

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 round the cement particles.

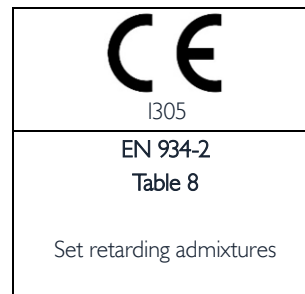
The second component, Accelerator (MasterRoc SA 193, MasterRoc SA 165, MasterRoc SA 142 o MasterRoc SA 411), is an activator that in case of sprayed concrete gives an instant bonding to the support, through a faster setting time (MasterRoc SA 193, MasterRoc SA 165, MasterRoc SA 142 at 5-8%, MasterRoc 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.

Features and 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.

In compliance with the European Regulation (EU No 305/2011 and EU No. 574/2014) the product is provided with the CE marking according to UNI EN 934-2 and the relative DoP (Declaration of Performance).



Packaging

MasterRoc HCA 20 is packaged in 900 liter IBCs.

Storage

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.

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Technical Information	
Form	Liquid
Color	yellow
Density (+20°C)	1.070 – 1.110
Essential characteristic in accordance to EN 934-5	Performance
Chloride ion content	≤0.25% by mass
Alkali content (Na ₂ O equivalent)	≤ 0.5%
Corrosion behaviour	Contains component only from EN 934-1: 2008 Annex A. I
Compressive strength	Equal consistence: 7 days ≥ 80% 28 days ≥ 90%
Air content	Equal consistence: ≤ 2.0 %
Setting time	initial: test mix ≥ control mix + 90 min final: test mix ≥ control mix + 360 min

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.

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.

Safety information

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

Other services

For additional technical information, brochures, references, technical reports and technical support please visit www.master-builders-solutions.com/it-it or alternatively contact infomac@masterbuilders.com.

Scan QR code to visit the product page and download the latest version of this technical data sheet and any additional documentation.



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Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.

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