

MEYCO[®] SA160

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

Description of product

MEYCO[®] SA160 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

MEYCO[®] SA160 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

Features and benefits

MEYCO[®] SA160 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 a single construction sequence.
- The unique product formulation provides continual early-age strength development whilst also achieving excellent long-term strength and durability.
- MEYCO[®] SA160 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.

Packaging

MEYCO[®] SA160 is supplied in 210 litre drums, 1000 litre containers and in bulk.

*Technical data

| | |
|--------------------------------|------------------|
| Form | Suspension |
| Colour | Beige |
| Density (at +20°C, Gamma-Ball) | 1.43 ± 0.06 g/ml |
| pH value (1:1 water solution) | 2.6 ± 0.5 |
| Viscosity +20°C, Brookfield) | 650 ± 350 mPas |
| Thermal stability | +5°C to +35°C |
| Chloride content | <0.1% |

Application procedure

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[®] SA160 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[®] SA160 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.

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Evaluation of setting and 24 hour strength 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 guideline 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[®] SA160 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 provides faster setting, higher early strength, better durability, lower accelerator dosage and thicker layers can be applied over head.

Dosage

MEYCO[®] SA160 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 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. Preferrably the material should be drawn off the bottom of the drum/container.

Compatibility with other accelerators

MEYCO[®] SA160 can be interchanged with BASF's alkali-free accelerators MEYCO[®] SA161, 162 and 170. However, storage of mixed MEYCO[®] SA accelerators is not recommended. BASF's alkali-free accelerators shall not be mixed with any other of BASF accelerator other than those listed above.

Do not mix MEYCO[®] SA160 with any type of accelerator produced by another manufacturer, as this could cause immediate clogging of dosing pumps and hoses.

Consumption

The dosage of MEYCO[®] SA160 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[®] SA160 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[®] SA160, 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

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Storage

MEYCO[®] SA160 must be stored at minimum +5°C and dmaximum +30°C. MEYCO[®] SA160 has to be kept in closed containers made of plastic, glassfibre plastic and stainless steel. MEYCO[®] SA160 must 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 MEYCO[®] SA160 be always fully agitated prior to use by mechanical stirring or re-circulation pumping. **Agitation by compressed air is strictly not advised.**

Please contact your local BASF representative for details of shelf-life, typically 6 months.

Open containers will allow prolonged contact with air leading to a skin film and lumps being produced that may cause blocking of accelerator system.

It is recommended that your local BASF representative be consulted prior to the use of any product that has been frozen.

Performance testing should always be carried out before use.

Safety precautions

MEYCO[®] SA160 contains no hazardous substances requiring labelling. However the same precautions as with handling and use of cementitious products should be observed.

Avoid eye and skin contact and wear rubber gloves and goggles. If contact occurs, rinse with plenty of water. In case of eye contact seek medical advice. For further information, refer to the Material Safety Datasheet or contact your local BASF company.

Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local BASF representative. BASF reserves the right to have the true cause of any difficulty determined by accepted test methods.

Quality and care

All products originating from BASF's Dubai, UAE facility are manufactured under a management system independently certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and OHSAS 18001.

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Properties listed are based on laboratory controlled tests.

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