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UNDERFLOOR HEATING FILLER LL 5500



Product description

Fescon Underfloor heating filler LL 5500 is a manually applied, fast-drying and fast-setting, fibre-reinforced cement-based floor screed. Specifically designed for covering underfloor heating cables and pipes.

- For layer thicknesses of 10–80 mm
- Manually applied
- Fibre-reinforced
- Also suitable for sloped floor castings
- Excellent workability

Applications

- Underfloor heating screed for dry and wet indoor areas
- Sloped floors where the structure must be waterproofed quickly
- Also suitable for filling and levelling castings
- Underfloor heating screed for primed gypsum board floors indoors
- Can be directly waterproofed
- Concrete floor castings, filling, levelling, and sloping in indoor applications

The product is listed in the portal for building products that can be used in Nordic Swan Ecolabelled buildings.

Instructions

Base

- Concrete substrate, wood- and gypsum-based boards, insulation board
- The substrate must be clean, solid, and dust-free, and it must be vacuumed.
- Loose layers, cement laitance, and other impurities must be mechanically removed to ensure proper adhesion between the floor screed and the substrate.
- The substrate must be sufficiently strong, stable, and load-bearing.
- The floor must be constructed as a floating, reinforced structure if the substrate consists of weak concrete (tensile strength < 0.5 MPa), wood, or insulation. The floating floor must be separated from the subfloor with Fescon Separation fabric and from vertical structures with Fescon Bordering strip.
- The subfloor temperature must be > +10°C and the relative humidity < 95% RH. The subfloor's relative humidity affects the drying time of the floor screed.

Priming

- Priming is carried out according to the instructions for Fescon Adhesion promoter or Flow Primer, depending on the substrate.
- Non-absorbent surfaces (e.g. ceramic tiles, epoxy, metal surfaces) must be pre-treated in accordance with the Primer PLUS instructions.

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Instructions for use

- The working area must be fully protected from wind, drafts, sunlight, and rain.
- During floor installation, the indoor temperature must be between +10°C and +25°C, and the relative humidity must be above 40% RH.
- One 20 kg bag of screed is mixed with 3.0–3.6 litres of clean water.
- Overdosing water is prohibited, as it weakens the strength properties of the screed, increases the risk of separation, and prolongs the drying time.
- LL 5500 must be mixed into a uniform mass using a power drill with a mixing paddle. Mixing time is approximately 1.5 minutes.
- The mixture is applied to the substrate and levelled with a steel trowel.
- Working time is approximately 20 minutes from the addition of water.
- Tools and equipment must be cleaned with water immediately after use.
- Hardened material must be removed mechanically.

Covering

- Underfloor heating filler LL 5500 can be directly waterproofed using certified products from the Fescon Waterproofing system.
- It can be covered with ceramic tiles, laminate, and parquet.
- Other floor coverings require a skim coat using Fescon hand-applied levelling compounds, such as FlowPlan.
- Layer thicknesses of less than 20 mm can be covered after 24 hours.
- However, it must be ensured that the screed meets the technical requirements set by the floor covering manufacturer and the RYL guidelines, taking into account the entire floor structure. The flatness of the screed surface should be measured, if necessary, in accordance with RT instruction 14-11039.
- The screed must not be left uncoated for more than 3 months due to the risk of cracking and detachment.
- Once the screed has reached the required moisture level for the floor covering, the covering should be installed or post-treatment started.
- Always check the moisture content of the entire floor structure before installing the covering.
- Favourable drying conditions for the screed require indoor air relative humidity below 50% RH and temperature above +20°C. Unfavourable conditions will slow down the development of the screed’s strength properties and extend the drying time.

Waste handling

Storage and handling of waste
See the separate storage and disposal instructions https://www.fescon.fi/en/material-bank

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Technical information

Material usage	1.8 kg/m^2/1 mm
Water requirement	3.0 - 3.6 l/20 kg
Type	Powder
Binder	Special cement
Colour	Grey
Maximum grain size	1.2 mm
Package size	20 kg
Storage	12 months in a dry room
Mixing time	1-2 min
Layer thickness	10–80 mm (minimum 50 mm when installed as a floating, reinforced structure)
Fibre	Fibre-reinforced, plastic fibre
Usage temperature	+10°C...+25°C
Workability time	Approx. 20 min
Coatable	Approx. 1 day / 10 mm (+20°C, RH 50%)
Walkable	Approx. 2- 3 h
Strength class	C 20 (EN 13813)
Compressive strength	>20 MPa (28 days, +20°C, RH 50%)
Adhesion strength	> 1.2 MPa to concrete (28 days, +20°C, RH 50%)
Flexural bond strength	F 5 (EN 13813)
Surface tensile strength	> 1,0 MPa (28 days, +20°C, RH 50 %)
Frost resistance	Not frost-resistant, for indoor use only
pH	< 11 low-alkaline (hardened material)
Waterproofness	Water-resistant
GWP A1-A3	0,32
GWP unit	kg CO2e/kg
Method for calculating the GWP value	Generic

Limitation of liability, product use notes and restrictions: Please familiarize yourself with Fescon Oy's general terms of delivery and the design and work instructions related to the product.