

# Nafufill KM 180

PCC-concrete replacement for repair of horizontal surfaces in statically and non-statically relevant areas



## PRODUCT PROPERTIES

- One-component, polymer-modified
- Resistant to de-icing salt, chloride-proof
- Non flammable according to EN 13501-1-building material class A2f-s1
- Statically admissible
- Application by hand and with a finisher
- Registered with DGNB (Code: KGAPWS)
- Class R4 according to EN 1504 part 3

## AREAS OF APPLICATION

- Concrete replacement in accordance with ZTV-ING, part 3 (RC) Solid Construction for PCC I applications - dynamically loaded areas - partial and extensive application
- M2/M3 - concrete replacement in accordance with DAfStb repair standard for static strengthening of concrete structures
- Repair- and anode embedding mortar in accordance with EN 12696 for repair principle "Cathodic corrosion protection of steel in concrete"
- Certified and classified according to EN 1504 part 3 for principle 3, 4 and 7, procedure 3.1, 4.4, 7.1, 7.2 and 7.4
- Suitable in accordance with EN 206 for exposure classes XC1-4, XF1-4, XD1-3, XM1, XS1-3, XW1-2, X0, XALL, XDYN, XSTAT, XBW1+2, WO, WF and WA

## APPLICATION ADVICE

**Substrate Preparation:** See leaflet "General Application Advice Coarse Mortar / Concrete Replacement Systems".

**Reinforced Steel:** Nafufill KM 180 is to be used as corrosion protection. See leaflet "General Application Advice Coarse Mortar / Concrete Replacement Systems".

**Bond coat:** Nafufill BC must be used as bonding coat. See leaflet "General Application Advice Coarse Mortar / Concrete Replacement Systems".

**Mixing:** Nafufill KM 180 is added to the prepared water under constant stirring and mixed until homogeneous and lump-free. 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 refer to the "Technical Data" table. For a 25 kg pack of Nafufill KM 180 approx. 2.125 to 2.25 litres of water are required. As with other cementitious products the quantity of added water may vary.

**Application:** Nafufill KM 180 can be applied by hand or with a finishing machine. The area must, however, remain free of blow holes. To ensure an even layer thickness height gauges should be used. All joints in the substrates must be taken on into the concrete replacement system. At junctions of floor and wall a joint must be formed.

**General Information:** Areas which are subsequently treated with reactive resin must be prepared by blasting not earlier than 7 days after application. Before application of a surface protection system, sealer or asphalt layer, the material must be left to set for 14 days at temperatures below + 10 °C or at least 7 days at temperatures above + 15 °C.

**Curing:** Nafufill KM 180 must be prevented from drying out too rapidly and protected from direct sunlight and wind exposure. Curing usually takes 3 days.

## TECHNICAL VALUES & PRODUCT CHARACTERISTICS

Characteristic	Unit	Value	Comments
Maximum grain size	mm	8	
Dry bulk density	kg/dm <sup>3</sup>	2.16	
Mixing ratio	p.b.w.	100 : 8.5 - 9	powder component : water
Working time	minutes	60	at 5° C
		45	at 20 °C
		30	at 30 °C
Application conditions	°C	≥ 5 ≤ 35	Temperatura del aire, soporte y material
Consumption	kg/m <sup>2</sup> /mm	2.1	dry mortar
Flexural strength	N/mm <sup>2</sup>		
24 h		4.1	
48 h		5.3	
7 d		6.2	
28 d		9.4	
Compressive strength	N/mm <sup>2</sup>		
24 h		15.7	
48 h		28.1	
7 d		41	
28 d		49.8	
E-modulus (dynamic)	N/mm <sup>2</sup>	38,000	after 28 days
E-modulus (static)	N/mm <sup>2</sup>	32,780	after 28 days
Gradient (maximum)	%	10	
Accessible after	hours	24	
Trafficable after	days	2	
Layer thickness	mm	30	minimum layer thickness per pass/operation
		100	maximum layer thickness per pass/operation
		100	maximum total layer thickness
Fresh mortar bulk density	kg/dm <sup>3</sup>	2.29	
Chloride migration coefficient	m <sup>2</sup> /s	2.53 · 10 <sup>-12</sup>	
Pull-off strength	N/mm <sup>2</sup>	3.5	after storage under normal ambient conditions
		2.2	after exposure to de-icing salts
Shrinkage	mm/m	0.55	after 90 days

All technical values are laboratory results determined at 21°C ±2°C and 50% relative humidity.

Form	pulverous
Colour	Cement grey
Delivery form	25 kg bag
Storage	Can be stored in cool and dry conditions for at least 12 months in original unopened packs.
Packaging disposal	Make sure single-use containers are completely empty.

GISCODE : ZP1

**Note:** The information contained in this data sheet is based on our experience and is correct to the best of our knowledge. It is, however, not binding. It will need to be adapted to the requirements of the individual structure, to the specific application and to non-standard local conditions. Application-specific conditions must be checked in advance by the planning engineer/specifier and, where different from the standard conditions indicated, will require individual approval. Technical advice provided by MC's specialist consultants does not replace the need for a planning review by the client or its agents in respect of the history of the building or structure. Subject to this prerequisite, we are liable for the correctness of this information within the framework of our terms and conditions of sale and delivery. Recommendations of our employees deviating from the information given in our data sheets are only binding for us if they are confirmed in writing. In all cases, the generally accepted rules and practices reflecting the current state of the art must be observed. The information given in this technical data sheet is valid for the product supplied by the country company listed in the footer. It should be noted that data in other countries may differ. The product data sheets valid for the relevant foreign country must be observed. The latest technical data sheet shall apply to the exclusion of previous, duly superseded versions; the date of issue in the footer must be observed. The latest version is available from us on request or may be downloaded from our website. [2400020927]