

Note on English translation / Hinweise zur englischen Fassung

This is a translation of the product data sheet valid in Germany.

All stated details and properties are in compliance with the regulations of the German standards and building regulations. They are only applicable for the specified products, system components, application rules, and construction details in connection with the specifications of the respective certificates and approvals.

Knauf Gips KG denies any liability for applications outside of Germany as this requires changes acc. to the respective national standards and building regulations.

KNAUF



Floor Systems

F326.de

Product Data Sheet

2022-05



FE Fortissimo

Calcium sulphate floor screed CAF-C35-F7

Product description

FE Fortissimo screed is a factory-mixed dry mortar on a calcium sulphate basis intended for mixing with water. It consists of anhydrite, special gypsum, superplasticizing admixtures and aggregates (0 to 4 mm), such as grainy natural anhydrite.

Quality classification acc. to EN 13813

CA-C35-F7

Storage

Dry mortar up to 6 months.

Quality

In compliance with EN 13813, the product is subject to initial type testing and continuous factory production control and bears the CE marking.

Properties and added value

- Very high strengths
- Very low emission, EMICODE EC 1^{PLUS}
See www.emicode.com/en
- High application performance
- Self-levelling
- Very low shrinkage and stresses
- Quickly load capable
- No sinter layer
- Even surfaces with minimum joint requirement
- Controlled, constant quality



Field of application

FE Fortissimo is characterized by exceptionally high strengths and is thus ideal for higher mechanical loading in interiors.

It is used as:

- Floating screed, nominal thickness ≥ 35 mm
- Heating screed, nominal thickness ≥ 35 mm above the heating elements
- Screed on a separating layer, nominal thickness ≥ 30 mm,
- Bonded screed, nominal thickness ≥ 25 mm
- Screed as hollow floor, nominal thickness ≥ 30 mm.

Application

Mixing

Mixing by machine

FE Fortissimo floor screed is mixed with clean water in mixing pumps (e.g. PFT FERRO 100) and pumped onto the prepared surface.

Application

Recommended spread $\varnothing 40$ cm, determined using a consistence checking tin 1.3 l on an even, non-absorbent surface.

No water should separate from the screed while spreading!

FE Fortissimo levels to a horizontal flat surface when pitched with a screed brush or a dappling bar.

Cleaning

In case of machine application, the machine and hoses must be cleaned within 30 minutes at the latest after machine standstill.

Movement joints

FE Fortissimo floor screed hardening properties are volume proven.

Movement joints are unnecessary in the screed bay except in the case of heated screed. They must be implemented at the same position across the full width in the screed. Press joints (construction joints) are permitted depending on the work progress, machine performance and building size.

Movement joints for heating floor screed

Joints may be necessary depending on the bay size and floor plan shape. It is common practice to provide joints in doorways, on surfaces exceeding 10 m in length, in protruding areas and narrow spaces.

Detailed requirements and specifications for joints are available in the IGE Code of Practice "Joints in flowing calcium sulphate screeds".

Drying – Application of covering

Prior to further floor covering being applied the screed requires sufficient drying (ready for coverage). The prerequisite for the readiness to receive a coverage for the FE Fortissimo are the following moisture levels.

| Covering | Vapour-tight coverings (elastic floor coverings) as well as parquet | Vapour-retardant floor coverings (tiles, natural stone) as well as vapour permeable floor coverings (textile, etc.) |
|--------------------------------------|---|---|
| FE Fortissimo unheated | ≤ 0.5 CM-% | ≤ 1.0 CM-% |
| FE Fortissimo heated (heated screed) | ≤ 0.5 CM-% | ≤ 0.5 CM-% |

Observe the following with drying:

- Tilt the window open 1 day (approx. 24 hours) after pouring the screed to reduce the formation of condensation on the windows. FE Fortissimo is already walkable for this purpose.
- From 2 days after screed installation, open the doors and windows fully to assure the exchange of air (draught). Windows that are tilted open or surge ventilation in the mornings and evenings are insufficient for quick drying as the air exchange rate is too low. Protect the interior area from frost and rain.

As a heated screed, FE Fortissimo should be heated until dry before the floor covering is laid.

The drying time for screed thickness of 35 mm (unheated) is approx. 3 to 6 weeks depending on the drying conditions.

The following must also be observed (heating up regulations):

Start: Heat up can commence 7 days after application of the screed.

Continue to ventilate well.

