

# Emckrete WP 108

Ultra-high-strength grouting concrete for wind turbines



## PRODUCT PROPERTIES

- Ready to use - to be mixed with water only
- Very good flow properties, high initial and final strengths
- Swelling and shrinkage compensated
- Pumpable
- Chloride-free according to EN 934-1
- Water impermeable according to EN 12390-8
- Very high frost-thaw resistance according to CDF method (weathering 611 g/m<sup>2</sup>, 56 FT cycles)
- Non-flammable according to EN 13501 - building material class A1
- Approved as grouting concrete according to DAfStb guideline "Production and use of cement-bound grouting concrete and grouting grouting mortar".
- Certified as an anchoring product according to EN 1504-6
- Fatigue behavior according to EN 1992-2 / Eurocode 2, Part 2 and Model Code 2010

## AREAS OF APPLICATION

- Grouting of onshore wind turbines, e.g. horizontal foundation joints, anchor bolts, cavities as well as special installations with fatigue requirements
- Pouring of vertical precast concrete joints as well as machinery, industrial equipment and bridge abutments
- Applicable according to Model Code 2010 and EN 1992-2 / Eurocode 2 Part 2 (2010)
- Applicable according to EN 206 in exposure classes X0, XC 1-4; XD 1-3; XS 1-3; XA 1-3, XF 1-4
- Applicable in moisture classes due to alkali-silica reaction WO, WF, WA

## APPLICATION ADVICE

**Substrate Preparation:** The substrate have to be prepared according to EN 1504-10, part 7. Please refer to the data sheet "General Application Advice for hydraulically cured grouting concrete and grouting mortars".

**Mixing:** Emckrete WP 108 have to be mixed in compulsory mixer at least for 5 minutes. Please refer to the data sheet "General Application Advice for hydraulically cured grouting concrete and grouting mortars".

**Application:** Apply Emckrete WP 108 on wind turbine structures with a spiral pump. Please use for that our machine guide and refer to the data sheet "Application Advice for hydraulically cured grouting concrete and grouting mortars".

**Note:** Emckrete WP 108 has excellent adhesive properties on well prepared substrates. The use of bonding agents, especially reactive polymer-based ones, is not permitted. Emckrete WP 108 is not suitable for grouting of large area surfaces.

**Curing:** Emckrete WP 108 must be protected quickly from direct sun and wind in order to avoid water loss. Curing usually takes 3 days.

Please refer to the data sheet "Application Advice for hydraulically cured grouting concrete and grouting mortars".

## TECHNICAL VALUES & PRODUCT CHARACTERISTICS

Characteristic	Unit	Value	Comments
Working time	minutes	approx. 60 approx. 90 approx. 75	at 5° C at 20 °C at 35° C
Application conditions	°C	> 5 < 35	
Consumption	kg/dm <sup>3</sup>	2.09	
Maximum grain size	mm	8	
Compressive strength	N/mm <sup>2</sup>		
24 h		≥ 65	
7 d		≥ 85	
28 d		≥ 110	
Flexural strength	N/mm <sup>2</sup>		
24 h		≥ 7	
7 d		≥ 9	
28 d		≥ 11	
Resistance to de-icing salts	g/m <sup>2</sup>	611	weathering, 56 FTW per CDF
Wet bulk density	kg/dm <sup>3</sup>	2.35	
Grouting height	mm	≥ 25 ≤ 300 ≤ 200	DAfStb Code of Practice – Grouting
Water addition	l	approx. 2 - 2.2	
Slump flow class		a2	
Swelling dimension	%	> 0.1	per VeBMR-RiLi of the DAfStB
Shrinkage class		SKVB 0	$\epsilon_{s,m,91} \leq 0.6 \text{ ‰}$
Early strength class		A	fc, cube, 24 h ≥ 40 N/mm <sup>2</sup>
Compressive strength class	N/mm <sup>2</sup>	≥ C90/105	
E-modulus	N/mm <sup>2</sup>	39,800	EN 12390-3 (after 28 days)
Water penetration depth	mm	4	at 5 bar gauge pressure per EN 12390-8
All technical values are laboratory results determined at 21°C ±2°C and 50% relative humidity.			
Exposure classes		XO, XC 1-4, XD 1-3, XS 1-3, XA 1-3, XF 1-4	
Equipment cleaning agent		All tools and equipment can be cleaned during the application period using water. Material that has already reacted or cured can only be removed by mechanical means.	
Calculated yield		13 - 14 l per bag	
Form		pulverous	
Delivery form		25 kg bag; 1 pallet (40 bags of 25 kg each) 1000 kg big bag (contents must be mixed completely)	
Self-monitoring		EN ISO 9001	
Storage		Can be stored for 12 months in unopened original packaging in a dry place.	
Packaging disposal		Make sure single-use containers are completely empty.	

### Safety instructions

Please note the safety information and advice given on the packaging labels and safety data sheets. 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. [2500026305]