

## PRODUCT PROPERTIES

- Application by dry spraying technique
- Low shrinkage, low E-modulus, chloride-proof
- High carbonation resistance
- Resistant to elevated temperatures, frost and de-icing salt
- Statically countable
- Registered with DGNB (Code: CGGRXF)
- Non-flammable, building material class A1 according to EN 13501-1
- Class R4 according to EN 1504 part 3

## AREAS OF APPLICATION

- Concrete replacement according to ZTV-ING, part 3 Solid Construction, paragraph 4, field of application SPCC-areas (SRM) relevant and irrelevant for structural integrity, vertical and overhead
- SPCC-concrete replacement (SRM) according to ZTV-W LB 219, suitable for exposure classes XC1-4, XD1-3, XF1-4, XS1-3, XW1-2, XA1-2, XM1, XW1-2, X0, XALL, XDYN, XSTAT, XBW1+2, WO, WF and WA
- SPCC-concrete replacement according to DAfStb-repair guideline for structural reinforcement of concrete structures, stress class M3
- Repair and anode embedding mortar according to 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 3.3, 4.4, 7.1, 7.2 and 7.4

## APPLICATION ADVICE

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

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

**Pre-wetting:** Before Nafufill GTS is applied the substrate must be pre-wetted thoroughly. If the concrete parts are completely dried out, pre-wetting should start one day before application. There should be no standing water on the surface. When beginning to apply the surface should be slightly damp, but not saturated with water.

**Application/Spraying:** The water intake of the nozzle mixing machine should be adjusted to create a homogenous and dust-free spray-mortar. The spray angle between spray-nozzle and ground should be exactly 90° and the distance between ground and nozzle at least 0.5 meters. When spraying behind reinforcements, the angle and distance may be adjusted as necessary. Nafufill GTS can be applied in one or more layers. The interval between individual work steps should be at least 1 hour. The freshly sprayed surface can be left rough as sprayed or levelled with a trowel. It is not allowed to finish Nafufill GTS after it has begun to set. If it is used in the areas of BMV, the application advice in the General Building Supervision Test Certificate are to be observed.

**General Information:** For information on equipment technology, compressor, rebound, supportive casing and application conditions, see leaflet "General Application Advice Coarse Mortars/Concrete Replacement Systems".

**Curing:** Nafufill GTS must be prevented from drying out too rapidly and protected from direct sunlight and wind. Curing generally takes 3 days.

## TECHNICAL VALUES & PRODUCT CHARACTERISTICS

Characteristic	Unit	Value	Comments
Maximum grain size	mm	4	
Dry bulk density	kg/dm <sup>3</sup>	2.01	
Application conditions	°C	≥ 5 ≤ 30	Temperatura del aire, soporte y material
Consumption (dry mortar)	kg/m <sup>2</sup> /mm	2	+ bounce-back
Flexural strength	N/mm <sup>2</sup>		
24 h		2.7	
7 d		7.1	
28 d		9.5	
90 d		10	
Compressive strength	N/mm <sup>2</sup>		
24 h		7.8	
7 d		49	
28 d		57.8	
90 d		62	
E-modulus (dynamic)	N/mm <sup>2</sup>	30,500	after 28 days
E-modulus (static)	N/mm <sup>2</sup>	24,000	after 28 days
Layer thickness	mm	10	minimum layer thickness per pass/operation
		25	maximum layer thickness per pass/operation
		50	maximum total layer thickness
		80	as a reprofiling mortar
Fresh mortar bulk density	kg/dm <sup>3</sup>	2.15	
Reworking time	minutes	20 - 30	at 20 °C
Chloride migration coefficient	m <sup>2</sup> /s	1.83 · 10 <sup>-12</sup>	
Depth of carbonation	mm	0	after 90 days
Shrinkage	mm/m	0.75	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, loose
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. [2400020916]