MasterRoc® SA 160

Alkali-free, liquid high performance set accelerator for sprayed concrete

DESCRIPTION

MasterRoc SA 160 is a high performance alkali-free set accelerator for sprayed concrete, whose dosage can be varied to the desired setting and hardening times.

FIELDS OF APPLICATION

- Temporary and permanent ground support in tunneling and mining
- Slope stabilisation
- Also suitable for acceleration of cementitious grouts, such as for annulus grout in TBM tunnels, cemented ground injection and foam concrete.

PACKAGING

MasterRoc SA 160 is supplied in 210 litre drums, 1000 litre containers or in bulk.

FEATURES AND BENEFITS

MasterRoc SA 160 is ideally suited for wet mix sprayed concrete for ground support:

- The quick setting property allows rapid work progress and the ability to construct thick sprayed concrete linings via layered application during one construction sequence.
- The unique product formulation provides fast setting, continuous early-age strength development high durability and good long term strength.
- Very low dust generation during application and therefore a good working environment.
- Possibility of low rebound applications when using the correct nozzle angle and distance.
- Non-aggressive properties provide improved working safety, reduced environmental impact and lower handling costs.

TECHNICAL DATA*

Form	Suspension
Color	Beige
Density (+20°C)	1.43 ± 0.03 g/ml
pH value (1:1 water solution)	2.6 ± 0.5
Viscosity [1)]	>400 mPa.s
Thermal stability	+5°C to +35°C
[Na_2O] EQV. (%bw)	<1%
Chloride free	

[1)] Brookfield, + 20°C. Viscosity is dependent on degree of product agitation and temperature.

APPLICATION PROCEDURE

The substrate should be clean and free from loose particles and preferably damp.

It is recommended to use only fresh cement as the age of the cement can have a negative influence on the setting characteristics of the mix.

MasterRoc SA 160 can be sensitive to the type of cement. With some cements the setting characteristics can be too slow. We recommend the use of Portland cements (PC/HPC), which normally give faster setting than blended or sulphate resistant cement types. However, **MasterRoc SA 160** also works well with composite cements types (blended cements, fly-ash/slag). In all cases, it is strongly recommended to carry out preliminary tests to check setting and the 24 h strength of the cements planned for use in a project.

Evaluation of setting and 24 h strength should be carried out on a test mortar in accordance with EFNARC European Specification for Sprayed Concrete (1996), Appendix 1, Clause 6.3.

MASTER® BUILDERS SOLUTIONS

MasterRoc® SA 160

The following results should be taken as a performance guide only:

Initial set	Final set	24 h strength	Rating
2 min.	6-8 min.	18-20 MPa	good
5 min.	8-12 min.	12-15 MPa	OK
>10 min	>15 min.	<10 MPa	poor

CONCRETE MIX

When **MasterRoc SA 160** is used for wet mix spraying, the w/c+b ratio should be below 0.5 and preferably <0.45. When targeting extremely high early strength, 0.40 or lower. The lower w/c+b ratios provide faster setting, higher early strength, better durability, lower accelerator dosage and thicker layers can be applied overhead.

DOSING SYSTEM

MasterRoc SA 160 is added at the nozzle. It is essential to have a constant and accurate dosage of accelerator into the concrete stream. To ensure quality sprayed concrete, follow the pump selection guidelines given below:

Works very well with:

- Mono pumps (stator & rotor pumps)
- Peristaltic pumps (Bredel)

Should not to be used with:

- Piston pumps
- All pumps with ball and seat valves
- Pressure tanks
- Gear pumps

Do not use a filter on the suction hose as this causes obstructions. Preferably draw the material off the bottom of the drum/container.

COMPATIBILITY WITH OTHER ACCELERATORS

MasterRoc SA 160 can be interchanged with most of BASF's alkali-free accelerators. For advice please contact your local BASF representative.

Do not mix or interchange MasterRoc SA 160 with any type of accelerator produced by another manufacturer, as this can cause immediate clogging of dosing pumps and hoses.

CONSUMPTION

The consumption of **MasterRoc SA 160** also depends on the w/c+b ratio, temperature conditions (concrete and ambient), cement reactivity and on required layer thickness, setting time and early strength development. The consumption is normally in the range of 3 to 10% of binder weight.

Overdosing (>10%) may result in decreased final strength.

CLEANING OF DOSING PUMP

After the use of **MasterRoc SA 160**, the dosing pump and other parts of the system **must be thoroughly cleaned** with plenty of water. Failure to do so provokes blockages in the dosing system when next used. Make sure that all operators involved in testing and application are fully informed.

STORAGE

- Must be stored at minimum +5 C (optimum temperature for storage and performance +20°C).
- Has to be kept in closed containers made of plastic, glass fiber or stainless steel.
- M**ust not** be stored in normal steel containers.
- Storage in bulk tanks **requires** the use of agitation and / or circulation systems.
- After prolonged storage or transport we recommend to fully agitate it prior to use by mechanical stirring or re-circulation pumping.
- If stored in tightly closed original containers under the above conditions, it has a shelf life of 6 months. Periodical remixing can extend the shelf life further.
- Please contact your local BASF representative prior to the use of any product that has been frozen.
- After prolonged storage, performance testing should always be carried out before use.

MASTER® BUILDERS SOLUTIONS

MasterRoc® SA 160

SAFETY PRECAUTIONS

The same precautions as with handling and use of cementitious products should be observed.

Avoid eye and skin contact and wear rubber gloves and safety glasses. If contact occurs, rinse with plenty of water. In case of eye contact seek medical advice. For further information, refer to the Material Safety Data Sheet or contact your local MBCC representative.

* Properties listed are based on laboratory controlled tests.

® = Registered trademark of the MBCC-Group in many countries.

MBCC_CC-UAE/Roc_SA160/v2/09_14

MB Construction Chemicals Solutions (T) Ltd
P.O. Box 23333, Dar Es Salaam,Tanzania
Tel: +255 699783912, Tel +255 769 777372
www.master-builders-solutions.com/en-tz