1. Set the flow temperature to 25 °C and retain it for three days.
2. Then set the highest temperature (max. 55 °C) and retain it (without night-time operation reduction) until the screed is dry. Alternatively, heating up can be implemented in steps of 5 K per day.
Reference values for drying at maximum flow temperature:
55 °C approx. 10 days,
45 °C approx. 12 days with ~50 mm thickness, otherwise for longer.
Testing for residual moisture with applied foil or CM measurement.
3. After drying, reduce the flow temperature so that the surface temperature of the screed achieves 15 to 18 °C.
4. Test the level of residual moisture with a CM analyzer before laying the floor covering.

Please request the detailed heating up regulations with heating up report, refer to the technical information [Knauf floor screeds on electrical underfloor heating Bo17.de](#) and technical information [Knauf Floor screeds on warm water underfloor heating Bo18.de](#).

| | |
|-------------|--|
| Note | The drying time is, in addition to the screed thickness, mainly dependent on the temperature, air humidity and air speed. Permanent ventilation is necessary for rapid drying. Additional heating (no gas burners permitted) accelerates the drying process. |
|-------------|--|

| | |
|-------------|---|
| Note | After coordination of trades with area heating and area cooling systems of the BVF, the measurement points for CM measurement must be arranged. |
|-------------|---|

| | |
|-------------|--|
| Note | For further information on planning and design of Knauf floor systems with Knauf flowing screed, see technical brochure Knauf Floor Systems F20.de . |
|-------------|--|

Heating protocol for coverage ready heating

Investor:

Building site:

Heating engineer:

Site manager:

Every change in the flow temperature (warm water heating) or floor thermostat setting (electrical heating) during heat up and cooling must be documented exactly to 5 °C. Every drying test should be documented.

Heating system:

Screed applied on:

Average screed thickness: mm

Coverage of heating element:

min.: mm max: mm

Heat up (coverage ready heating)

| Date | Flow temperature / floor thermostat setting in °C | Signature |
|------|---|-----------|
| | | |
| | | |
| | | |
| | | |

- Ventilation
- Window ventilation

| Date from | Date to | Ø h per day |
|-----------|---------|-------------|
| | | |
| | | |
| | | |

Preliminary drying test
(e.g. foil test ¹⁾)

| Date | Dry yes/no | Signature |
|------|------------|-----------|
| | | |
| | | |
| | | |

Drying test
(CCM measurement)

| Date | Residual moisture in % | Signature |
|------|------------------------|-----------|
| | | |
| | | |
| | | |

Reduction of the flow temperature

| Date | Flow temperature / floor thermostat setting in °C | Signature |
|------|---|-----------|
| | | |
| | | |
| | | |

Coverage ready heating completed

| Date | Outdoor temperature in °C | Signature |
|------|---------------------------|-----------|
| | | |

Place / Date

Signature (Site manager)

Please keep this document!

1) Does not replace CM measurement before laying floor covering.

Technical data

| Designation | Standard | Unit | FE Fortissimo |
|------------------------------------|----------|-------------------|------------------------|
| Compressive strength (dry) | EN 13813 | N/mm ² | > 35 |
| Flexural strength (dry) | EN 13813 | N/mm ² | > 7 |
| Modulus of elasticity | – | N/mm ² | approx. 17000 |
| Building material class | EN 13813 | – | A1fl - non-combustible |
| Density, drying | – | kg/l | approx. 2.0 |
| Density, wet | – | kg/l | approx. 2.2 |
| Bulk density of dry material, bulk | – | kg/l | 1.6 |
| Application time | – | min | approx. 60 |
| Walkable | – | h | after approx. 24 |
| Can be loaded | – | d | after approx. 3 |
| Free expansion when setting | – | mm/m | approx. 0.1 |
| Thermal expansion coefficient | – | mm/(m·K) | approx. 0.016 |
| Thermal conductivity λ_2 | – | W/(m·K) | approx. 1.6 |
| Yield from 100 kg dry mortar | – | l | approx. 54 |
| Reaction of mortar | EN 13454 | – | alkaline |

The stated technical data were evaluated acc. to the respective test standards. Deviations under site conditions are possible.

Material requirement and efficiency

| Material requirement | Consumption approx. |
|---------------------------|----------------------|
| Per 1 cm screed thickness | 19 kg/m ² |

Product range

| Designation | Application | Material number | EAN |
|---------------|-------------|-----------------|---------------|
| FE Fortissimo | Bulk | 00006960 | 4003982000255 |

Sustainability and environment

| Short description | Unit | Value |
|---|------|------------------------------|
| Requirements of the German AgBB-scheme | – | fulfilled |
| Complies with the requirements of the French emission class | – | A |
| Certificates | – | Emicode EC 1 ^{PLUS} |



Observe safety data sheet!

For safety data sheets and CE marking see
pd.knauf.de



Videos for Knauf systems and products can be found under the following link:
www.youtube.com/knauf



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Knauf Direct

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