

# MasterRoc<sup>®</sup> SA 167

Formerly Meyco SA 167

High performance alkali-free set accelerator (AFA) for rapid production, durable sprayed concrete applications

## PRODUCT DESCRIPTION

**MasterRoc SA 167** is a high performance alkali-free set accelerator for sprayed concrete. It is a liquid admixture whose dosage can be varied to the desired setting and hardening times.

## FIELDS OF APPLICATION

**MasterRoc SA 167** is suitable for all applications, where exceptionally high early strength, good final strength and extremely thick layers of sprayed concrete are required.

- Temporary and permanent rock support in tunnels
- Rock support in mining
- In poor and wet ground conditions
- Slope stabilization
- Also suitable for acceleration of cementitious grouts, such as used in TBM tunnel linings, cement ground injection and foam concrete backfill operations.

## PACKAGING

**MasterRoc SA 167** is supplied in 210 liter drums, 1000 liter containers or in bulk.

## FEATURES AND BENEFITS

**MasterRoc SA 167** is ideally suited for wet mix sprayed concrete for rock 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 extremely fast setting coupled with continual early-age strength development.
- Good long-term strength and durability are also achieved.
- **MasterRoc SA 167** is a liquid product and thus provides easy handling as well as facilitating accurate addition to the concrete.
- Very low dust production and therefore a safe and suitable working environment.
- Since the product is non-aggressive it provides improved working safety, reduced environmental impact and lower handling costs.

## TECHNICAL DATA

Form	suspension
Color	beige to white
Density (+20 °C)	1.47 ± 0.03 g/ml
pH value	2.7 ± 0.5
Viscosity 1)	750 ± 250 mPa.s
Thermal stability	+5 °C to +35 °C
[Na <sub>2</sub> O] EQV. (% bw)	<1%
Chloride free	

<sup>1)</sup>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 influence the setting characteristics of the mix.

**MasterRoc SA 167** has a low sensitivity to the type of cement. However, with some cements high dosages are necessary for a fast setting. We recommend the use of Portland cements (PC/HPC), which often give faster setting than blended or sulphate resistant cement types. However, **MasterRoc SA 167** also works well with composite cement types (blended cements, fly-ash/slag). In all cases, it is strongly recommended to carry out preliminary tests to check setting times and the 24 h strength of the cements planned for use in a project.

Evaluation of setting and 24 h strength (without addition of a slump killing system) should be carried out on a test mortar in accordance with EFNARC European Specification for Sprayed Concrete (1996), Appendix 1, clause 6.3.

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 N/mm <sup>2</sup>	good
5 min.	8-12 min.	12-15 N/mm <sup>2</sup>	OK
>10 min	>15 min.	<10 N/mm <sup>2</sup>	poor

Remark: Compared to most other set accelerators **MasterRoc SA 167** uniquely combines fast setting with high early and final strength (when applied correctly and concrete mix optimized).

# MasterRoc<sup>®</sup> SA 167

Formerly Meyco SA 167

High performance alkali-free set accelerator (AFA) for rapid production, durable sprayed concrete applications

## MIXING

When **MasterRoc SA 167** is used for wet mix spraying, the w/c+b ratio should be below 0.5 and preferably less than 0.45. When targeting extremely high early strength 0.40 or lower it is recommended. The lower w/c+b ratios provide faster setting; higher early strength, improved durability, lower accelerator dosage and thicker layers can be applied overhead.

Maximizing the efficiency of mixing AFA's into the wet-mix concrete stream (and therefore performance), is achieved at the nozzle using twin compressed air/AFA feeds to the nozzle injector.

## DOSING SYSTEM

**MasterRoc SA 167** is added in the nozzle. To ensure a constant and accurate dosage to ensure quality sprayed concrete, it is crucial to follow the pump selection guideline given below:

**Works very well with:**

- Mono-pumps (screw pumps)
- Squeeze 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 from the bottom of the drum/container.**

## COMPATIBILITY WITH OTHER ACCELERATORS

**MasterRoc SA 167** can be interchanged with Master Builders Solution's alkali-free accelerators MasterRoc SA 160, 162, 163, 164, 169, 172, 173, 175, 176, 180 and 181. However, storage of mixed MasterRoc SA accelerators is not recommended. Master Builders Solution's alkali-free accelerators shall not be mixed with any other type of Master Builders Solutions accelerator other than those listed above.

**Do not mix MasterRoc SA 167 with any type of accelerator produced by another manufacturer, as this could cause immediate clogging of dosing pumps and hoses.**

## CONSUMPTION

The dosage of **MasterRoc SA 167** depends on the temperature conditions, reactivity of cement used and on required thickness of layers, setting time and early strength development. The consumption of **MasterRoc SA 167** is normally in the range of 3 to 10 % of binder weight. Overdosing (>10 %) may result in decreased final strengths.

## CLEANING OF DOSING PUMP

Prior to the use of **MasterRoc SA 167**, 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. Make sure that all operators involved in testing and application are fully informed.

## STORAGE

- **MasterRoc SA 167** must be stored at minimum +5°C and maximum +35 °C (optimum temperature for storage and performance +20°C).
- **MasterRoc SA 167** has to be kept in closed containers made of plastic, glass fiber or stainless steel, with periodical remixing and agitation of the product.
- **MasterRoc SA 167** must not be stored in normal steel containers as the pH can cause corrosion that might affect the performance of the product.
- After prolonged storage we recommend that **MasterRoc SA 167** be always fully agitated prior to use by mechanical stirring or re-circulation pumping.
- If stored under the above given conditions, **MasterRoc SA 167** has a shelf life of 6 months.
- It is recommended to consult 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.

## 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 Master Builders Solutions representative.

# MasterRoc<sup>®</sup> SA 167

---

Formerly Meyco SA 167

High performance alkali-free set accelerator (AFA) for rapid production, durable sprayed concrete applications

® = registered trademark of a MBCC Group member in many countries of the world

**MID#MasterRoc<sup>®</sup> SA 167 - 04.2021**

<b>STATEMENT OF RESPONSIBILITY</b>	The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.
<b>NOTE</b>	Field service where provided does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

**PT Master Builders Solutions Indonesia**  
Jl. Jababeka V Blok I No 1, Kawasan Industrial Estate  
Jababeka 1, Pasirgombong, West Cikarang,  
Bekasi, West Java 17530  
[www.master-builders-solutions.com/en-id](http://www.master-builders-solutions.com/en-id)