

## 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

## F422.de

Product Data Sheet

2022-09



# N 440

Gypsum-based floor equalization compound from 10 to 40 mm

## Product description

N 440 screed is a factory-mixed dry mortar on a calcium sulphate basis intended for mixing with water. It consists of special gypsum, flow agents and aggregates.

Quality classification acc. to EN 13813

CA-C25-F6

## 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

- Ideal for thin layer underfloor heating
- Can be applied in a single work step for a layer thickness of 10 to 40 mm
- Very low emission, EMICODE EC 1<sup>PLUS</sup>  
For details see [www.emicode.com/en](http://www.emicode.com/en)
- Very good flow characteristics
- Very low stress
- Suitable for use on heating screed
- Ideal for energy-related modernisation
- Can be machine applied and pumped
- For interiors



## Field of application

N 440 is used as a bonded screed, as a screed on a separating layer or insulation layer, as a self-levelling layer in a layer thicknesses of 10 to 40 mm on basic floors and is ideal on calcium sulphate substrates (including heating screed) in interiors.

It can also be applied in connection with a thin layer underfloor heating, as a separating layer and on an insulation layer, see system data sheet [Knauf Thin Layer Screed Systems FE22.de](#).

As a leveller on professionally sanded mastic asphalt screed surfaces of hardness classes IC10 and IC15.

The requirements of the DIN 18365 apply for floor covering work.

## Application

### Substrate and pretreatment

Bonded construction

The substrate must be firm, stable and free of cracks. Remove and roughen the surface of poorly consolidated and non-stable surface layers, extremely dense and smooth substrates and cement slurries. Separating layers, e.g. dirt, dust, grease, oil, paint remnants etc. must be removed beforehand.

<b>Note</b>	Old adhesive remnants, soft or residual tacky layers must therefore be removed from old substrates before priming and filling.
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The maximum permissible moisture content of the substrate may not be exceeded.

Substrate	Maximum moisture content
Cementitious unheated	2.0 CM %
Cementitious heated	1.8 CM %
Calcium sulphate screed unheated	0.5 CM %
Calcium sulphate screed heated	0.5 CM %

With filling or levelling on surfaces with underfloor heating, the heating may not be switched on and the substrate should have normal room temperature. Heat the heating floor screed until dry before the levelling layer is applied.

Attach perimeter isolating strips to connections to walls, columns, etc. (Heating) pipe insulation may not be cut off before the equalization compound has been applied, so that a rigid connection and the ingress of the levelling compound between the pipe and pipe insulation is avoided (danger of corrosion).

A primer coat is recommended.

### Suitable primers

The substrate should always be primed and the absorbency should be tested with a water sample:

*Normal / highly-absorbent / non-absorbent substrate*

Apply a double coating of Knauf FE-Imprägnierung impregnation agent (refer to the product data sheet [Knauf FE-Imprägnierung impregnation agent F451.de](#))

1st application approx. 250 g/m<sup>2</sup>

2nd application approx. 100 g/m<sup>2</sup> and approx. 1.5 kg/m<sup>2</sup> with interspersions of coarse dry sand (e.g. 0.5 to 1.2 mm grain size).

*Alternative for a normally absorbent substrate*

Double coat with Knauf Estrichgrund screed primer (diluted 1:1 with water, refer to product data sheet [Estrichgrund F431.de](#)) or a single or double coat of Knauf Schnellgrund rapid primer (undiluted).

*Alternative on non-absorbent substrate and without transport of loads*

Single coat of Knauf Spezialhaftgrund (undiluted, refer to the product data sheet [Spezialhaftgrund bonding primer F433.de](#)).

Required drying time between the impregnation coats and the primer coats

and the application of the equalization material must be about 24 hours in each case (coat must be dry).

In case of rising damp from the substrate, a bonded waterproof membrane (e.g. refer to product data sheet [Knauf FE-Abdichtung F455.de](#)) must be used. Trial surfaces should be created in case of doubt or seek expert advice.

### Application temperature/climate

Do not apply at room, mortar or substrate temperatures below 5 °C and exceeding 30 °C. High temperatures speed up hardening while low temperatures slow down hardening (take temperature of the mixing water into account as well).

### Application time

The mixed floor equalization compound must be applied within approx. 30 minutes and must be levelled within approx. 10 minutes.

### Drying

N 440 is ready for floor covering when the following residual moisture content (CM measurement) of ≤ 0.5 CM-% is reached:

Drying can commence after just 24 hours with an intensive drying process. As a heated screed or as a bonded screed on heated screed the process of heating until dry can commence 2 days after application (see also system data sheet [Knauf Thin-Layer Screed Systems FE22.de](#)).

