

## Maleki-FS 440

### Flexible floor mortar

Item-No.: 1413

Self-leveling, flexible floor mortar for critical substrates.



### Technical data

<b>Product type</b>	CT-C20-F7 according to DIN EN 13813	<b>Mixing ratio</b>	4.75 – 5.0 l water per 25 kg powder
<b>Processing time at 20°C</b> <b>Processing temperature</b>	approx. 25 min min. +2 °C max. +35 °C	<b>Strength</b> Compressive strength Flexural strength	20 N/mm <sup>2</sup> 7.5 N/mm <sup>2</sup>
<b>Crack depth / width</b> <b>Application thickness</b>	Up to 5 mm 1 – 10 mm	<b>Consumption</b>	approx. 1.8 kg / m <sup>2</sup> and mm layer thickness
<b>Loadability</b> Walkable Light load Fully loadable	Curing at 20°C after 4 hours 1 day 4 days	<b>Density</b> Bulk density Fresh mortar density	ca. 1.1 kg/dm <sup>3</sup> ca. 2.0 kg/dm <sup>3</sup>

### Properties

- Eco-Binder Technology
- environmentally friendly
- very low emission EC 1<sup>PLUS</sup>
- fast curing and tension-relieved
- high flowability
- polymer-modified
- flexible
- easy application
- also processible by machine

### Range of usage

- for indoor and outdoor use
- for revision of concrete and screed
- for coating of cracked surfaces, as an intermediate layer for further processing with Maleki IFS products
- walkable after 4 hours
- applicable in a wide area in layer thicknesses of 1 mm above the respective floor level
- cracks can be filled up to a depth and width of 5 mm

### Substrates

- Concrete
- Cement and calcium sulfate-based screed, heated and non-heated
- Self-leveling compounds, floor filling compounds
- Asphalt screed
- Stone wood- or magnesia screed
- Wood substrates
- Dry screed
- Ceramic coverings

### Preparation of substrate

#### General

Prior to coating, ensure that the surface is stable and has sufficient surface tensile strength. The surface should also be ready for coating, dry or matt damp, clean and free from all kinds of debris. Mechanical surface preparation e.g. shot-blasting is recommended. Due to roughening the surface, the adhesion for the subsequent layer can be improved.

New concrete or screed should have a minimum age of 28 days. The adhesive strength of the substrate must be at least 1.5 N/mm<sup>2</sup>.

The substrate must be dried for 2 hours after priming with Maleki-TG 110. By priming the surface, the absorbency of the substrate is adjusted. This avoids the rising of air bubbles during the subsequent coating. In order to guarantee this on critical undergrounds, a test area of 1m<sup>2</sup> should be created. Apply a further layer of primer if necessary.

The coating work on the primer has to be finished within 6 hours. Please refer to the technical data sheet of Maleki-TG 110 for more information.

The edge joint must be prepared with a suitable expansion strip. Thereby attention must be paid to a clean adhesion to avoid material flowing below or behind the expansion strip. Expansion joints must be adopted. After finishing all coating works, all joints have to be filled with a permanently elastic compound. Transitions and closing edges should be protected against over- flow by installing end rails.

#### Cracked substrates

In general, crack patterns (force-locked repair) with a crack depth and width up to a maximum of 5 mm can be covered. For this purpose, the material is applied on the previously primed substrate and scraped off as a scratch coat.

Deep ruptures and cracks over 5 mm width and depth must be filled with Maleki-VM 530.

For coatings on cracked tiled floors the surface has to be pre-leveled with Maleki-FS 440. For this purpose, the material is applied by a toothed spatula or a screed rake to the unprimed substrate. The layer thickness above the tile surface should be at least 1 mm. The joint profile has to be fully covered. While applying Maleki-FS 440 on tiled surfaces, cracks in the tiles or flank cracks between tile and grout can be covered. Loose tiles and tiles over cavities must be removed.

After a curing time of approximately 6 hours, Maleki-FS 440 can be further coated with products of the IFS-line. Therefore, the surface must be primed with Maleki-TG 110. The application of the primer with all respective waiting times has to be handled according to the normal substrate preparation.

### Other substrates

In addition to the coating of cracked surfaces, Maleki-FS 440 can also be used to coat critical surfaces such as asphalt or dry screed as well as wooden substrates.

In the case of wooden subfloors, attention should be paid to the fastening of the individual boards. If necessary, loose boards must be screwed down again. Furthermore, the impermeability of the subfloor must be ensured in order to prevent the coating from running through joints and holes.

For this purpose, the butt joints between the wooden planks and any existing holes are filled with a commercially available acrylic sealant. Afterwards, the normal substrate preparation with Maleki-TG 110 is carried out.

