

MasterMatrix[®] FC 500

Powdered Viscosity Modifying Agent (VMA) for foundation (tremie) or underwater concrete

DESCRIPTION

The standard procedure in deep-foundation construction uses concrete-made bored piles or bored pile walls. In unstable ground conditions or where the ground is prone to subsidence, this serves to reliably distribute structural loads onto suitable bearing stratum. To ensure enough structural integrity and maximum durability of the foundation, the concrete used in the construction of bored piles must meet a variety of flowability and stability requirements.

MasterMatrix FC 500 is a novel viscosity modifying agent (VMA) in powder form for use in deep-foundation operations or for concrete placed underwater. The high hydrostatic pressure during the concreting of bored piles can, for instance, result in water extrusion and reduced-quality bored piles. MasterMatrix FC 500 prevents this, combining maximum water retention with low viscosity and good temperature stability. MasterMatrix FC 500 is composed of water-soluble copolymers which form complex molecular aggregates, thereby changing the viscosity of the water and providing optimal stability of the concrete during pumping, placing and hardening.

AREAS OF APPLICATION

MasterMatrix FC 500 is recommended for use in all types of applications where maximum concrete stability and water retention is required.

- Deep foundation concrete, Tremie concrete
- Underwater concrete
- Highly flowable or self-compacting concrete
- Flowable concretes with low content of additives, mineral fillers or ultra-fines
- Concrete containing gap-graded aggregates

Please consult your local MBS Technical Services for any application not covered above.

FEATURES AND BENEFITS

MasterMatrix FC 500 offers the following economic and technical benefits:

- Highly efficient VMA in powder form
- Excellent water retention that prevents segregation and bleeding for even load transfer even with highly fluid, high w/c-ratio concretes
- Polymer network effectively counteracts absorbent or cohesive substrates
- Superior resistance to washout of cement and fines.
- Very good workability irrespective of mixing intensity or pressure head
- Optimum temperature stability to support changes in application conditions and robust concrete properties
- Far more dosage efficient compared to mineral fillers
- No effect on setting nor strength characteristics

DOSAGE

The recommended dosage of MasterMatrix FC 500 ranges from 4.5 to 15 g/L water. Assuming a cement content of 380 kg/m³ and a w/c-ratio of 0.5, this results in a dosage of approximately 0.2 to 0.8 % by weight of cement. Other dosages may be used in special cases according to the specific job site conditions. In these cases, please consult your local Master Builders Solutions Technical Services Department for advice

DIRECTIONS FOR USE / MIXING

MasterMatrix FC 500 can be used with all types of EN 197 cements. For optimal performance, the powdered admixture should be added to the concrete together with all the dry components of the mix. This is particularly important in order to obtain maximum efficacy. If necessary, a late addition to adjust concrete properties on site is possible.

COMPATIBILITY

MasterMatrix FC 500 is compatible with a broad range of MBS admixtures, e. g. with MasterGlenium, MasterPoz-zolith, MasterEase or MasterCO₂re products. However, initial trial mixes are recommended to determine the optimum dosage and to ensure that the desired fresh, as well as hardened, concrete properties are achieved.



PACKAGING

MasterMatrix FC 500 is available in 15 kg bags.

STORAGE / SHELF LIFE

MasterMatrix FC 500 must be stored frost-free and protected from direct sunlight in closed packaging. Advised storage temperature is between +5°C and +30°C. MasterMatrix FC 500 can be kept for up to 24 months if stored according to manufacturer's instructions in unopened packaging. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

PRECAUTIONS

Usual precautions should be used for handling chemical products (e. g. the usage of gloves and goggles). For further information and aspects not described in this data sheet, please consult the Safety Sheet for this product.

DISPOSAL

The disposal of the product must comply with current legislation and is in the responsibility of the end user.

Produkt - Daten	
Principal Function	Viscosity modifying agent for concrete
Appearance	Whitish powder
Chloride content:	< 0.10% by mass
Alkali content (Na ₂ O equivalent):	< 2.5%
Particle density	Approx. 1,8-2,0 g/cm ³


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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' experience 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.

	
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DoP no.: DK278/01 EN 934-2:2009+A1:2012 Notified body: 0615 Viscosity Modifying Admixture for Concrete EN 934-2:T13	
Chloride ion content:	<0,10 %
Alkali content:	<2,5 %
Corrosion behaviour:	Contains components only from EN 934-1:2008, Annex A.1.
Compressive strength:	Passed
Air content:	Passed
Segregated portion:	Passed
Dangerous substances:	None
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