

RHEOMAC[®] UW404

Anti - washout admixture

Description

RHEOMAC UW404 anti-washout admixture is a ready to use, liquid admixture specially developed for concrete placed underwater. Concrete treated with RHEOMAC UW404 exhibits superior resistance to washout of cement and fines.

Advantages

RHEOMAC UW404 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 concrete bleeding.
- Slump characteristics equal to untreated concrete.
- Virtually eliminates segregation, even with highly fluid, high water-cementitious ratio mixes.
- Thixotropic action provides stiffening after concrete is placed.
- Minimises environmental impact of cement washout in water.
- Minimal to no effect on set time.
- Reduced pumping pressures.

Primary uses

RHEOMAC UW404 is recommended for use in all types of concrete pumped or tremied underwater, where thixotropic properties are desired. RHEOMAC UW404 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 UW404 is particularly useful in mortar and grouting applications where mixes are typically more fluid and have a higher potential for washout.

Packaging

RHEOMAC UW404 is supplied in 210 litre drums.

Slump retention:

Results from slump loss studies taken over a 60 minute period indicate RHEOMAC UW404 does not adversely affect concrete slump retention.

Set time:

RHEOMAC UW404 has little to no effect on concrete setting time.

Air content:

A slightly higher dosage of air entraining admixture may be required to achieve the desired air content when using RHEOMAC UW404.

Compressive strength:

RHEOMAC UW404 has marginal effect on compressive strength. It should be noted that most underwater concrete mixes proportioned in accordance with ACI 304R have greater compressive strengths than specified. If additional strength is required with the use of RHEOMAC UW404, a lower water/cement ratio may be necessary.

Recommendations

For underwater concrete placements, ACI 304R, Chapter 8, "Concrete Placed Underwater" recommends certain basic mixture proportions such as:

Total cementitious materials:	356kg/m ³ or more
Pozzolans:	15%
Max. w:c ratio:	0.45
Fine aggregate content:	45 - 55% by volume of total aggregate
Air content:	up to 5%
Slump:	150 to 230mm

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RHEOMAC UW404 should be used with a water reducing admixture from the POZZOLITH or GLENIUM product ranges. Due to incompatibility RHEOMAC UW404 should not be used in conjunction with RHEOBUILD admixtures with the exception of RHEOBUILD 2000M.

For achieving high slump concrete RHEOMAC UW404 should ideally be used in conjunction with a GLENIUM admixture.

If other BASF admixtures are to be used with RHEOMAC UW404, please contact your BASF representative as some admixtures are not compatible.

Dosage

RHEOMAC UW404 is recommended for use at a dosage range 0.8 - 1.6ltr / 100kg of cementitious material for most concrete mixes using average concrete ingredients. Because of variations in job conditions, applications and concrete materials, dosage rates outside the recommended range may be required.

RHEOMAC UW404 should be added at the batch plant after all other concrete ingredients have been mixed and discharged into the mixer. It is also possible to add RHEOMAC UW404 at the job site provided adequate mixing is accomplished.

Temperature Precaution

Material must be stored at temperatures above 7°C to avoid dispensing difficulties due to thickening. Do not allow material to freeze.

RHEOMAC UW404 admixture cannot be reconstituted after thawing.

Storage

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. For specific storage advice consult BASF Construction Chemicals UAE's Technical Services Department.

Safety precautions

RHEOMAC UW404 is not a fire or health hazard. For further information, refer to material safety data sheet.

Note

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

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

Quality and care

All products originating from BASF's Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and OHSAS 18001.

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