

Nafufill KM 250

Fire-resistant, fibre-reinforced PCC/SPCC-concrete replacement for repair in statically relevant and non-statically relevant areas

Product Properties

- One-component
- Hand and wet spray application
- Statically allowable
- High carbonation resistance
- Resistant to de-icing salts, chloride-proof
- Non-flammable according to EN 13501-1 - 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 F90/F120
- Class R4 according to EN 1504 part 3

Areas of Application

- Concrete replacement according to ZTV-ING, chapter 3 solid construction, section 4 for areas of application SPCC and PCC II - dynamically and non-dynamically loaded areas
- SPCC/PCC-concrete replacement according to ZTV-W LB 219 for repair of water structures, suitable for exposure classes XC 1-4, XF 1-4, XW 1-2, XD 1-3, XS 1-3, XM 1 and XA 1-2
- SPCC/PCC-concrete replacement according to DAfStb-repair standard, approved for stress classes M2 and M3
- 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 for principles 3, 4 and 7, procedures 3.1, 3.3, 4.4, 7.1 and 7.2

Application

Substrate Preparation

See leaflet "General Application Advice Coarse Mortars / Concrete Replacement Systems".

Bond coat

For hand application Zentrifix KMH has to be used as bonding coat. See leaflet "General Application Advice 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 wet spraying. 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 our spraying technique equipment planner leaflet.

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	PCC	SPCC	Comments
Fresh mortar density	kg/dm ³	2.06	2.15	
Bending tensile/ compressive strength	MPa	4.7-34.4 5.8-50.4 8.5-55.0	5.3-57.5 9.3-68.1	after 2 days after 7 days after 28 days
Dynamic E-modulus	MPa	32,500	34,000	after 28 days
Shrinkage	mm/m	0.78	1.0	after 28 days
Coverage (dry mortar)	kg/m ² /mm	1.80	1.85	
Largest grain size	mm	2		
Static E-modulus	MPa	22,600		after 28 days
Carbonation depth	mm	0		after 90 days
Chloride migration coefficient	m ² /s	2.53x10 ⁻¹²		
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 reprofiling of disruption
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 in the lab at +23 °C and 50 % relative humidity.

*** Values for hand and spray application

**** 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 12/16. 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.