Primer. The primer should be diluted with clean tap water in a ratio of 2:1 (2 parts GTM : 1 part water).
- The reinforcement layer is applied with akurit UNI-FS Universal Fiber Filler Plaster or akurit KSN Lime Filler Natural (only indoors) with full-surface reinforcement made of akurit GM reinforcement fabric medium. The thickness of the reinforcement layer must be at least 6 mm and should not exceed 10 mm.
- When using the tubag TSM Trass filler and modeling plaster as a reinforcing layer, apply it in a thickness of 6 to 8 mm.
- Mineral akurit fine plasters (except scratch and modeling plasters) as well as organically bound plasters such as silicate and silicone resin plasters can be applied as finishing plasters.
- Painting with AKURIT FSI silicate, FSH silicone resin finish or FHC HYDROCON silicate finish as a primer and top coat is possible.

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

Notes
- Carefully cover adjacent surfaces and components (e.g. windows, window sills, etc.). Wash off contamination immediately with water.
- The lightness value of the final coat must be ≥ 30.

Packaging

- 11 kg/bag
- 13 kg/bag

Storage

- Store dry and as per instructions.
- If stored in its original packaging, the product will keep for at least 12 months from the date of manufacture.

Quantity required / Yield

- Consumption: approx. 2.1 kg/m² per 10 mm plaster thickness
- yield: approx. 54 l fresh mortar per 11-kg-Bag
- yield: approx. 62 l fresh mortar per 13-kg-Bag

Technical Data

Product type	T insulating plastering mortar
Category	CS I
Fire behaviour	A1 (non-flammable) in accordance with EN 13501
Water requirement	approx. 18 l per 11 kg/bag, approx. 23 l per 13 kg/bag
Compressive strength	approx. 0.4 N/mm²
Capillary water absorption	W_c1 (in accordance with EN 998-1)
Water vapour permeability μ	4
Thermal conductivity (class)	T1
Thermal conductivity	λ_D = 0,053 W/(mK) λ_B = 0,055 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

- Completely empty and recycle the packaging.
- 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.