

MasterRoc HCA 20

Cement hydration control system for wet and dry sprayed concrete, grouting and cement injection and backfilling

PRODUCT DESCRIPTION

MasterRoc HCA 20 is a high quality, liquid, non chloride chemical admixture which controls the dynamics of cement hydration with no loss of quality in the hardened sprayed concrete or in backfilling mortars, for TBM tunnels.

The first component, MasterRoc HCA 20, dispensed into wet or dry mixes at the batching plant, is a liquid additive with a recommended dosage between 0,3 – 2% by weight of cement. It fully stabilizes the hydration process by forming a protective barrier around the cement particles.

The hydration process is suspended till the time set according to the dosage, or it is possible to immediately re-activate the hydration process adding a MasterRoc SA accelerator that breaks the barrier around the cement particles.

The second component, Accelerator (MasterRoc SA 193, MasterRoc SA 165, MasterRoc SA 142 o MasterRoc SA 411), is an activator that in case of sprayed concrete gives an instant bonding to the support, through a faster setting time (MasterRoc SA 193, MasterRoc SA 165, MasterRoc SA 142 at 5-8%, MasterRoc SA 411 at 10-12%). In case of mortars or backfilling grouts it gives a modular curing (according to dosage variation in %). The system MasterRoc HCA is compatible with all cements according to UNI EN 197-1.

BENEFITS

- Concrete mixes, stabilized with the system MasterRoc HCA, can be kept workable, without losing quality in the final product, for up to 6 hours and up to 72 hours.
- MasterRoc HCA allows fully flexible delivery options for sprayed concrete mixes.
- No cleaning of pumps or pipes during work interruptions.
- Considerable reduction of rebound and dust.
- High mechanical properties of the sprayed concrete.
- High time and cost savings.
- Compatibility with traditional concrete mixes pumps or sprayed concrete pumps.

FEATURES OF FLEXIBILITY

It is recommended a combined use of:

- Superplasticizer at gradual release type MasterGlenium or MasterRheobuild;
- Activated and compact silica fume, MasterRoc MS 610 to better increase the durability in aggressive environment⁽¹⁾.

Technical data	
Form	Liquid
Colour	yellow
Density (g/ml at 20°C)	1,070 – 1,110

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APPLICATION PROCEDURE

MasterRoc HCA 20 is an admixture system added to the mix with all other components of the concrete mix.

It is to avoid the adding of dry aggregates.

The Activator is added at the nozzle during the spraying of concrete or in the injection system for mortars or backfilling grouts.

PACKAGING AND STORAGE

MasterRoc HCA 20 is packaged in 900 liter IBCs.

Minimum storage temperature for MasterRoc HCA 20 is +5°C. If it has frozen, warm up at 20°C and completely reconstitute with a mild mechanical agitation.

(1) *The aggressive environments are divided in exposure classes in the UNI EN 206-1: X0 no risk of corrosion or attack, XC corrosion of the reinforcement induced by carbonation, XD corrosion of the reinforcement induced by chlorides other than from sea water, XS corrosion of the reinforcement induced by chlorides from sea water, XF freeze-thaw attack with or without de-icing agents, XA chemical attack.*

From 16/12/1992 BASF Construction Chemicals Italia Spa operates under the Quality System in compliance with European Standard UNI-EN ISO 9001. The environmental management system of BASF Construction Chemicals Italia Spa is certified accordingly to UNI EN ISO 14001 and the System of Safety Management is certified accordingly to OHSAS 18001.

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For further information, please consult your local BASF Construction Chemicals Italia Spa representative.

The technical advice on how to use our products, either written or verbally given, are based on the present state of our best scientific and practical knowledge, and no guarantee and/or implicit or explicit responsibility are assumed on final results of works executed by the use of our products.

The owner, his representative, or the contractor is responsible for checking the suitability of our products as to the intended use and aims.

Supersedes all prior issues on this product.

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