

MEYCO[®] SA167

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

Description

MEYCO SA167 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.

Uses

MEYCO SA167 is suitable for all applications where high early strength, good final strength and thick layers are required:

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

Advantages

MEYCO SA167 is the ideally suited accelerator for wet mix sprayed concrete for rock support because:

- 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 continual early-age strength development whilst also achieving excellent long-term strength and durability.
- MEYCO SA167 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 good working environment.
- Since the product is non-aggressive, it provides improved working safety, reduced environmental impact and lower handling costs.

Typical Properties

Aspect	: Beige to White suspension
Relative density	: 1.46 ± 0.03 at 25°C
Chloride content	: < 0.1%

Specification Clause

The alkali-free accelerator for shotcrete shall be MEYCO SA167, a non-caustic, high solids (> 55%) formulation. The product shall have density in excess of 1.4 and shall be capable of enhancing performance of wet shotcrete to less than 10% rebound and capable to spray >150mm thickness in single operation. The product shall enable achieving high early strengths (> 12 MPa at 24 hours) and quick final set (with in < 15 minutes).

Directions for use

The substrate must 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.

MEYCO SA167 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, MEYCO SA167 also works well with composite cement types (blended cements, fly-ash / slag). In all cases, it is strongly recommended to do preliminary tests to check the setting and the 24 hours strength of the cements planned for use in a project.

Evaluation of setting and 24 hour strength (without addition of slump killing system), should be carried out on a test mortar in accordance with EFNARC European Specification for Sprayed Concrete, Appendix 1, Clause 6.3. The following results should be taken as a performance guide only :

Initial set	Final set	24 hour 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

Remark: If the setting times are poor, the 24 hour strength usually remains good.

Mixing

When MEYCO SA167 is used for wet mix spraying, the w/c 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 provides faster setting, higher early strength, better durability, lower accelerator dosage and thicker layers can be applied over head.

Doasage

MEYCO SA167 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:

Work very well.

- Mono pumps (screw pumps)
- Squeeze pumps (Bredel)
- MEYCO Dosa

Should not 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 the material should be drawn off the bottom of the drum/container.

Compatibility with other accelerators

Do not mix MEYCO SA167 with any other type of accelerator, produced by BASF or any other manufacturer, as this could cause immediate clogging of dosing pumps and hoses.

Do not interchange accelerators in the storage tanks and on the spraying machines unless the previous accelerators has been completely flushed out and the conveying system is thoroughly washed.

Consumption

The dosage of MEYCO SA167 depends on the temperature conditions, reactivity of cement used and on required thickness of layers, setting time and early strength development. The consumption of MEYCO SA167 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 MEYCO SA167, 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.

Packaging

MEYCO SA167 is supplied in 275 kg drums & 1000kg containers.

Storage and Shelf life

MEYCO SA167 must be stored at minimum +5°C and maximum +30°C. MEYCO SA167 has to be kept in closed containers made of plastic, glassfibre plastic and stainless steel. MEYCO SA167 must be stored in normal steel containers as the pH can cause corrosion that might affect the performance of the product.

Please contact your local BASF representative for details of shelf-life.

Safety precautions

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. Do not reuse containers for storage of consumable item. For further information refer to the material safety data sheet. MSDS available on demand or on BASF construction chemicals web site.

Note

All BASF Technical Data Sheets are updated on regular basis; it is the user's responsibility, to obtain the most recent issue.

Field services where provided, does not constitute supervisory responsibility, for additional information contact your local BASF representative.

Disclaimer

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