Torggler

Flooring

LIVELLINA HS

Self-levelling, quick hardening, cementitious screed with very low emissions particularly suitable for underfloor heating and for the equalisation of substrates with thickness from 5 to 40 mm.

- Self-levelling and fibre-reinforced
- Suitable for manual and machine application
- High strength
- Indoor use
- Thickness achievable in a single application from 5 to 40 mm
- Thickness above the pipe minimum 5 mm

IN COMPLIANCE WITH CT C25 F6 AR1 EN 13813

GEV-EMICODE EC 1 PLUS very low emission

APPLICATION AREAS

Livellina HS must only be applied on the inside. It is particularly suitable for:
- Self-levelling smoothing of uneven substrates with marked differences in level, which must be covered with textile, resinous, plastic, rubber, ceramic, wood floors, etc.
- Surface levelling of old concrete slabs and cement-based screeds.
- Self-levelling compound for underfloor heating with low-thickness radiant systems with perforated structure, to create adhesion to the substrate.
- Correction of slabs made with height errors.
- Suitable for bathrooms, in combination with waterproofing agents, according to DIN W0-I, W1-I and W2-I classification criteria, except shower rooms, on load-bearing and dimensionally stable substrates.
- Thickness of 5 mm above the pipe only in the case of not excessive point stresses.

MAXIMUM ATTAINABLE THICKNESSES

From 5 to 40 mm

FEATURES

Livellina HS is a pre-mixed, grey-coloured mortar, based on a mixture of special cements, selected aggregates, synthetic resins and specific additives. Once mixed with water, the result is a product of excellent workability, fluid and self-levelling, free from sedimentation and surface efflorescence, easily applied by trowel in thickness from 5 mm to 40 mm, with excellent adhesion to the substrate. Once hardened it has good mechanical strength, impact and abrasion resistance, with a smooth and dustproof surface. It is totally free of protein-based fluidizing additives and substances that release formaldehyde and ammonia. The use of special polymers allows to obtain a very low emission of volatile organic substances. Livellina HS is classified CT-C25-F6 according to EN 13813.

WARNINGS

- Do not apply Livellina HS at temperatures below +5 °C or above +30 °C.
- Never mix with other binders such as cement, hydraulic lime, gypsum, etc.
- Never add water once the mixture has hardened.
- Do not use the mixed product when it has already begun to set, therefore take care to prepare a quantity of mix that can be used within its pot life.
- Never apply the product outdoors or in environments subject to the continuous presence of water or rising damp.
- Do not use as a floating screed or on a separating layer.
- Apply on thin-film radiant systems laid directly on rigid support.

INSTRUCTIONS FOR USE

Preparation for installation

The substrate must be clean and sound, free of dust, brittle material and dirt in general. Residues of oil and grease, if any, must be carefully removed. Clean away any residue of adhesives from old floors that have been removed (carpet, PVC, parquet, etc.). Smooth, non-absorbent substrates must be roughened beforehand by bush-hammering or other mechanical treatment. In the case of very porous and absorbent substrates, and in the case of magnesium and anhydrite-based substrates, apply a coat of Tile Primer beforehand and wait for it to dry completely (until the applied film is transparent). In the case of particularly smooth substrates, it is preferable to apply one coat of Multigrip and wait for it to dry completely.

Preparation of the product

Mix Livellina HS with about 18-20% of water (equal to 4.5 – 5.0 litres per 25 kg bag), possibly using a low-speed drill with a suitable propeller; mix until the mixture is homogeneous and free of lumps, with a fluid and self-levelling consistency. Do not exceed the maximum amount of mixing water indicated, as this will not improve the self-levelling properties, but may cause a weakening of the surface of the hardened product. Leave the mixture to stand for about 4-5 minutes, then mix briefly. The mixture prepared in this way has a pot life of about 30 minutes under normal conditions (at +23 °C); higher temperatures shorten the pot life and lower temperatures lengthen it. It can be used with the following mixing and application machines: PFT G4 with Rotomix, Putzmeister MP 25 with secondary mixer, Collomatic planetary mixer XM2-650, Inotec-ino COMB M4G with secondary mixer, M-TEC Duo mix 2000, Turbosol Giotto Mono with secondary mixer and others.

