

Alkali-free, liquid, high performance set accelerator for sprayed concrete with exceptionally high early strength development

Description of product

MEYCO® SA 162 is a high performance alkali-free set accelerator for sprayed concrete (shotcrete). It is a liquid admixture whose dosage can be varied to suit the desired setting and hardening times.

Fields of application

MEYCO® SA 162 is suitable for all rapid setting applications, where exceptionally high early strength, good final strength and extremely thick layers are required, with slump > 20 cm:

- When requiring extreme early strength
- Under wet tunnelling conditions
- Temporary and permanent rock support
- Rock support in mining
- In frozen ground conditions

Features and benefits

MEYCO® SA 162 is ideally suited 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 extremely fast setting coupled with continual early-age strength development. Good long-term strength and durability are also achieved.
- MEYCO® SA 162 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 cost.

Packaging

MEYCO® SA 162 is supplied in 210 litres drums, 1000 litre containers, or in bulk.

Technical data*

Form	Solution
Colour	Clear to Amber
Density (20°C)	1.38 ± 0.06g/ml
pH-value (1:1 water solution)	2.9 ± 0.5
Viscosity (20°C Brookfield)	150 ± 70mPas
Thermal stability	+5°C to +40°C
Chloride content	<0.1%

Application procedure

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

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

MEYCO® SA 162 can be sensitive to the type of cement. With some cement the setting characteristics can be too slow. It is recommended to use Portland cements (PC/HPC), which normally give faster setting than blended or sulphate resistant cement types. However, MEYCO® SA 162 works well with composite cement types (blended cements, fly-ash/slag). In any case, 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 (1996), 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.

Adding Value to Concrete

Mixing

When MEYCO® SA 162 is used for wet mix spraying, the water : binder ratio should be below 0.5 and preferably <0.45. Moisture contained in the aggregate must be taken into account! The lower w/c + b ratios provide faster setting, higher early strength, lower accelerator dosage and thicker layers applied overhead.

Dosage

MEYCO® SA 162 is added in the nozzle. The product being a suspension makes it incompatible with some kinds of pump. A constant and accurate dosage is of crucial importance to achieving a good result.

The following pump selection guideline should be used: Works very well:

- mono pumps (screw pumps)
- squeeze pumps (Bredel)
- MEYCO® Dosa

Should not to be used:

- 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. Avoid suction directly off the bottom of the drum/container. Compatibility with Delvocrete Stabilizer In combination with MEYCO® SA 162, Delvocrete Stabilizer should only be used at dosages recommended by the local MBT representative, or based on tests carried out at the place of use. Depending on type of cement, ambient temperature and type of concrete admixture, there may be risk of very slow setting and low early strength. Other accelerators, compatibility - **Do not mix** MEYCO® SA 162 with other accelerators as this could cause immediate clogging of pumps and hoses.

Consumption

The dosage of MEYCO® SA 162 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® SA 162 is normally in the range of 3 to 7%

of binder weight. Overdosing may result in decreased final strength. Cleaning of dosing pump Prior to the use of MEYCO® SA 162, the dosing pump and other parts of the system must be thoroughly cleaned with plenty of water. During application, the whole pumping system has to be cleaned with water every day. Failure to do so provokes blockages in the dosing system. Make sure that all operators involved in testing and application are fully informed.

Storage

MEYCO® SA 162 must be stored at minimum +5°C and maximum +40°C. MEYCO® SA 162 has to be kept in closed containers made of plastic or glass fibre plastic. **MEYCO® SA 162 must not be stored in steel containers** as the pH can cause corrosion that might affect the performance of the product. Containers should be tightly closed after use to avoid contact with air that can cause a chemical reaction (skin building on the surface and lumps, which can cause problems with the dosing pump). After prolonged storage we recommend that MEYCO® SA 162 be always stirred or re-circulated prior to use. Settlement may have occurred, that may not be visibly apparent. If stored in tightly closed original containers under the above given conditions, MEYCO® SA 162 has a shelf life of 3 months. It is recommended that your local MBT 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® SA 162 contains no hazardous substances requiring labeling. 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 Material Safety Data Sheet.

Note

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local MBT representative.

MBT reserves the right to have the true cause of any difficulty determined by accepted test methods.

Quality and care

All products originating from MBT'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 9000, ISO 14001 and OHSAS 18001.

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* Properties listed are only for guidance and are not a guarantee of performance.

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