

MasterFlow 9370

High strength grout for onshore wind turbine foundations using anchor cage design

MATERIAL DESCRIPTION

MasterFlow 9370 is a shrinkage compensated grout which when mixed with water, produces a homogeneous, highly flowable and pumpable grout with high early and final strength. Latest best binder packing models and applied cementitious nanotechnology produces a grout with superior technical performance, exceptional rheological properties, and, uniquely, extended open times.

AREAS OF APPLICATION

MasterFlow 9370 has been especially formulated for large scale, pump applications.

- Void filling in onshore wind turbine installations
- Typically used with anchor cage design
- Grouting under harsh conditions, e.g. at temperatures as low as 2°C or as high as 40°C.
- For application in short weather windows

Contact the Technical Department of your local Master Builders Solutions office regarding any application or dimensions required not mentioned here.

CHARACTERISTICS AND BENEFITS

- Compressive strength class C80/95.
- Can be applied in the shortest weather windows due to high early strength build-up, i.e. ≥ 50 MPa @ 24hrs at 20°C
- Excellent strength gain.
- No segregation or bleeding to ensure consistent final physical performance and to prevent pump blockages.
- Pump able over long distances and heights.
- Extended pot life.
- For applications in a wide temperature range.
- Excellent flow properties reduce installation times and costs as well as reducing pump pressures and wear.
- Short mixing times
- Volume stable
- Dust reduced for ease of handling and safety of workers.
- Only water to be added.
- Excellent load transferring properties between concrete elements and between concrete and steel flanges.

APPLICATION METHOD

MasterFlow 9370 has been especially formulated for use in specific applications. As such MasterFlow 9370 should be installed by experienced fully trained contractors.

CLEANING TOOLS

Tools and spillages can be cleaned with water while MasterFlow 9370 is still uncured.

Once hardened, the material can only be removed mechanically.

CONSUMPTION

1000 kg powder will yield approximately 500 litre of mixed grout

PACKAGING

MasterFlow 9370 is supplied in 25 kg bags.

STORAGE

Store in cool and dry conditions. Shelf life under these conditions is 12 months in unopened original bags.

NOTES

- Sands or other products that could affect the products properties must not be added.
- Seek advice for any application not covered in this datasheet.
- MasterFlow 9370 which will be exposed to strong drying conditions, e.g. mortar which is directly exposed to heavy wind and/or direct sunlight, should be protected with moist cloth or plastic foil, or by using appropriate MasterKure curing agents.
- The temperature of the grout material, mixing water and elements coming in contact with the mixed grout should be in the range of +2°C to +40°C. When grouting in environments below +2°C or above +40°C contact our Technical Department.

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TECHNICAL DATA	Unit	Values
Density of mixture (DIN18555-2)	g/cm ³	Approx. 2.3
Mixing water demand	litres	Approx. 3.5 / 25 kg powder
Pot life of mixed material	minutes	≥ 120
Setting time	hours	≤ 6
Air content (EN 1015-7)	%	≤ 4
Application temperature (substrate and material):	°C	From +2 to +40
Application thickness	mm	25 - 250
Mechanical properties:		
Compressive strength (40 x 40 x 160 mm prisms – EN 12190) - after 1 day - after 7 days - after 28 days	N/mm ²	≥ 45 ≥ 80 ≥ 95
Characteristic compressive strength	N/mm ²	91 (150 x 300 mm cylinders) 99 (150 mm cubes)
Flexural strength (40 x 40 x 160 mm prisms - EN196-1)	N/mm ²	≥ 12
Static modulus of elasticity (EN 13412)	GPa	≥ 30
Capillary water absorption (EN 13057)	kg / m ² .h ^{-0.5}	≤ 0.05
Crack resistance - Coutinho-ring		no cracking after 180 days
Installation / Additional information - Classification acc. DAfStb VeBMR Rili		
Maximum grain size	mm	< 2
Mixing time	minutes	Approximately 3
Mixer type		e.g. pan mixer
Application method		One continuous pour
Fire resistance (EN13501-1)	class	A1 (fl)
Flow channel classification		f3 (≥ 750 mm)
Compression strength classification		C80/95
Early compression strength classification		A
Shrinkage classification		SKVM 0
Exposure classes (EN 206-1, DIN 1045-2)		XO, XC4, XD3, XF3, XA2, WF
Data are given for conditions of 20°C and 65% R.H. unless otherwise stated. The technical data provided do not represent guaranteed minima.		

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HEALTH AND SAFETY

Usual preventive measures for the handling of chemical products should be observed when using this product, for example do not eat or drink while working and wash hands when taking a break or when the job is completed. MasterFlow 9370 contains cement. Avoid contact with eyes and prolonged contact with skin. In case of contact with eyes, immediately flush with plenty of water for at least 15 minutes. Call a physician. In case of contact with skin, wash skin thoroughly.

Specific safety information referring to the handling and transport of this product can be found in the Material Safety Data Sheet.

Disposal of product should be carried out according to the local legislation in force. Responsibility for this lies with the final owner of the product.

Hazards Identification

Symbol:



Possible hazards:

Irritating to respiratory system and skin.
Risk of serious damage to eyes

Hazard Statement:

H318 Causes serious eye damage
H315 Causes Skin irritation
H335 May cause respiratory irritation

Precautionary Statements:

P102 Keep out of reach of children
P280 Wear protective gloves and eye/face protection
P261 Avoid breathing dust
P264 Wash with plenty of water and soap thoroughly after handling
P305/P351/P338 If in eyes: rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
P315 Get immediate medical advice/attention.
P304/P340 If inhaled: remove victim to fresh air and keep at rest in a position comfortable for breathing
P302/P352 If on skin: wash with plenty of soap and water
P332/P313 If skin irritation occurs: get medical advice/attention
P362 Take off contaminated clothing and wash before reuse

MAL-kode (1993): 00-4

Master Builders Solutions


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DISCLAIMER

Similar to all the other recommendations and technical information, this technical data sheet serves only as a description of the product characteristics, mode of use and applications. The data and information given are based on our technical knowledge obtained in the bibliography, laboratory tests and in practice. The data on consumption and dosage contained in this data sheet are based on our own experience and are therefore subject to variations due to different work conditions. Real consumption and dosage should be determined on the job by means of prior tests and are the liability of the client. Our Technical Service is at your disposal for any additional advice.

Master Builders Solutions reserves the right to modify the composition of the products provided these continue to comply with the characteristics described in the data sheet. Other applications of the product not covered by those indicated shall not be our liability. In the case of defects in the manufacturing quality of our products we provide a guarantee, any additional claims being exempt and our liability being only to return the value of the goods supplied. The possible reservations with respect to patents or third-party rights should be noted.

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Master Builders Solutions Belgium N.V. Nijverheidsweg 89, B-3945 Ham	
20 BE0113/01	
EN 1504-6 Cement based grout	
EN 1504-6 Principles 4.2	
Pull-out strength	Displacement ≤ 0,6 mm at 75 kN load
Chloride ion content	≤ 0,05 %
Reaction to fire	Euroclass A1
Dangerous substances	Complies with 5.3



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The present data sheet becomes null and void on issuance of a new edition.