

RHEOMAC[®] UW450

Anti-washout admixture

DESCRIPTION

RHEOMAC UW450 anti-washout admixture is a ready to use, liquid admixture specially developed for concrete placed underwater. Concrete treated with **RHEOMAC UW450** admixture exhibits superior resistance to washout of cement and fines.

RECOMMENDED FOR

RHEOMAC UW450 admixture is recommended for use in all types of concrete pumped or tremied underwater. **RHEOMAC UW450** 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.

RHEOMAC UW450 admixture is particularly useful in mortar and grouting applications where mixtures are typically more fluid and have a higher potential for washout.

RHEOMAC UW450 admixture should be used with a water-reducing admixture, such as BASF's **POZZOLITH** products. For achieving high slump concrete, use **RHEOMAC UW450** admixture in conjunction with **POLYHEED 997** admixture or melamine based superplasticiser such as **RHEOBUILD 2000B**. This combination will produce a high performance, high strength, low water-cementitious ratio, flowing concrete that exhibits superior resistance to washout of cement and fines.

Do not use **RHEOMAC UW450** admixture with naphthalene-based admixtures. Erratic behaviour in slump, pumpability, and washout may be experienced.

FEATURES AND BENEFITS

RHEOMAC UW450 admixture produces a concrete mixture highly resistant to washout, while maintaining workability, pumpability, and placeability. The following special qualities are also provided:

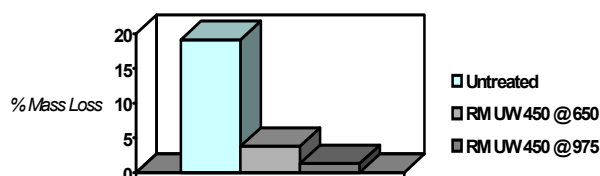
- **Minimised environmental impact of cement washout in water**
- **Reduces or eliminates concrete bleeding**
- **Slump characteristics equal to untreated concrete**
- **Virtually eliminates segregation, even with highly fluid, high water-cementitious ratio mixes**
- **Reduces/eliminates costly methods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

PERFORMANCE DATA

Washout Resistance

Washout as determined by the US Army Corps of Engineers CRD-C61, "Test Method for Determining the Resistance of Freshly Mixed Concrete to Washing Out in Water", reports the performance of **RHEOMAC UW450** admixture treated concrete compared to untreated concrete.

Washout Resistance of Rheomac UW450



Mix Data

Cement content of 385 kg/m³, water-cementitious material ratio 0.49; slump 100 ± 15mm; non air-entrained.

Bleed Resistance

The use of **RHEOMAC UW450** admixture virtually eliminates bleeding from the cement and water slurry having a 0.90 water-cementitious materials ratio.

Segregation Resistance

Concrete mixes designed with a 0.73 water-cementitious materials ratio were vibrated for 1 minute to promote severe segregation. Concrete with 590ml of **RHEOMAC UW450** admixture per 100kg cement remained cohesive and homogeneous throughout, resisting segregation.

Slump Retention

Results from slump loss studies taken over a 60 minute period indicate **RHEOMAC UW450** admixture does not adversely affect concrete slump retention.

Set Time

RHEOMAC UW450 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 **RHEOMAC UW450**

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Compressive Strength

RHEOMAC UW450 admixture has marginal effect on compressive strength. It should be noted that most underwater concrete mixtures have greater compressive strengths than specified. If additional strength is required with the use of **RHEOMAC UW450** admixture, a lower water-cementitious material ratio may be necessary.

QUANTITY TO USE

RHEOMAC UW450 admixture is recommended for use at a dosage range of 300 to 1300 ml/100 kg of cementitious material for most concrete mixtures using average concrete ingredients. Because of variations in job conditions, applications and concrete materials, dosage rates outside the recommended range may be required.

RHEOMAC UW450 admixture should be added at the batchplant after all other concrete ingredients have been mixed and discharged into the mixer. It is also possible to add **RHEOMAC UW450** admixture at the job site provided adequate mixing is accomplished.

RHEOMAC UW450 is not compatible with other admixtures containing naphthalene sulphonates. Always check with your local BASF Technical Sales Representative to obtain a list of compatible admixtures.

HANDLING

When transferring **RHEOMAC UW450** admixture to other containers, contact with water in hoses, pumps, tanks or receiving vessels must be avoided to prevent gelling.

PACKAGING

RHEOMAC UW450 is supplied in 205 litre drums and 20 litre containers.

DISPENSING

Consult your local BASF Technical Sales Representative for the proper dispensing equipment for **RHEOMAC UW450** admixture.

For additional information on **RHEOMAC UW450** admixture or on its use in developing a concrete mixture with special performance characteristics, contact your local BASF Technical Sales Representative.

PRECAUTIONS

Material must be stored at temperatures above 7°C to avoid dispensing difficulties due to thickening. Do not allow material to freeze. **RHEOMAC UW450** admixture cannot be reconstituted after thawing.

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF **Material Safety Data Sheet (MSDS)** from our office or our website.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this **BASF** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by **BASF** either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not **BASF**, are responsible for carrying out procedures appropriate to a specific application.

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