

MasterMatrix[®] UW 444

Anti-washout powder admixture for underwater concrete

Material description

MasterMatrix UW 444 anti-washout admixture is a ready to use, powdered admixture specially developed for concrete placed underwater. Concrete treated with MasterMatrix UW 444 exhibits superior resistance to washout of cement and fines.

Fields of application

MasterMatrix UW 444 admixture is recommended for use in all types of concrete pumped or placed underwater, where thixotropic action is desired. MasterMatrix UW 444 admixture is especially helpful in extreme conditions where conventional concrete or placing techniques would result in a high percentage of material loss due to washout.

Benefits

MasterMatrix UW 444 admixture produces a concrete mixture highly resistant to washout, while maintaining workability, pumpability, and placeability. The following special qualities are also provided:

- Minimal to no effect on water demand.
- Reduces or eliminates concrete bleeding.
- Slump characteristics equal to untreated concrete.
- Virtually eliminates segregation even with highly fluid, high water-cementitious ratio mixes.
- Reduces/eliminates costly methods of de-watering.
- Thixotropic action provides stiffening after concrete is placed.
- Minimises environmental impact of cement washout in water.
- Minimal to no effect on set time.

Slump retention

Results from slump loss studies taken over a 60 minute period indicate MasterMatrix UW 444 admixture does not adversely affect concrete slump retention.

Set time

MasterMatrix UW 444 admixture has little to no effect on concrete set time.

Air content

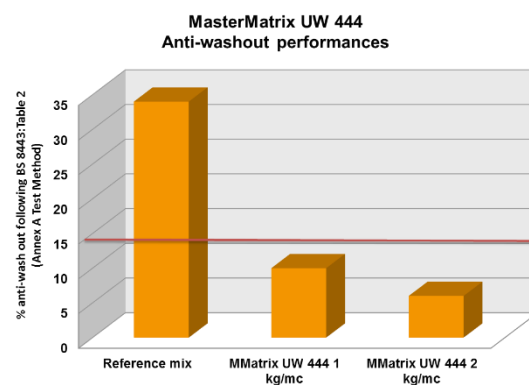
A slightly higher dosage of air entraining admixture may be required to achieve the desired air content when using MasterMatrix UW 444 admixture.

Compressive strength

MasterMatrix UW 444 admixture has an effect on compressive strength. It is strongly recommended that trial mixes be carried out to establish the correct performance.

Washout resistance

Washout as determined by Annex A of BS 8443:2005 "Determination of Washout", reports the performance of MasterMatrix UW 444 admixture treated concrete compared to untreated concrete. This requires that an anti-washout admixture must result in a washout value of less than 15% when compared to the EN 480 control mix.



Anti Wash Out Performance of MasterMatrix UW 444
 Dosage of cement: 400 kg/m³ – W/C 0,52

Dosage

For most concrete mixtures MasterMatrix UW 444 admixture is recommended for use at a dosage range of:

By Mass - 1.0 to 3.0 kg per cubic meter of concrete, typically 2.0 kg will give less than 15% washout at a cement content of 450 kg/m³ and a w/c ratio of less than 0.45.

Due to variations in job conditions, applications and concrete materials, dosage rates outside the recommended range may be required.

Packaging and storage

MasterMatrix UW 444 is available in 15 kg paper sacks.

MasterMatrix UW 444 should be stored in a dry non-humid environment. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

If stored in unopened bags, according to manufacturer's instructions, the shelf life is 18 months.

Technical Information	
Form	Powder, beige
Uncompacted Bulk Density (kg/l)	0.770
Bulk Density (kg/l)	1.972

Directions for use

Add MasterMatrix UW 444 to the dry aggregates and sand mix, thereafter, add the cement and finally add the water. For good mixing, it is recommended to use a vertical axis mixer and the addition of a MasterGlenium, MasterEase or MasterCO₂re superplasticizer. After mixing for about 1 minute, complete any addition of water to obtain the required workability.

In combination with these superplasticizers, it will enable a high performance, high strength, low water-cementitious ratio concrete that exhibits superior resistance to washout of cement and fines.

It is also compatible with all MasterPozzolith, MasterRheobuild and MasterSure admixtures.

Safety instruction

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

Subject to changes and printing errors.

	
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Master Builders Solutions Denmark A/S Hallandsvej 1, DK-6230 Rødekro	
DoP: DK0277/01	
EN 934-2:2009+A1:2012 0615 Viscosity modifying admixture EN 934-2:T13	
Chloride ion content:	≤0,1 %
Alkali content:	≤2,5%
Corrosion behaviour:	Contains components only from EN 934-1:2008, Annex A.1.
Compressive strength:	Passed
Air content in fresh concrete:	Passed
Segregation portion:	Passed
Dangerous substance:	See SDS
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NOTE:

The technical information and work instructions are provided by Master Builders Solutions Denmark A/S for the purposes of helping the user to achieve the best possible and most economic results. Our instructions are based on many years' experiences and on our existing knowledge. As user's working conditions are beyond our control, we cannot accept any responsibility for the results achieved by the user when using the product. It is, therefore, always the responsibility of the user to take the necessary precautions in his case to comply with applicable regulations. If there is any doubt about the product's properties or use, Master Builders Solutions Denmark A/S should be contacted immediately.

N.B. As all our data sheets are regularly updated, it is the user's responsibility to obtain the latest version.