



ombran® FG plus

Fast-setting grout for levelling of manhole frames at medium temperatures

Product Properties

- Cement-bound, one-component
- Very high flowability
- High initial and final strength
- Low shrinkage, slightly swelling
- Very high resistance to freeze and de-icing salt tested in accordance with CDF test method (BAW-leaflet), resistant to sulphate attack
- Very good adhesion to mineral substrates
- Fulfills requirements according to DIN 19573 (WW-shaft head mortar) and DAFStb-grout guideline

Areas of Application

- Grout for manhole frame leveling (cylindrical and conical shape)
- Void-free grouting of joints between manhole frame and taper
- Height adjustment / leveling of gully holes or other component frameworks
- Annulus backfilling at shaft-in-shaft systems
- REACH-assessed exposure scenarios: application, periodical water-contact

Application

Substrate Preparation and Pre-wetting

See data sheet "General Application Advice for hydraulic-setting manhole frame grouting mortar".

Mixing

The grout is prepared by using the ready mixed ombran® FG plus and water. Pour out the water, scatter the ready-mixed mortar into the water and mix to a uniform, lump-free workable mortar consistency. Depending on temperature a mixing time of approx. 60 – 90 sec has to be observed. The lower the temperature the longer ombran® FG plus has to be mixed. Fast running (approx. 500 rpm) double stirrers are suitable for mixing ombran® FG plus. Mixing by hand and mixing of partial quantities is not allowed.

Mixing Ratio

See the table "Technical data". Use 4.0 up to 4.25 l of water for each 25 kg bag of ombran® FG plus. The consistency might be adjusted by varying the water amount within the mentioned range. Depending on the mixer strong liquidation begins after approx. 30 sec of mixing; therefore the predetermined mixing ratio is necessary to be observed.

Application / Installation

See data sheet "General Application Advice for hydraulic-setting manhole frame grouting mortar". Ombran® FG plus is to be applied / installed immediately after mixing. A short curing time (depending on temperature, < 60 sec) supports outgassing of trapped air from the mixing process. In addition the material should be repeatedly be stirred with a trowel to destroy micro bubbles occurring at the surface. To prevent air voids, pour the mortar continuously from one side only. The grout might be encouraged to flow by poking with a wire loop. Mix only as much ombran® FG plus as could be applied within the stated processing time. Avoid heavy vibrations and shaking around the job site during application and curing period (temperature-dependent) of ombran® FG plus.

Curing / Subsequent Works

See data "General Application Advice for hydraulic-setting manhole frame grouting mortar".

Safety Advice

Observe the hazard notices and safety advice on the labels and safety data sheets.
GISCODE: ZP1

Technical Data of ombran® FG plus

Characteristic	Unit	Value	Comments
Mixing ratio	p.b.w.	100 : 16 - 17 25 : 4.0 - 4.25	ombran® FG plus : water
Application time	min	approx. 4 - 6	incl. mixing, temperature-dependent, >15 °C
Form removal after	min	approx. 7 - 9	incl. mixing, temperature-dependent, >15 °C
Application conditions	°C	+ 5 to + 25	air, substrate and material temperature
Coverage**	kg/l	approx. 1.8	dry mortar
Gap width	cm	1 - 6	
Grain size	mm	approx. 0.5	
Fresh mortar raw density	kg/l	approx. 2.1	
Compressive strength at water storage according DAfStb-guideline for grout	MPa	> 10 approx. 60 approx. 90 approx. 100	after 1 h after 1 d after 7 d after 28 d
Bending tensile strength at water storage according DAfStb-guideline for grout	MPa	approx. 3.0 approx. 8.0 approx. 17.0 approx. 18.0	after 1 h after 1 d after 7 d after 28 d

Product Characteristics of ombran® FG plus

Cleaning agent	water
Colour	grey
Form of delivery	25 kg sack
Storage	If sealed, the original packs can be stored for at least 6 months at temperatures between + 5 °C and + 25 °C in dry conditions. Same requirements apply to the transport.
Pack disposal	Make sure the pack is completely empty.

* Unless otherwise stated, all technical data were determined at + 23 °C and 50 % relative air humidity.

** Quantities used depend on the object and on the roughness of substrate as well as on the storage, working and substrate temperatures. We recommend carrying out experiments beforehand to determine object-specific quantities.

Note: The information on this data sheet is based on our experiences and correct to the best of our knowledge. It is, however, not binding. It has to be adjusted to the individual structure, application purpose and especially to local conditions. Our data refers to the accepted engineering rules, which have to be observed during application. This provided we are liable for the correctness of this data within the scope of our terms and conditions of sale-delivery-and-service. Recommendations of our employees which differ from the data contained in our information sheets are only binding if given in written form. The accepted engineering rules must be observed at all times.

Edition 05/17. Some technical changes have been made to this print medium. Older editions are invalid and may not be used anymore. If a technically revised new edition is issued, this edition becomes invalid.