Application instructions

Wet the substrate until it is saturated and allow any excess water to evaporate or remove it with a sponge, taking care to eliminate any residual surface water; if a preventive treatment with Tile Primer has been applied, there is no need to wet it. Pour the mixture and distribute it on the surface with an American trowel in the desired thickness in a single coat, without exceeding 40 mm in thickness; the final levelling is performed by itself. In order to obtain a perfectly smooth surface and to facilitate the release of any embedded air bubbles, pass over the entire surface with a special roller with pins longer than the maximum thickness applied. In the case of application on large surfaces, it is necessary to respect the joints already present in the substrate and to create new ones at intervals of no more than 5 metres. If the thickness required is greater than 40 mm, and in any case only for small localised areas, it is necessary to fill the deeper areas with a first coat, so as to bring the whole surface to be treated to a uniform level. As soon as this first coat can be walked on (after about 3 hours at +23 °C), apply a coat of Tile Primer or Multigrip and wait for it to dry completely (until the layer applied is dry to the touch); then apply a second coat of Livellina HS over the entire surface to be treated, always with a maximum thickness of 40 mm.

Cleaning
The tools used for laying can be cleaned with water before the material hardens; afterwards cleaning can only be carried out by mechanical removal.

WAITING TIMES

The time required for complete hardening varies according to the ambient temperature and humidity conditions, the thickness applied, the amount of water used for the mix and the porosity of the substrate. Under normal conditions (+23 °C and 50 % R.H.) the product must dry at least 24 hours before gluing ceramic tiles and at least 96 hours before installing textile, rubber or plastic flooring with adhesives, and before installing resinous and wood flooring (see indications in the Technical Data table). If the ambient conditions are unfavourable (low temperature and high relative humidity) and the thickness applied is high, it can take up to several days before resinous and wood flooring can be applied. In the latter case, however, the residual humidity of the substrate must first be determined, which must be less than 2%, measured with a carbide hygrometer. Using Livellina HS for the creation of heating/cooling floors makes it possible to start-up the system already after 5 days; for the start-up procedure and test methods, follow the standards in force (EN 1264-4) and usual procedure. In the case of very large surfaces, divide the surface with splitting joints every 20-25 m² approx.

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TECHNICAL SPECIFICATIONS

Apparence	Grey powder
Apparent density	1,400 kg/l
% mixing water	18-20% (4,50-5,00 litres per 25 kg sack)
Mix density	2,100 kg/l
Mix consistency	fluid and self-levelling
Thermal conductivity (Test report 21/014/1)	1,56 W/mK
Specific heat by volume (Test report 21/014/1)	1,92 (MJ/(m³K))
Operating temperature (at +23°C)	approx. 45 min.
Setting times (as per EN 196-3): setting start	70 min.
Setting times (as per EN 196-3): setting end	80 min.
Hardening (at 23°C and 50% U.R.)	can be walked on after about 2-3 hours
Application temperature	from +5 °C to +30 °C
Resistance to flexion (EN 13892-2): after 1 day	3,0 N/mm^2
Resistance to flexion (EN 13892-2): after 3 days	3,5 N/mm2
Resistance to flexion (EN 13892-2): after 7 days	4,5 N/mm2
Resistance to flexion (EN 13892-2): after 28 days	6,0 N/mm2
Resistance to compression (EN 13892-2): after 1 day	14,0 N/mm^2
Resistance to compression (EN 13892-2): after 3 days	18,0 N/mm2
Resistance to compression (EN 13892-2): after 7 days	23,0 N/mm2
Resistance to compression (EN 13892-2): after 28 days	28,0 N/mm2
Walkable*	after 2-3 hours
Ceramic tiling*: for layer thicknesses of approx. 10 mm	approx. 24 hours
Ceramic tiling*: for layer thicknesses of approx. 20 mm	approx. 48 hours
Natural stone tiling *: for layer thicknesses of approx. 10 mm	approx. 48-72 hours
Natural stone tiling *: for layer thicknesses of approx. 20 mm	approx. 72-96 hours

Wooden flooring*: for layer thicknesses of approx. 10 mm (with 2% residual moisture measured by carbide hygrometer)	approx. 96 hours
Wooden flooring *: for layer thicknesses of approx. 20 mm (with 2% residual moisture measured with a carbide hygrometer)	approx. 7 days
Consumption	approx. 18 kg/m^2 per cm of thickness
Classification (EN 13813)	CT-C25-F6

*at +20 °C and 65% R.H.; higher temperatures reduce the indicated time, lower temperatures increase it.

Color	Grey
Packaging	bag
Packaging size	25 kg
Pallet	50 bags

CONSUMPTION

The consumption of Livellina HS is about 18 kg/m^2 each cm of thickness.

STORAGE

Livellina HS must be stored in a dry and sheltered place. In the original closed bags it is kept for at least 9 months. **PROTECT FROM HUMIDITY.**

CERTIFICATIONS

Product certified as EC1 Plus by GEV.

Performance statements are available at. www.torggler.com.

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