### Mixing and application

Mix the material by using a mixing machine. First, add 4.75 – 5.0 liters of water per 25 kg powder material into the mixing container. Then, pour Maleki-FS 440 inside while stirring. For applications on slopes the water amount can be reduced to 4.5 l. For manual applications the hand-held mixer BSM 2882 by Baier Tools and the Collomix mixing paddle DLX 152 HF are recommended. By using the respective mixing paddle, a proper thread adapter must be used. For mixing of partial quantities in smaller containers the mixing paddle DLX 90 S for drilling machines is recommended. The material has to be mixed intensely for 2 minutes, left to set for 2 minutes, and then mixed again for 1 more minute. Single mixing batches must be mixed fast and uniform. The material has to be poured out seamlessly within the workability time. After mixing, apply Maleki-FS 440 onto the substrate, depending on the respective application the material is applied as a scratch coat using suitable tools. Absorbent substrates must be primed as described (see section for preparation of substrate).

In the case of cracked substrates, depending on the existing crack depth and width, the surface must first be covered with material in excess in order to be able to effectively fill all cracks. If the filling level within a crack subsequently sinks, the affected area must be filled or coated again with sufficient material when fresh.

The coating has to be protected from too quick drying (solar radiation, draft), frost and rain for the 1<sup>st</sup> 24 hours. Do not cover the finished surface with foils or other materials.

### Tools and cleaning

Hand-held mixer or mixing device, stirrer, trowel, toothed scraper, surface scraper and spiked shoes.

All equipment should be washed clean and dried before and after application.

### Covering with subsequent coatings

Maleki-FS 440 is intended for coating of critical and cracked substrates. A final topcoat should always be applied.

For subsequent covering of Maleki-FS 440 the dried mortar must be ready for covering. Reworking can be carried out after 6 hours with products of the IFS-product line.

All stated waiting times depend on the respective ambient conditions. All values given are valid for 20°C and for the recommended layer thickness of 1 mm. The following conditions can lead to an extension of the stated waiting times:

- Low temperatures, especially below 10°C
- Permanently high relative humidity

### Heated floor constructions

For applications on heated floor constructions the underfloor heating system must be downregulated to approx. 20°C at least 3 days before application. 48 hours after application the flow temperature can be increased stepwise to the desired value (increase of 5°C per day). This information only applies for Maleki-FS 440. For the subsequent laying of other coverings on the leveling layer, please refer to the respective manufacturer instructions.

### Packaging and shelf-life

25 kg paper bag

Original packing is storable for 12 months in dry and controlled temperate areas (not below 0 °C, recommended 10 – 25 °C). Reseal opened containers immediately and use within a very short time.

### Associated products

Maleki-VM 530	Item-No. 1442
Maleki-TG 110	Item-No. 1110
Maleki-FS 440	Item-No. 1413

### Safety notes

There is no mandatory hazard labeling for Maleki-FS 440. Avoid inhaling dust when opening packaging. Protect skin and eyes during the mixing process.

Please refer to the Material Safety Data Sheet which can be requested on [www.malekigmbh.com](http://www.malekigmbh.com) for further information on safety during transportation, storage, handling and disposal. Follow instructions on the packaging.

### Notes

Due to the high variability of cracked surfaces, no guarantee can be given for complete crack-free curing after application of Maleki-FS 440.

# Technical data sheet

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Maleki-FS 440 cannot be used to fill construction or expansion joints. These joint patterns must be adopted in any case. Furthermore, no moving cracks can be filled. In both cases, the crack or joint gaps must be sealed afterwards with a permanently elastic sealant. For structural or expansion joints, suitable joint profiles are used here as an alternative.

The content of this technical data sheet corresponds to the latest development and our applications experience. All information is based on ideal conditions and therefore does not apply for every application purpose. Due to different materials, substrates and different actual site conditions no warranty is given for the customer's application. In particular, we assume no liability based on this information or any verbal statements. The only exception is when we can be blamed for the case of intent or gross negligence. In that case the customer has to prove that he has transmitted all required information completely and in a timely manner for a proper and promising evaluation by Maleki GmbH. Any further details regarding the application of our products have to be confirmed in writing by Maleki GmbH. The customer must test the product's suitability for the intended application and purpose. We reserve the right to change the product specifications due to the ongoing development. Apart from that our general terms and conditions are valid. This data sheet supersedes all earlier technical data on this product. The technical data sheet can be requested on [www.malekigmbh.com](http://www.malekigmbh.com).



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No. 1413 EN

### EN 13813

### EN 13813 CT-C20-F7

Self-leveling, flexible floor mortar for critical substrates.

Fire behavior	A2
Compressive strength	C20
Flexural strength	F7
Release of corrosive substances	CT