

## Maleki-BV 310

### Standard leveling mortar

Item-No.: 1412

Easy to use leveling mortar. Hardens tension-relieved with a layer thickness of 2 – 50 mm.



### Technical data

<b>Product type</b>	CT-C35-F7-A22 according to DIN EN 13813	<b>Mixing ratio</b>	4.5 – 4.6 l water per 25 kg powder
<b>Abrasion resistance according to Böhme</b>	A22	<b>Strength</b> Compressive strength Flexural strength	> 35 N/mm <sup>2</sup> > 7 N/mm <sup>2</sup>
<b>Processing temperature</b>	Min. +2 °C, max. +35 °C	<b>Processing time at 20°C</b>	approx. 30 min
<b>Application thickness</b>	2 – 50 mm	<b>Consumption</b>	approx. 1.7 kg / m <sup>2</sup> and mm layer thickness
<b>Loadability</b> Walkable / Ready for covering Light load Fully loadable Fully loadable in exterior areas	Curing at 20°C after 4 hours 1 day 4 days 7 days	<b>Density</b> Bulk density Fresh mortar density	approx. 1.3 kg/dm <sup>3</sup> approx. 2.0 kg/dm <sup>3</sup>

### Properties

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

### Range of usage

- for indoor and outdoor use
- used to smoothen rough and uneven concrete and screed surfaces
- For installation of basic wear layers
- walkable and ready for covering at an early stage
- applicable in layer thicknesses of 2 – 50 mm

### Product systems

- Industrial Flooring System
- Interior basement waterproofing
- Lithokor Design floor
- Acid protection
- General use: Substrate preparation for Maleki products

### 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
- Dry screed

### Preparation of substrate

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.

Already existing cracks must be repaired professionally. Cracks with a crack depth and crack width up to 5 mm can be filled with Maleki-FS 440. Cracks which are over 5 mm wide / deep and deeper ruptures must be filled with Maleki-VM 530. In general, only crack patterns that are no longer subject to movement can be repaired force-locked with the products mentioned.

The surface should be permanently vibration-free and crack-free. Therefore, new concrete or screed should have a minimum age of 28 days. Expansion joints must be adopted. The adhesive strength of the substrate must be at least 1.5 N/mm<sup>2</sup>.

The substrate has to be dried for 2 hours after priming with Maleki-TG 110. By priming the surface, the absorbency of the

substrate is adjusted. This avoids 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. Maleki-TG 110 is not used as a primer for coating mastic asphalt surfaces. The suitability of each surface must always be checked individually. This must be agreed with customer service. After checking the absorbency, a suitable surface can be slightly pre-wetted before application, if necessary.

## Mixing and application

### Manual mixing

Mix the material by using a mixing machine. First, add 4.5 liters of water per 25 kg powder material (3.6 liters of water per 20 kg powder material) into the mixing container. Then, pour Maleki-BV 310 inside while stirring. 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. With manual processing an aeration time of up to 5 minutes has to be maintained between the end of the mixing time and application of the material. This minimizes rising of air bubbles within the poured material.

After mixing, apply Maleki-BV 310 onto the primed surface and distribute it with a pin leveler to the intended thickness. Thereby the required layer thickness depends on the surface quality of the substrate which has to be coated. The fresh surface is to be treated directly with a fine spiked roller in a crosswise motion in order to effectively smooth out any pouring streaks and minor undulations in the substrate. Do not walk in the spiked surface. Consider the spikes to be long enough. For an optimal result, a metal spiked roller with thin spikes is recommended.

For the use of Maleki-BV 310 as a simple leveling layer, optical corrections of the surface can be omitted. The use of the spiked roller is nevertheless recommended for better leveling. 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.

### Application on larger areas

It is recommended to use bigger mixing devices or mixing pumps for larger areas:

- > 50 m<sup>2</sup>: Mobile mixing station Giant 120 by Baier Tools.

