

MasterMatrix UW 444

Underwater concrete admixture.

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

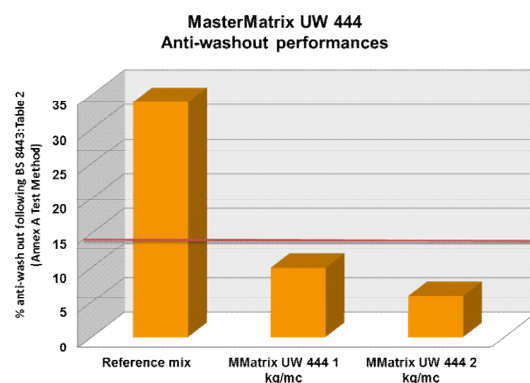
A slightly higher dosage of air entraining admixture may be required to achieve the desired air content when using MasterMatrix UW 444 admixture.

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

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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

MasterMatrix UW 444 should be used in conjunction with a high range water reducing admixture, MasterGlenium SKY, MasterEase or MasterCO₂re.

This combination will produce a high performance, high strength, low water-cementitious ratio concrete that exhibits superior resistance to washout of cement and fines.

Safety instruction

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

Other services

For additional technical information, brochures, references, technical reports and technical support please visit www.master-builders-solutions.com/it-it or alternatively contact infomac@masterbuilders.com.

Scan QR code to visit the product page and download the latest version of this technical data sheet and any additional documentation.



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Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.

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