ombran MHP rapid

Very fast-setting, highly sulphate-resistant mortar for coating and re-profiling structures in sewerage systems

Product Properties

- Cement-bounded, polymer-modified, one-component tricalcium aluminate-free binding agent (C_3A-free)
- Impermeable to water, resistant to freeze and de-icing salt attacks
- Can withstand heavy mechanical loads, highly abrasion resistant
- Resistant to very severe sulphate attack
- Early resistance to water impact
- Suitable as coating system in public sewerage systems, durable down to pH ≥ 3.5: resistant to impacts concrete is exposed to in exposition class XA3 according to EN 206
- Class R3 according to EN 1504-3 (structural relevant)

Areas of Application

- Re-profiling of excavations and defects in manholes, sewers as well as reservoirs
- Small-area coating of concrete and masonry manholes, sewers and reservoirs
- Re-profiling and coating of channel areas in sewerage systems and manholes
- Forming of fillets
- REACH-assessed exposure scenarios: periodical inhalation, application, long-term water contact

Application

Substrate preparation
See the data sheet “General Application Advice for manhole and sewer repair mortars”.

Pre-wetting / Bonding agent
See the data sheet “General Application Advice for manhole and sewer repair mortars”.
Use ombran HB as a bonding agent; observe the details of the technical data sheet of ombran HB.

Mixing
The mineral re-profiling / coating consists of dry mortar ombran MHP rapid and water. Pour out the major part of the water, scatter the ready-mixed mortar on it and mix it to a uniform, lump-free consistency. Mixing time is approx. 2 minutes. Remaining water might be used to adjust the consistency and could be added on demand to enhance workability. Slow-running double stirrers and pug mill mixers are suitable for mixing ombran MHP rapid. Mixing by hand and mixing of partial quantities is not allowed.

Mixing Ratio
See table “Technical Data”. Use about 3.75 up to 4.0 liters of water for each 25 kg bag of ombran MHP rapid. Since ombran MHP rapid is cement-bound, the water amount needed may vary.

Application
Ombran MHP rapid has to be applied “fresh on fresh” onto the bonding agent using suitable tools (such as steel smoothing tool, trowel), and has to be compacted and may be abraded. Where a thick coating is required, it might be necessary to apply multiple layers.
If afterwards an additional protection material will be applied, roughen the surface of top mortar layer with suitable means (e.g. structuring with a coconut broom or sweeping).

Curing
During post-treatment ombran MHP rapid must be protected from excessive water loss for at least 72 hours (chemical post-treatment, jute sacking, foil, etc.). Particular attention must be given to the relevant effects of temperature and wind. If further coats or other products are to be applied, post-treatment agents with separating effects must not be used.

Safety Advice
Observe the hazard notices and safety advices on labels and safety data sheets.
GISCODE: ZP1

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Technical Data of ombran MHP rapid

Characteristic	Unit	Value*	Comments
Mixing ratio	p. b. w.	25 : 3.75 - 4.0	ombran MHP rapid : water
Application time	min	≤ 10	at + 20 °C
Application conditions	°C	+ 5 to + 30	air, substrate and material temperature
Layer thickness	mm	at least 6 10 - 25 50	as re-profiling mortar per layer as coating mortar max. total layer thickness
Coverage (areal)**	kg/m²/mm	approx. 1.9	dry mortar
Coverage (channel area)**	kg/rm.	approx. 7.5 approx. 14.9	half-shell DN 250 (layer thickness 10 mm) half-shell DN 500 (layer thickness 10 mm)
Fresh mortar density	kg/l	approx. 2.19	
Resistant to mechanical impact / walk-on-able	min	approx. 30	at + 20 °C
Resistant to water	min	approx. 45	at + 20 °C
Elastic modulus (static)	N/mm²	approx. 17,900	after 28 d
Strength developement compressive strength	MPa	approx. 2.5 approx. 6.6 approx. 45.0 approx. 50.0	1 h (DIN EN 196) 1 d (DIN EN 196) 7 d (DIN EN 196) 28 d (DIN EN 196)
Strength development flexural tensile strength	MPa	approx. 1.2 approx. 2.6 approx. 5.3 approx. 6.5	1 h (DIN EN 196) 1 d (DIN EN 196) 7 d (DIN EN 196) 28 d (DIN EN 196)

Product Characteristics of ombran MHP rapid

Cleaning agent	water
Colour	grey
Form of delivery	25 kg bag
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. The 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 und 50 % relative air humidity.

** Coverage rates depend on the object and on the roughness of substrate as well as on the storage, working and substrate temperatures. We recommend to apply a sample area beforehand to determine project-specific quantities.

Edition 04/18. 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.

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