

MasterFlow[®] 928 UW

Underwater, non-shrink cementitious grout

DESCRIPTION

MasterFlow 928 UW, is a ready to use prepacked, free flowing, pumpable, cementitious grout, which can be used underwater or in tidal zones.

Applications

MasterFlow 928 UW is formulated to be used for areas where a non-shrink grout is to be placed under the water or in tidal zones such as:

- Concrete piling.
- Marine structures.
- Water-crossing bridge columns.
- Underwater concrete repair work.

Advantages

- Controlled shrinkage.
- When poured in underwater condition nonsignificant "washout" phenomenon is noticed on the cement.
- Expansion compensation system for shrinkage.
- Due to high specific gravity of the mixed product it would effectively displace water and fill the cavity to be poured.
- Considerably reduces permeability.
- Enables economies in mix designs to be achieved.

Packaging

MasterFlow 928 UW is supplied in 25kg

Typical Properties

Following results were obtained at waterpower ration of 0.22

Test method for Typical Result 25°C

Compressive Strength (N/mm²)

ASTM C109/109M

1 day	: 20 N/mm ²
3 days	: 35 N/mm ²
7 days	: 45 N/mm ²
28 days	: 60 N/mm ²

Setting time hours

BS 5075 Part 1 1982

Initial	: 10 Hours
Final	: 17 Hours

*Properties listed are based on laboratory controlled tests.

Density

2052 kg/m³

Expansion Properties

Controlled expansion 0.3% maximum

Application Procedure

Surface Preparation:

Substrates above the water are to be cleaned using sand blasted or high-pressure water jet to remove oil, grease, loosely adhered material and concrete laitance. Underwater concrete substrate could be scraped or bush hammered.

Formwork

As for all free flowing material, formwork should be build to be leak-proof, keeping unrestrained surfaces to minimum.

Controlled expansion 0.3% maximum

Mixing

Ensure that mixing procedures should be continuous. A proper mixer such as mechanical grout mixer should be used with suitable capacity to ensure continuous production of mixed grout. Place accurately 5.5 liters of water per bag of 25 kg into the mixer and slowly add the contents of the **MasterFlow 928 UW** bag to it with continuous mixing for 4 to 5 minutes until a homogeneous consistency is obtained.

Placing

For underwater placement **MasterFlow 928 UW**, should be placed through a flexible rubber hose of minimum 50 mm diameter. It could be placed either by a grout pump or otherwise with a suitable gravity head.

Ensure that the placing hose reach the bottom of the substrate where the gout is to be poured underwater. Start pumping the material then lift the pouring hose slowly and gradually in order to ensure that the hose's free end remains slightly embedded into the placed grout at all times.

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MasterFlow 928 UW can be poured in thickness up to 200mm in single pour when used underwater. Should more thickness than 200mm is needed for one pour, then rounded aggregate of 6 to 10mm size could be added to **MasterFlow 928 UW** to reduce the inner hydration heat. Between 12 to 25 kg of aggregate could be added per bag depending on the thickness required for a single pour.

Curing

Continuous curing is needed only in the case of above water concrete.

Yield

When mixed with 5.5 Liters of water, **MasterFlow 928 UW** will yield 14.5 liters of mixed grout. This quantity will increase in case aggregate is added for thicker application depending on the quantity of aggregate to be added. Site trials are recommended to determine the yield on such mixes

Precautions

- Under no circumstances should **MasterFlow 928 UW** be tempered by the later addition of water.
- Temperature of mixing water should be between 10°C and 25°C.

Warning

As with products containing Portland cement, the cementations material in **MasterFlow 928 UW** grout may cause irritation. Avoid contact with eyes and prolonged irritation. 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.

NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local Master Builders Solutions representative.

Master Builders Solutions reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All Master Builders Solutions Products are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health and safety standards of ISO 9001 and Master Builders Solutions ESHQ recommendations.

* Properties listed are based on laboratory controlled tests.

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CONTACT

Should you require any further information, please do not hesitate to contact us:

www.master-builders-solutions.com/en-sa
enquirycc.saudi@mbcc-group.com
M: +966 13 853 8600

Master Builders Solutions Saudi Arabia for
Manufacturing LLC.
P.O. Box 1884, Al Khobar, KSA

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Disclaimer:

In view of widely varying site conditions and fields of application of our products, this technical data sheet is meant to provide general application guidelines only. This information is based on our present knowledge and experience. The customer is not released from the obligation to conduct careful testing of suitability and possible application for the intended use. The customer is obliged to contact the technical help-line for fields of application not expressly stated in the technical data sheet under "Fields of Application". Use of the product beyond the fields of application as stated in the technical data sheet without previous consultation with Master Builders Solutions and possible resulting damages are in the sole responsibility of the customer.

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