Product Datasheet

Low-shrinkage rapid cement

UZIN SC 970 THERMO

Ternary binder for creation of rapid cementitious screeds in interior areas with a drying time of 7 to 14 days, CT-C25-F4 to CT-C40-F6

MAIN APPLICATION FIELD:

- economical creation of a fast curing and defined ready to covering cement screed with strength class CT-C25-F4 up to CT-C40-F6 according to DIN EN 13 813

SUITABLE ON / FOR:

- bonded screeds according to DIN 18 560 - part 3
- unbonded screeds according to DIN 18 560 - part 4
- screeds on insulating layer according to DIN 18 560 - part 2
- heated screeds on insulating layer according to DIN 18 560 - part 2
- suitable for heavy loads in residential and commervial aras with all kind of floor coverings and wood flooring

PRODUCT BENEFITS/FEATURES:

UZIN SC 970 Thermo is a rapid cement binder with a considerably higher water-binding capacity than normal Portland cement. Ideal for screeds with underfloor heating and to help in the prevention of cracks and shrinkage. Predetermined breaking points are often not necessary and joint-free areas up to 200 m² can be created. For interior use.

- low-shrinkage and low stress
- joint-free areas up to 200 m²
- defined ready for covering, even under unfavourable climatic conditions
- functional heating after 3 days

TECHNICAL DATA:

Packaging	paper bag
Pack size	20 kg
Shelf life	min. 12 months
Mixing ratio	1:4 | 1:5 | 1:6 parts per weight
Water / cement value	max: 0.45 | 0.55 | 0.55
Color	grey
Consumption	see "Application table"
Mixing time	2 - 3 minutes
Working time	60 - 120 minutes*
Ready for foot traffic	after approx. 24 hours*
Functional heating	3 days after installation*
Surface tensile strength	after 3 days ≥ 1,2 N/mm²
Ready for covering	after 7 - 14 days*
Shrinkage class	SW1 - low-shrinkage (<0,2 mm/m)**
Minimum application temperature	5 °C at ground level

*At >10 °C and max. 80% relative humidity, depending on screening line and w/z value.
**According to DIN 18 560-1.

GEV-EMICODE EC 1 PLUS very low emission

EPD

LEED® CONTRIBUTING PRODUCT

UZIN | A brand of UZIN UTZ
DE | Uzin Utz SE | Dieselstrasse 3 | 89079 Ulm | Telephone +49 731 4097-0 | Fax +49 731 4097-110 | E-Mail info@uzin.de | Internet www.uzin.de

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SUBSTRATE PREPARATION:

Test the substrate in accordance with applicable standard or notices and report any deficiencies. Possible deformations in the substrate should be inhibited as far as possible.

Bonded screeds:

Depending on condition, brush, abrade, grind or shot-blast the substrate, remove loose material and thoroughly vacuum the surface. Install UZIN Foam Espansion Strip 8/100 at all rising building elements. Dampen the concrete several times. Create a bonding slurry (4 parts UZIN SC 970 Thermo, some screed sand and 1 part water) and apply it onto the damp or properly primed concrete using a hard broom. Apply the screed mortar immediately ”wet in wet“.

Unbonded screeds or screeds on insulating layer:

Install UZIN Foam Espansion Sttrip 8/100 at all rising building elements. Properly clean the supporting substrate and install separating layer crease-free and with sufficient overlapping at the joints. Install insulations flat with sufficient rigidity. Pay professional attention when covering heating pipes, as well as Foam Expansion Strips, bay joints and movement joints.

The datasheets for other used products have to be observed.

APPLICATION:

1. Mix UZIN SC 970 Thermo with washed screed sand 0/8 (A/B 8 in accordance with DIN 1045-2) and water using screed pump or compulsory mixer. Choose cement / sand mixing ratio according to quality required, see “Application table”.
2. The required amount of water (depending on mixing ratio from 0.45-0.55, see "Technical data") depends on the sand moisture content. Mortar consistency should be between 'wet earth' and 'plastic', make sure not to mix too thin.
3. Mix only as much mortar as can be applied within approx. 1 hour. During work breaks, empty and clean out mixer, pump and hoses immediately. Deliver, distribute, compact and smooth the screed very quickly. Take rapid setting into account.
4. Check the residual moisture using the CM test equipment according to current BEB bulletin. Test duration 10 min., 50 g net sample weight.

READY FOR COVERING:

Flooring	Ready for Covering Value	Ready for Covering (Days)
Mixing ratio 1:4		
Textile & resilient floor coverings, wood flooring, ceramic tiles & natural stone, coatings	≤ 2,0 CM-%*	approx. 7 days
Mixing ratio 1:5		
Textile & resilient floor coverings, wood flooring, ceramic tiles & natural stone	≤ 2,0 CM-%*	approx. 14 days
Mixing ratio 1:6		
Textile & resilient floor coverings, ceramic tiles & natural stone	≤ 2,0 CM-%*	approx. 14 days

*At >10 °C and max. 80% relative humidity, with shock ventilation and on insulation or seperating layer.

