



## **Knauf floor screeds on warm water underfloor heating**

Heating protocol for floor covering ready heating of heated screed on a calcium sulphate basis

### General

#### Flow temperature

Max. 55 °C, for FE Eco max. 40 °C

#### Edge insulation strips

To be suitable for flowing screed they must be compressible by at least 5 mm (only cut off after the floor covering has been laid).

#### Heater coil

Must be filled with water and under pressure when the screed is applied.

#### Nominal screed thickness

≥ 35 mm over the heating system (tube including attachment).

#### Movement joints

With area offsets and steps, in larger areas, in doorways and for separation of heated and unheated areas. Detailed recommendations can be found in the Code of Practice No. 5 "Joints in flowing calcium sulphate screeds" (IGE/IWM).

#### Drying

**The screed must be heated until dry.** The drying time is dependent on the temperature, air humidity and air speed. Drying is accelerated significantly by heating up the screed using underfloor heating. Adequate ventilation should be provided during heating. Drying of the screed should start as soon as possible. Delaying the start of drying may negatively affect the drying properties of the screed.

#### Please note

- With FE 80 Allegro / FE 50 Largo / FE Fortissimo avoid draughts for the first 2 days after application, then provide good ventilation. Heat up at the earliest after 7 days, acc. to EN 1264-4.
- For FE 25 A tempo, provide good ventilation after it is hard enough to be walked on (after approx. 3 h) and then start heating it up.
- Commence heating up and ventilation 2 days after installation for FE Eco. The preferable method of ventilation is with a fan (installed in the window) to extract the air from the building.
- Functional heating must be performed on a heated floor screed acc. to EN 1264-4 before the floor covering is applied. Furthermore, the screed must be heated until dry (heat to ensure floor covering suitability). With the heating regulations provided, functional heating is combined with floor coverage ready heating.

### Heat up regulations

#### For FE 80 Allegro, FE 50 Largo and FE Fortissimo

Start: 7 days after application in acc. with EN 1264-4.

1. Set the flow temperature to 25 °C and retain it for 3 days.
2. Then set the underfloor thermostat to max. 55 °C and retain the temperature (without night-time operation reduction) until the screed is dry. Alternatively, heating up can occur in steps of 5 K per day. Reference values for drying at max. flow temperature and good ventilation:  
Thickness ≈ 35 mm (construction type B): approx. 10 days  
Thickness ≈ 55 mm (construction type A): approx. 14 days  
Check the residual moisture.
3. After drying, reduce the flow temperature so that the surface temperature of the screed achieves 15 to 18 °C.
4. The screed is then ready for the floor covering.

#### For FE Eco

##### Start possible 48 hours after application

1. Set the flow temperature without steps to the highest temperature (min. 30 °C / max. 40 °C) and retain it (without night-time operation reduction) until the screed is dry. Reference values for drying at max. flow temperature and ventilation:  
Thickness ≈ 55 mm (construction type A): approx. 14 to 21 days  
Check the residual moisture.
2. After drying, reduce the flow temperature so that the surface temperature of the screed achieves 15 to 18 °C.
3. The screed is then ready for the floor covering.

#### For FE 25 A tempo

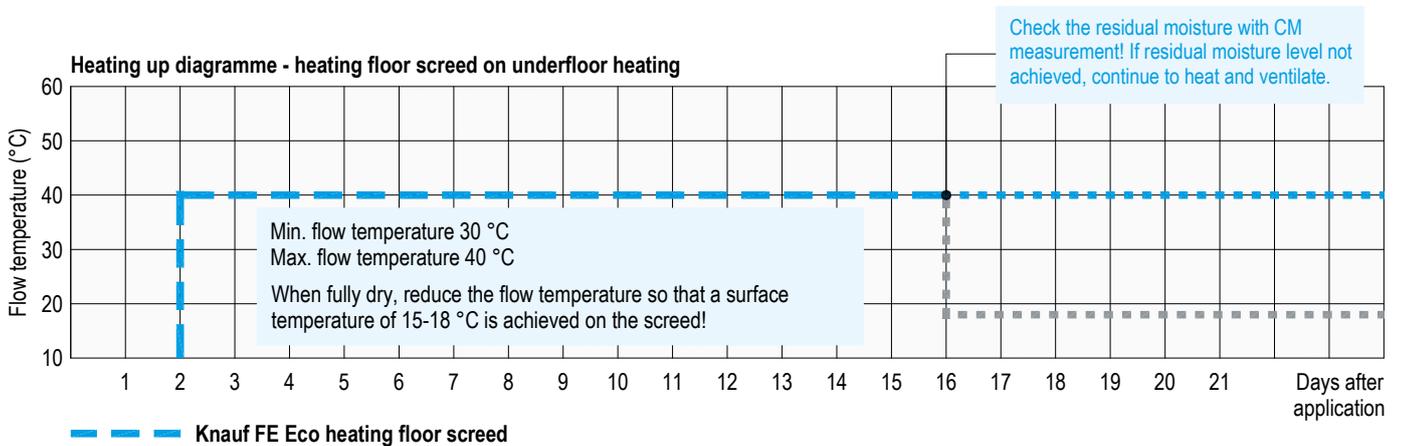
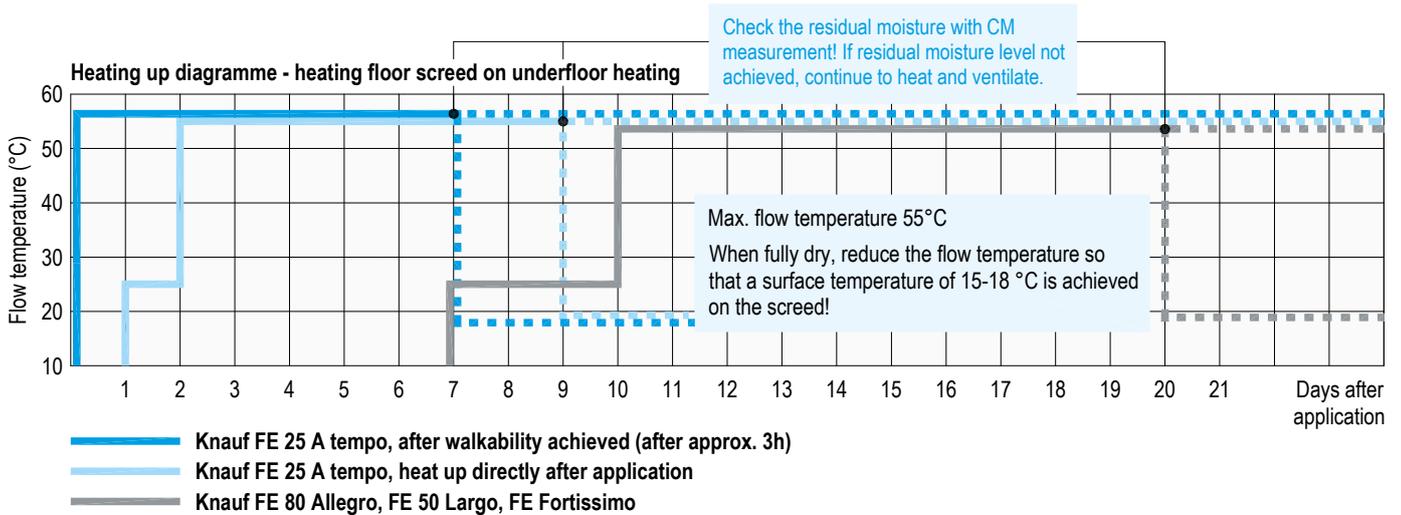
##### Heat up after hard enough for foot traffic:

