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HIGH-PERFORMANCE HARDENING AGENT ACCELARTING

QUICKHARD 5T additively complies with the measures of the AgBB scheme as well as the DIBT additive principles. It was tested by the Institute for Building Biology in Rosenheim and certified to be environmentally compatible building materials, classified in emission class A+ as virtually emission-free.



APPLICATION AREA

- For the production of heating screed (DIN 18560 T 2; 5.3.1)
- For the production of floating screed
- For the production of compound screed
- For the production of screed on a separating layer
- For the production of industrial screed (observe dosage)

PROPERTIES

- Significant reduction in shrinkage and deformation behavior
- Significantly higher early and final screed strength
- Production of thin-layer screed (from 30 mm)
- Significant increase of bending tensile strength and compression strength
- Divergent from DIN 18560 Part I, Table I, different screed thicknesses up to max. 30 mm can be counterbalanced with a dosage of ≥ 600 ml / mixture while the minimum thickness of 30 mm must be observed.

- The information regarding readiness for laying refer to a screed thickness of 40-50 mm for unheated and 60-70 mm for heated screed structures
- In case of a higher screed thickness, the dosage must be increased in order to achieve the specified readiness for laying. Consultation with the manufacturer (e-4 GmbH) required

Recommended dosage for a 200-liter mixture (observe initial and/or mandatory inspection as per standard compliance)

Compressive strength	Bending tensile strength	Cement in kg	QUICKHARD 5T in ml	Readiness for laying in days
C 25	F 5	58	500	5 - 7
C 30*	F 6	62.5	600	
C 40* **	F 7* **	75	700	

* Please note the climatic conditions; CEM I or CEM II A-L 42.5 R cement after approval by e-4 GmbH

** 20 % Add grit (4 buckets at 10 l / mixture) ideally 2-5 mm

- As of a minimum dosage of 600 ml of Quickhard 5T and a cement share of 62.5 kg / mixture, thin-layered screed/heating screed can be equipped with a heating tube cover ≥ 30 mm (note initial testing) with a compressibility of the insulating layer(s) ≤ 2 mm. The aforementioned recipe achieves a surface tensile strength of 1.5 N/mm². One requirement for achieving the mean values is machine-based screed surface finishing and adherence to the recommended W/Z-value of 0.45-0.50.
- Due to its chemical formulation, QUICKHARD 5T high-performance hardening agent accelarting possesses rewetting protection until the top layer floor is laid if the operating instructions from the technical information sheet are observed and adherence to the normative climatic conditions is ensured after the surface is ready for laying. The client is responsible for creating the appropriate climatic conditions for the premises.
- Post-treat usable surface immediately after smoothing by covering with foil, if needed (max. 24 hours)

MICROFIBER REINFORCEMENT WHEN USING QUICKHARD 5T

- If a fiber reinforcement is to be replaced by Quickhard 5T, the dosage must be followed as described above. In the comparison to a zero screed (i.e., without the addition of liquid additive), reinforcement with single fibers results in a less dense structure with defects. This less dense structure then has a negative effect on heat transfer through underfloor heating, so from this point of view, a liquid additive proves to be much more advantageous. A key advantage of Quickhard 5T - compared to the use of single fibers - is not only the easy homogenization of the screed mass, but also the simple and less error-prone processing. In this way, the risk of damage and rework occurring later is significantly reduced.
- Easier for the user to apply and less risky is the use of the high-performance additive Quickhard 5T. It combines active ingredients based on state-of-the-art high-performance polymers so that they simultaneously optimize several screed properties. These high-performance polymers act on a molecular level (e.g., through surface-active substances) or in the dimension of several micrometers within the cavities of the cementitious matrix. Thus, a kind of micro-reinforcement can be assumed.