- > 300 m<sup>2</sup>: Continuous mixing pump duo-mix 2000 by m-tec or comparable machine with dual mixing system.

For an even better result, a separate mixing and conveying system is recommended (mixer D20 and pump P20 from m-tec). For more information about the listed machines and the respective application please refer to the current "System Installation Manual for industrial floors".

## Tools and cleaning

Hand-held mixer or mixing device, stirrer, trowel, pin leveler, surface scraper, spiked roller and spiked shoes. All equipment should be washed clean and dried before and after application.

## Covering with subsequent coatings

When used as a levelling layer without further surface treatment, a final topcoat must always be applied afterwards. For subsequent covering of Maleki-BV 310 the dried mortar must be ready for covering. For laying of ceramic coverings, the surface is ready for covering after 4 hours. For laying of vapor-proof or moisture-sensitive coverings (e.g. Parquet, PVC, etc.) a residual moisture of ≤ 3.0 CM-% must be achieved. For thin coatings up to 3 mm the required value can be reached after approx. 24 - 48 hours.

For subsequent coating with products of the Maleki DFS or IFS line the mortar has to cure at least 24 hours before the substrate can be primed with Maleki-TG 110.

All stated waiting times depend on the respective ambient conditions and the application thickness. The following conditions can lead to an extension of the stated waiting times:

- Low temperatures, especially below 10°C
- Permanently high relative humidity
- Installation in high layer thickness above 10 mm

The mortar surface should not have any visible damp spots and should have a firm surface.

## Use as a wear layer

For the use of Maleki-BV 310 as a basic final coat for light to medium loads, a suitable surface protection system must be applied 24 hours after application (see table below). Please refer to the respective data sheets for more information about the used products.

Application	Protection system	Quantity [g/m <sup>2</sup> ]
- Outdoor areas - Permanent water load and higher mech. load - Increase of chem. resistance	Maleki-DW 100 + Maleki-LL 100	50 – 80 15 – 30
- Focus on stain protection and easy cleaning - Increase of chem. resistance - Light mech. load	Maleki-VS 930	150 – 200 (one layer) Up to 300 (two-layer)

## 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-BV 310. 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 9 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-FS 440	Item-No. 1413
Maleki-BV 310	Item-No. 1412
Maleki-TG 110	Item-No. 1110
Maleki-DW 100	Item-No. 1815
Maleki-LL 100	Item-No. 1810
Maleki-VS 930	Item-No. 1828

## Safety notes

There is no mandatory hazard labeling for Maleki-BV 310. 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.

## Relevant regulations and fact sheets

When applying Maleki-BV 310 and subsequently reworking it with other coverings, the following regulations and fact sheets must generally be observed, unless otherwise specified in this technical data sheet:

### General

#### DIN 18202:2019-07

Tolerances in building construction – Buildings

#### DIN EN 13318:2000-12

Screed material and floor screeds – Definitions

#### DIN EN 13813: 2003-01

Screed material and floor screed – Screed materials – Properties and requirements

#### BEB-Work and information sheet 8.1

Assessing and preparing substrates in old and new buildings.

#### TKB-Technical Briefing Note 8

Assessing and preparing substrates for flooring and parquet work.

## TKB-Technical Briefing Note 9

Technical specification and installation of floor levelling compounds.

## Maleki data sheets

Technical data sheets of all listed system products

Lithokor Installation Manual for design floors

Maleki System Installation Manual – Industrial Flooring System

## Notes

Ensure constant water addition during application to maintain a uniform product quality.

In extreme climatic conditions at the limits of the recommended application temperatures (+5 - 35°C), it is recommended to apply a small test quantity to check the workability time under the given conditions.

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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23

No. 1412 EN

### EN 13813

#### EN 13813 CT-C30-F5-A22

Easy to use leveling mortar. Hardens tension-relieved with a layer thickness of 2 – 50 mm.

Fire behavior	A2
Compressive strength	C35
Flexural strength	F7
Release of corrosive substances	CT