

Nafufill KM 250

Fire-resistant, fibre-reinforced PCC-concrete replacement for repair of concrete components in statically and not-statically relevant areas

Product Properties

- One-component
- Hand- and spray application
- Statically allowable
- High carbonation resistance
- Resistant to de-icing salts, chloride-proof
- Non-flammable according to DIN EN 13501 – building material class A1
- Fire-resistant according to temperature time curves of ZTV-ING, part 5, paragraph 1 + 2, EBA-guideline and TNO-report 1998 – CVB – R 1161 of Rijkswaterstaat (RWS)
- Fire-resistant according to standard temperature curve (ETK) of ISO 834, fire resistance class F 120
- Mortar class R4 according to EN 1504 part 3

Areas of Application

- Concrete replacement according to ZTV-ING, chapter 3 solid construction for area of application PCC II – dynamically and non-dynamically loaded areas – application partially and area-wide
- Concrete replacement according to ZTV-W LB 219 for repair of water structures, application partially and area-wide
- M3 concrete replacement according to DafStb – repair standard for structural reinforcement of load-bearing concrete structures
- Repair- and anode embedding mortar according to EN 12696 for repair principle “Cathodic corrosion protection of steel in concrete” (also horizontal areas)
- Certified and classified according to EN 1504 part 3 / part 9 for principles 3, 4 and 7 and procedures 3.1; 3.3; 4.4; 7.1 and 7.2
- According to EN 206 suitable for exposition classes XC 1-4; XF 1-4; XW 1-2; XD 1-3 and XS 1-3

Application

Substrate Preparation

See leaflet “General Application Advice for Coarse Mortars / Concrete Replacement Systems”.

Bond coat

For hand application Zentrifix KMH has to be used as bonding coat. See leaflet “General Application Advice for Coarse Mortars / Concrete Replacement Systems”.

Mixing

Nafufill KM 250 is added to the water under constant stirring and mixed until a homogenous, lump-free and workable mortar is achieved. Forced action mixers or slowly rotating double mixers must be used for mixing. Mixing by hand and preparation of partial quantities is not allowed. Mixing takes at least 5 minutes.

Mixing Ratio

Please see “Technical Data” table. For a 25 kg

pack of Nafufill KM 250 approx. 3.75 to 4.00 litres of water are required. As with other cement-bound products the quantity of added water may vary.

Application

Nafufill KM 250 can be applied by hand or spray application. The material may be applied in one or more layers. A worm pump with adjustable discharge flow is advised for spray application. Please request our assistance or an equipment planner leaflet in such a case.

Finishing

After application Nafufill KM 250 may be smoothed and finished with a wooden or plastic float or with a porous sponge rubber squeegee.

Curing

Nafufill KM 250 must be prevented from drying out too rapidly and protected from direct sunlight and wind exposure. Curing usually takes 3 days.



Technical Data for Nafufill KM 250

Characteristic	Unit	Value**	Comments
Largest grain size	mm	2	-
Fresh mortar density	kg/dm ³	2.06	-
Dry mortar density	kg/dm ³	1.85	-
Bending tensile/ compressive strength	MPa	4.7/34.4 5.8/50.4 8.5/55.0	after 2 days after 7 days after 28 days
Dynamic E-modulus	MPa	32,500	after 28 days
Static E-modulus	MPa	22,600	after 28 days
Shrinkage	mm/m	0.78	after 28 days
Carbonation depth	mm	0	after 90 days
Chloride migration coefficient	m ² /s	2.53x10 ⁻¹²	
Coverage (dry mortar)	kg/m ² /mm	1.80	
Application time	minutes	60 45 30	at + 5 °C at + 20 °C at + 30 °C
Layer thickness*	mm	6 30 60*** 100	minimum layer thickness per work step maximum layer thickness per work step max. total layer thickness partial application
Application conditions	°C	≥ 5 - ≤ 30	air, material and substrate temperature
Mixing ratio	p.b.w.	100 : 15 - 16	Nafufill KM 250 : water

* Within the scope of certification according to ZTV-ING the minimum layer thickness per work step is 10 mm.

** All values have been determined at 23 °C and 50 % relative humidity.

*** Permitted total layer thickness in line with ZTV-ING: 50 mm.

Product Characteristics for Nafufill KM 250

Colour	cement-grey
Delivery	25 kg bags
Storage	Can be stored in cool and dry conditions for at least one year in original unopened packs. Protect from frost!
Disposal	Packs must be emptied completely.

Please note the application advice indicated in the general appraisal certificate prior to application!

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 11/12. 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.