SUBSTRATE PREPARATION

- The cement-bound substrate must be clean with open pores, absorbent and free of soft, removable components
- The load-bearing capacity of the substrate must correspond to the expected load
- In case of rolling strain, the surface tensile strength may be an average of 1.5 N/mm² where the smallest value may not fall below 1.2 N/mm²
- The substrate must be prepared using the common standards and current state of technology
- The prepared substrate must be capable of bearing loads, free of oil and grease and free of dust and separating agents

BONDED SCREED WITH MINERAL BONDING BRIDGE

- Please note the technical data sheet QUICKPICK

BONDED SCREEN WITH SYNTHETIC RESIN BONDING BRIDGE

- Please note the technical data sheets TPOX 5° or TPOX 10°

CONSTRUCTION CLIMATIC CONDITIONS

- Note construction site preparation as per DIN 18560
- Protection from rain, draft and direct sun exposure during the hydration phase
- Ensure air exchange for shock ventilation without a draft
- Air drafts must be prevented; sufficient air exchange must be ensured (shock ventilation 4 times for 20 minutes)
- Normative climatic conditions are a precondition for the screed quality in curing and stability which must be exclusively guaranteed by the builder owner or the authorized representative
- At temperatures below 5 °C, the setting process of the binding agent is delayed and/or interrupted (hydration and stability standstill) and the readiness-for-laying for the test aspect residual moisture is not properly achieved

SCREED CURING

- Freshly laid screed/special screed may not be covered during the curing process. The screed may not partially covered with building materials, such as gypsum boards - this will delay the curing process and lead to false results in the moisture measurement

PROCESSING INFORMATION

- Shake well before use
- Add selected dosage to first mixing water
- The mixing duration is min. 2 minutes after addition of all components
- Limit mixing water to minimum (water reduction or note W/Z-value)
- Please observe the general rules of the screed laying craft, especially DIN 18560, screed in construction
- No additives of other manufacturers may be used when adding our products
- All e-4 products are compatible with each other

STARTING MATERIALS

- Cement: CEM I or all CEM II cement kinds approved by e-4 GmbH
- Supplement: Pursuant to DIN EN 13139 and DIN 1045/2 grading curve A/B, 0-8 mm for the production of screed mortar
- All sand grading curves A/B, 0-4 mm approved by e-4 GmbH, with the compression and bending tensile strength specified here are not applicable according to the technical data sheet. For sand grading curve A/B 0-4 mm, the initial and mandatory tests must be performed in order to determine the respective stability
- Recommended W/Z-value 0.45-0.55
- QUICKHARD 5T according to general dosage

MEASURING READINESS-FOR-LAYING

- Pursuant to the info sheet of the BEB (No. 8.1), the residual moisture of the screed must be determined using a CM-measurement (work instruction BEB CM-measurement):
- For quick-drying, accelerated and new screed systems, the moisture limit value for the readiness-for-laying and the measuring method must be communicated in writing and forwarded to the planner/builder owner and to the floor layer (BEB info sheet No. 8.1)
- The surface is ready for laying once the CM-values as per table for QUICKUP screed were achieved (always updated at www.estrich4.com)
- At least 1 measurement must be performed for screed areas up to 100 m². For larger areas, one measurement per 200 m² is sufficient. In residential construction, one measurement per apartment unit is advised. For heated screed, at least one measuring location per room must be marked. 3 measurements are to be performed per 200 m² area. In order for the number of marked measuring locations to be sufficient, intermediate foil tests are recommended before performing another CM-measurement. The surface has sufficiently dried if no traces of moisture appear within 24 hours at max. flow temperature under a 50x50 cm PE foil covering the area and taped down at the edges. The intermediate foil tests and additional CM-measurement(s) constitute special services
- Where Darr tests are required, they must be performed at 50 °C



SAFETY INFORMATION

- General industrial hygiene standards must be observed when using our e-4 products.
- e-4 GREENLINE products have been tested for environmental compatibility by an independent institute and can be used without concern any time

STANDARDS AND INSPECTION PROVISIONS

All common standards, provisions and crafts regulations apply, in particular DIN 18560, ÖNORM 3732, EN 13318, EN 13813, DIN 18353 and the work standards BEB newest version as well as the state of technology in screed laying

Our information is based on our current experiences and developments thus we take warranty for the flawless quality of our products. We cannot assume responsibility for the success of the work carried out by you, as no legal liability can be derived due to different construction site conditions, laying techniques and construction work. We recommend creating a trial area for individual situations. Moreover, our General Terms and Conditions apply. With the publication of this technical data sheet, any previous versions are no longer valid.

Color: light-brown
Form: liquid
Form of delivery Canister 20 kg net

Shelf life: min. 1 year, store protected from sunlight and frost
Processing temperature: from +5 °C to +30 °C