<b>Note</b>	The setting product should be protected against direct sunlight, draughts, frost, driving rain and temperatures that are too high (> 30 °C) and too low (< 5 °C). The drying time is, in addition to the screed thickness, mainly dependent on the temperature, air humidity and air speed.
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### Mixing

#### Mixing by hand

Mix to a lump-free and application-ready consistence in a clean bucket with clean and cold water (4.4 to 5 l per 25 kg bag). A mixer with a speed of 600 RPM with a corkscrew, double-disk agitator or agitating basket is recommended.

#### Mixing by machine

For the application on large areas, mix N 440 and pump continuously with PFT mixing pump G 4 with attached PFT ROTOMIX D agitator.

Observe the machine manufacturer's specifications.

Adjust a suitable consistence using the flow test of maximum flow diameter Ø 56 cm (determined with a 1.3 l checking tin, on an even, non-absorbent surface, e.g. foil, after 2 minutes flowing time). With larger layer thickness's the slump flow or the water quantity should be reduced if permitted by the levelling characteristics.

<b>Note</b>	Material that has already started to harden should not be mixed with additional water or stirred again.
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Bulk material is applied with the Knauf complete logistics system.

### Application

Pour the fresh mortar onto the prepared substrate and distribute using a finishing trowel or dappling bar to the required layer thickness. The optimal surface and best levelling can be achieved, for example, at a thickness of around 10 mm by careful treatment with a spiked roller, at higher thickness's by slight pitching with a screed broom or with a dappling bar. Smoothing the surface with a trowel is another option.

During application, the material is virtually self-levelling so that when the consistence of the floor equalization compound is set to flow, subsequent finishing or grinding of the surface is unnecessary. Optimum extraction of trapped air and levelling of the material is achieved by working the surface with a spiked roller. Observe the slurry spread rate when applying using a mixing pump.

**Seals**

In areas subject to moisture (water impact class W1-I) apply suitable composite sealing in acc with DIN 18534-1. Do not use in wet rooms.

**Cleaning**

Clean containers, tools, etc. with clean water immediately after use. In the hardened state, only mechanical cleaning is possible. In case of machine application, the machine and hoses must be cleaned within 30 minutes at the latest after machine standstill.

**Technical data**

Description	Standard	Unit	N 440
Reaction to fire	EN 13813	Class	A1fl-non combustible
Layer thickness	–	mm	10 – 40
Walkable	–	h	after approx. 5
Ready to cover at residual moisture (check with CCM tester)			
■ For vapour-tight coverings	–	CM-%	≤ 0.5
■ For vapour-retardant covering	–	CM-%	≤ 1.0
■ For vapour permeable coverings/tiles	–	CM-%	≤ 1.0
■ For residual moisture as a heated screed	–	CM-%	≤ 0.5
Ready for floor covering with (20 °C, 65 % relative humidity)			
■ For vapour-proof coverings (unheated 0.5 % residual moisture)	–	d	14
■ For vapour-retardant coverings (unheated 1.0 % residual moisture)	–	d	7
■ For vapour permeable coverings/tiles (unheated 1.0 % residual moisture)	–	d	7
■ On heated screed (0.5 % residual moisture) with heating until dry on thin-layer heating floor screed system (refer to system data sheet <a href="#">Knauf Thin-Layer Screed Systems FE22.de</a> )	–	d	7
Compressive strength (strengths after 28 days)	EN 13813	N/mm <sup>2</sup>	> 25
Flexural strength (strengths after 28 days)	EN 13813	N/mm <sup>2</sup>	> 6
Chair roll resistance from thickness	–	mm	10
Density, wet	–	kg/l	approx. 2.2
Density, drying	–	kg/l	approx. 2.0
Water quantity with agitator application (25 kg bag)	–	l	approx. 4.4 – 5
Machine application flow test with 1.3 l PFT Test Can	–	cm	< 56
Application open time	–	min	30
Open time on the surface	–	min	10
Yield	–	l/kg	0.54
Thermal expansion coefficient	–	mm/(m·K)	approx. 0.011

The stated technical data were evaluated acc. to the respective test standards. Deviations under site conditions are possible. The technical data refers to 20 °C and 50 % relative air humidity. Low temperatures delay setting, higher temperatures speed it up.

**Material requirement and efficiency**

Layer thickness	Consumption approx.
Per mm	1.8 kg/m <sup>2</sup>

All specifications are approximate values and can deviate depending on the substrate. The exact consumption can only be determined on the individual object.

**Product range**

Description	Quantity	Packaging unit	Material number	EAN
N 440	Bulk	–	00531084	4003982379870
	25 kg	42 bags / pallet	00638089	4003982462701

### 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 <sup>PLUS</sup>



#### Observe safety data sheet!

For safety data sheets and CE marking see  
[pd.knauf.de](http://pd.knauf.de)



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



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