1. Put the heating into operation with a water flow temperature of max. 55 °C.
2. Retain the highest temperature until the screed is dry. Reference values for drying at max. flow temperature and good ventilation:  
Thickness ≈ 35 mm (construction type B): approx. 7 days  
Thickness ≈ 55 mm (construction type A): approx. 10 days  
Check the residual moisture.
3. Switch off heating after drying or reduce the flow temperature to 15 to 18 °C.

#### Heat up of the hardened screed

If the screed is heated up only after one or more days, heat up as with FE 80 Allegro / FE 50 Largo / FE Fortissimo is required. However, the flow temperature of 25 °C only needs to be retained for a day.

At very low external temperatures ( $\leq 0$  °C), ensure that during heating up of the screed surface the temperature fluctuations are not too large (caution with windows at floor level) or that the screed does not cool too quickly with a reduction of the flow temperature of the screed.



### Testing

#### Checking for residual moisture acc. to point 2 of the heating up regulations

Place PE foil (dimensions approx. 50 cm x 50 cm) on the heating screed surface, tape down the edges with adhesive tape.

At max. flow temperature (55 °C, with FE Eco max. 40 °C), no condensation may form within 12 hours in ventilated rooms under the foil - otherwise continue to heat and ventilate.

#### Note

The foil test does not replace CM measurement immediately before floor covering application. According to DIN 18560-1 the measured value may not exceed 0.5 %.

#### Covering of the screed

Apply hard and vapour-proof floor coverings about 1 to 3 days after cooling down.

If you wait for longer than 3 days with application of the floor covering, the heating floor screed must be heated up yet again directly before the floor covering is applied, and the foil test described above must be performed to ensure that the surface is dry.

Mechanically clean the screeds before covering using an industrial vacuum cleaner and apply a primer.

Use a floor covering adhesive suitable for underfloor heating systems. Use an elasticized adhesive for rigid coverings (tiles, natural stone).

Further notes in the brochures and technical data sheets.

The heating up protocol must be documented and must be provided to the floor covering specialist (in accordance with the requirements of the German construction contract procedures VOB part C, "Flooring work" - DIN 18365, issue 2015).

# Knauf floor screeds on warm water underfloor heating

## Heating protocol for floor covering ready heating



FE 50 Largo

FE 80 Allegro

FE 25 A tempo

FE Fortissimo

FE Eco

Investor:

Building site:

Heating system:

Screed installed on:

Heating engineer:

Site manager:

Average screed thickness: mm

Coverage of heating element:

min: mm max: mm

Fill in every change of flow temperature during the heating up process and during reduction of temperature exactly to 5 °C

Every drying test must be documented.

**Heating (coverage ready heating):**

Date	Flow temperature in °C	Signature

**Ventilation**

Date from	to	Ø h per day

**Window ventilation**

**Preliminary drying test:**

(e.g. foil test<sup>1)</sup>)

Date	Dry yes/no	Signature

**Drying test:**

(CM measurement)

Date	Residual moisture in %	Signature

**Reduction of the flow temperature:**

Date	Flow temperature in °C	Signature

**Coverage ready heating completed:**

Date	Outdoor temperature in °C	Signature

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

**Please keep this document!**

Place / Date

Signature (Site manager)

**Knauf Direct**

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