

Nafufill KM 250 PL

Fire-resistant, fibre-reinforced PCC/SPCC concrete replacement for repair of statically or dynamically loaded concrete elements

Product Properties

- Single-component, for manual application and wet spraying
- Statically compatible
- High carbonation resistance
- Resistant to de-icing salts, chloride-proof
- Non-flammable, class A1 in accordance with PN-EN 13501-1
- Class R4 in accordance with PN-EN 1504-3

Scope of Application

- Concrete replacement in accordance with ZTV-ING Chapter 3, Section 4, Structural repair for areas of application SPCC and PCC II - for the repair of dynamically or statically loaded surfaces,
- SPCC / PCC - concrete replacement in accordance with ZTV-W LB 219 for the repair of hydro technical 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 in accordance with DafStb - concrete repair guidelines, approved for stress classes M2 and M3,
- Repair and anode embedding mortar in accordance with EN 12696 Repair Regulations: "Cathodic protection of steel in concrete" (also horizontal areas),
- In combination with MC-Additiv W approved as repair mortar for the repair of concrete structural elements in facilities for the storage, dispensing and handling of substances hazardous to groundwater (WHG).
- Certified and classified according to EN 1504 Part 3 for principle 3, 4 and 7 and procedures 3.1, 3.3, 4.4, 7.1 and 7.2.

Application Advice

Substrate Preparation:

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

Bonding Coat:

For manual application, use Nafufill KMH as a bonding layer. See leaflet "General Application Advice. Coarse Mortars".

Mixing:

Nafufill KM 250 PL should be poured into a container with a pre-measured quantity of water and constantly mixed until a uniform homogeneous mass without clumps is obtained.

The optimum equipment for preparing the workable mortar is a forced-action mixer (not a concrete mixer) or a slowly-rotating double mixer. Mixing by hand or in partial proportions is not allowed. Mixing time should be at least 5 minutes.

Mixing Ratio:

Please see "Technical Data" table.

For a 25 kg pack of Nafufill KM 250 PL approx. 3.75 to 4.00 litres of water are required.

Nafufill KM 250 PL is a cement-based mortar and therefore the quantity of added water may slightly vary.

Application:

Nafufill KM 250 PL can be applied by hand or by wet spraying. The material may be applied in one or more layers. In the case of spray application, worm pumps should be used to achieve the best results. For more detailed information, please contact our spraying techniques advisors and refer to our equipment brochure.

Surface Finishing:

After application, Nafufill KM 250 PL should be smoothed and finished using a plastic, wooden or rubber float with a coarse-pore sponge.

Curing:

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

Nafufill KM 250 PL Technical Data**

Parameter	UOM	PCC	SPCC	Comments
Fresh mortar bulk density	kg/dm ³	2.06	2.15	-
Flexural strength / compressive strength	MPa (N/mm ²)	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
Consumption (dry mortar)	kg/m ² /mm	1.80	1.85	
Grain size	mm	up to 2		-
Static E-Modulus	MPa	22.600		after 28 days
Carbonation depth	mm	0		after 90 days
Chloride migration coefficient	m ² /s	2.53 x 10 ⁻¹²		
Working time	minutes	60 45 30		at +5 °C at +20 °C at +30 °C
Layer thickness*	mm	6 30 60*** 100		min thickness per 1 working cycle max thickness per 1 working cycle maximum total layer thickness maximum total thickness for spot repairs
Application conditions	°C	≥ 5, ≤ 30		air, material and substrate temperature
Mixing Ratio	p.b.w.	100 : 15 - 16		Nafufill KM 250 PL : water

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

** All technical parameters are laboratory results determined at 23°C and 50% relative humidity.

*** Total permissible thickness according to ZTV-ING 50 mm.

Nafufill KM 250 PL Product Properties

Colour	Cement grey
Delivery form	25 kg bags; 42 bags per pallet
Storage	Can be stored in cool and dry conditions for at least 12 months in original unopened packs.
Package disposal	Make sure packages are completely empty.

Please note the application advice in the leaflet "General Application Advice. Coarse Mortars".

Note: The information contained in this data sheet is based on our experience and is correct to the best of our knowledge. However, it cannot be regarded as legally binding. It is imperative that the local legislation, with regard to the intended use and application in construction works, is complied with at all times. We are responsible for the correctness of the information provided within the scope of our General Terms and Conditions of Sale, Delivery and Payment. 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.

Edition 12/19. This edition has been technically updated. Previous editions are considered void and must not be used. If a new technically updated data sheet is issued, this edition becomes invalid.