

# MARKPLAST UWA 450

(ANTI-WASHOUT ADMIXTURE)



## DESCRIPTION

**MARKPLAST UWA450** is a ready to use liquid admixture designed to prevent the loss of cement and fine aggregate during the placement of underwater concrete. MARKPLAST UWA 450 is a blend of different powerful ingredients and colloidal agents that act primarily on the water preventing the cement paste from washing out during casting under water.

## FEATURES / ADVANTAGES

- Minimal environmental impact due to cement washout
- Eliminates the need for expensive de-watering during underwater construction
- Greatly reduces or eliminates concrete bleed water
- Does not effect water demand when slump is maintained
- Easily metered with standard admixture dispensing equipment
- Flexibility in batching procedures
- Reduction in washout of cement and fines

## APPLICATIONS

- Underwater bridge repair
- Dam repair below the waterline
- Underwater grouting and mortar application
- Damming underground rivers/lakes in mining operations
- Anti-segregation aid for use with lightweight and heavyweight aggregates
- Reduction or elimination of concrete bleed water for use with fast track construction

## SPECIFICATION COMPILES

- ASTM C494 TYPE S

## TYPICAL PROPERTIES

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Type	Speciality Biopolymer with additives
Density	Approx 1.24
Colour	Brown to pale yellow
Chloride	Nil

## APPLICATION DETAILS

MARKPLAST UWA 450 should be incorporated into the mix after all other ingredients have been added and completely mixed. MARKPLAST UWA 450 can be added at the batch plant or job site

**DOSAGE :** MARKPLAST UWA 450 is recommended for use at a dose of 130 to 1300 ml per 100 kg of cementitious material for most underwater applications. Because local job conditions, materials, and applications vary, this product may require dosages outside the recommended dosage ranges.

To produce flowing and pump-able concrete with a high slump and superior resistance to washout of the mortar fraction of the concrete, use MARKPLAST UWA 450 with a high-range water-reducer such as MARKPLAST HSP 100, MARKPLAST FLOW 30.

It is recommended that all underwater concrete be placed continuously by tremie pipe or through a concrete pump per guidelines established in ACI 304R, Chapter 8.

## MIX PROPERTIES

**COMPRESSIVE STRENGTH :** MARKPLAST UWA 450 has little effect on the compressive strength of the concrete when designed according to ACI 304 R. When a lower water- cementitious ratio or higher compressive strength is necessary, the use of an additional high-range water reducer, such as MARKPLAST HSP 100, MARKPLAST FLOW 30, will be needed.

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Do not use MARKPLAST SP10 or any polynaphthalene high range water reducer with MARKPLAST UWA 450 as these **materials are incompatible**.

**SET TIME:** MARKPLAST UWA 450, when used within the recommended dosage range, has very little effect on set time. A small amount of retardation will be noticed when MARKPLAST UWA 450 is added at the higher end of the dosage range.

**BLEED WATER:** Bleed water is significantly reduced and may be eliminated in concrete mixes, neat mixes, and grout mixes.

**SLUMP:** Underwater concrete mix designs should be batched at a minimum eight-inch slump. A decrease in slump should be expected after the addition of MARKPLAST UWA 450. A high-range water reducer may be added as necessary to meet specified slump for placement. Avoid using water to re-temper the concrete mix. Slump retention will be similar to normal concrete mixes.

**AIR ENTRAINMENT:** When using MARKPLAST UWA 450 in a mixture, the air entraining admixture dosage requirement may be reduced to reach specified air content. Typically, as mix viscosities build there is an increase in the amount of entrapped air in the mix. As mixing is stopped and placement occurs these entrapped air bubbles will slowly leave the mix and the entrained air bubbles will remain. Field trials should be run to become familiar with this effect.

## PACKAGING

50 Litre Can and 200 Litre Drums. Bulk Packing available specially on request

## SHELF LIFE

12 months in original unopened packaging. Minimum recommended storage temperature is (10°C).

## PRECAUTIONS

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

## DISCLAIMER

The above information and details herein are based on the tests conducted & experience on application and usage. The user is advised to carry out the test and take trials to satisfy on the suitability of the products and meeting his requirement considering the prevailing conditions prior to apply/ using it on larger area. As the conditions under which the products are used or transported are beyond our control. We would not hold ourselves responsible on its consequential nonperformance.



## MR MARK OVERSEAS

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