APPLICATION CHART:

Mixing ratio for 200 l pump with 300 kg screed sand:

Strength	MR	Consumption / Mixture	Consumption / sqm
value after 3 days			
CT-C20-F3	1 : 6	2.5 bags (50 kg)	2.6 kg/m²/cm
CT-C25-F4	1 : 5	3 bags (60 kg)	3.1 kg/m²/cm
CT-C35-F5	1 : 4	4 bags (80 kg)	4.2 kg/m²/cm
value after 28 days			
CT-C25-F4	1 : 6	2.5 bags (50 kg)	2.6 kg/m²/cm
CT-C30-F5	1 : 5	3 bags (60 kg)	3.1 kg/m²/cm
CT-C40-F6	1 : 4	4 bags (80 kg)	4.2 kg/m²/cm

Example for screed thicknesses according to DIN 18 560 for cement screeds corresponding to CT-C30-F5 (mixing ratio 1:5) for vertical loads ≤2kN/m²:

Type of Construction	Minimum Layer Thickness
Bonded screed	2.5 cm
Screed on seperating layer	3.5 cm
Screed on insulating layer	4.0 cm
Covering of heating pipes	4.0 cm

IMPORTANT NOTES:

- A shelf life of 12 months when stored in dry conditions, in the original packaging. Carefully and tightly reseal opened packaging and use the contents as quickly as possible.

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- The technical properties of the on-site mixed screed have to be pre-tested and repeated periodically by the screed installer. If there are changes in the starting material, the pre-test has to be done once again.
- Heat drying: Refer to separate heating protocol when used as heated screed. The protocol can be downloaded in the internet.
- Use a mixing ratio of 1:4 under coatings. According to BEB specification sheet 9.1 „surface line and tensile bond strength of floors" the surface line strength of screeds covered with reaction resins in combination with driving load is at least 1.5 N/mm².
- Prior to installation with wood flooring, use a mixing ratio of at least 1:5.
- Low temperatures, high humidity, little air circulation, dense substrates and large thickness will delay the setting and drying time. Whilst high temperatures and low humidity, strong air circulation and absorbent substrates will accelerate setting, drying and readiness for covering. Immediately after reaching readiness for covering, the floor covering must be installed in order to prevent renewed moisture ingress due to high humidity.
- The temperature of the room, substrate and aggregate must not fall below + 5 °C and must not exceed + 25 °C.
- Re-moisture does not occur under normal site conditions. Avoid exposure to moisture.
- UZIN SC 970 Thermo is not suitable for use in underwater areas.
- To ensure a higher screed quality where there is uncertainty as to sand quality or moisture content, for the same amount of binder add a little less sand (approx. 4 shovels) and less mixing water to the mixing container. Do not completely fill the mixer.
- Quality factors: Readiness for covering and strength depend, amongst others, on the amount of water used. With a lower water quantity the screed mortar has a stiffer consistency but with good compaction a higher strength and quicker readiness for covering. Too much water reduces the strength, delays drying, increases shrinkage and the risk of cracking.
- Adding approx. 20% grit to the screed sand/aggregate can increase the compressive and flexural strength by up to 20%.
- Do not mix with different screed cements or additives.
- Protective covers can be used to protect the screed from subsequent trades. These should only be installed after the screed is ready for covering or after the end of functional heating to prevent spots or efflorescence.
- Follow the generally acknowledged rules of the trade and technology for the installation of wood flooring and floor covering in respective of the applicable national standards (e.g. EN, DIN, OE, SIA, etc.).

SEALS OF QUALITY & ECOLABELS:

- Low chromate content acc. Regulation (EC) No. 1907/2006 (REACH)
- EMICODE EC 1 PLUS / Very low-emission
- European Model EPD
- Suitable for sustainable building certifications according to: DGNB, QNG, BNB, BREEAM, LEED

COMPOSITION:

Special cements, mineral aggregates, redispersible polymers and additives.

PROTECTION OF THE WORKPLACE AND THE ENVIRONMENT:

Contains cement low in chromate acc. Regulation (EC) No. 1907/ 2006 (REACH). Cement produces strong alkaline on reaction with water. Avoid contact with skin and eyes. In the event of contact, rinse immediately with water. In the event of skin or eye irritation, seek medical advice. Use protective gloves. When mixing wear a protective dust-mask. Basic prerequisites for best possible indoor air quality following floor covering work are conformity to standards of the working conditions, as well as thoroughly dry substrate, primer and smoothing compound.

DISPOSAL:

Where possible, collect product residues and re-use. Do not allow to get into drains, sewers or ground. Empty paper packaging is recyclable. Collect waste product, mix with water, allow to harden, then dispose as Construction Waste.

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