

MEYCO[®] SA540

Alkali-free, non caustic and non toxic high performance powder accelerator for dry-mix shotcrete

Description

MEYCO SA540 is a high performance alkali-free, non caustic and non toxic accelerator for the use in dry-mix shotcrete processes. It is a powder additive whose dosage can be varied to the desired setting and hardening times.

Uses

MEYCO SA540 is suitable for all applications where high early strength, high final strength and large thickness are required:

- For temporary and permanent rock support
- For final lining (one pass lining)
- For repair works
- In tunnels
- In mining

Advantages

The quick setting properties allow:

- overhead layer thicknesses of 100 -150 mm in a single application
- rapid work progress

The unique formula:

- provides good early strength development
- limits the decrease of final strength
- improves durability as compared to mixes with traditional accelerators

The non caustic and non toxic nature of the product:

- prevents skin burns and provides an improved working environment
- reduces required handling precautions and hence improves economy
- reduces salt content in leaching water

Typical properties

Aspect	: White powder
Bulk density	: 500 – 700 kg/m ³
Chloride Content	: < 0.1%

Specification Clause

The alkali-free accelerator for dry process shotcrete shall be MEYCO SA540, a non-caustic, non-toxic powder. The product shall be capable of enhancing performance of dry shotcrete to less than 10% rebound and capable to spray >100mm thickness in single operation. The product shall enable achieving high early strengths (> 10 MPa at 24 hours) and quick final set (with in < 15 minutes).

Directions for use

Surface preparation

The substrate must be clean and free from loose particles and only lightly sprinkled.

Sensitivity to cement:

Age: 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.

Type: MEYCO SA540 is sensitive to the type of cement. With some cements the obtained setting characteristics can be too slow. This sensitivity can be compensated by lowering the w/c ratio. We recommend the use of OPC (Ordinary Portland Cement) or RHPC (Rapid Hardening Portland Cement) which will normally give faster setting characteristics than Blended Cements or SRC (Sulphate Resistant Cement).

In any case, it is strongly recommended to do preliminary tests to check the setting time and the 24 hour strength characteristics of the cement type used in the project.

Evaluation of setting and 24 hour strength characteristics:

Initial Set	Final Set	24 hour strength	Rating
2 minutes	6 - 8 minutes	18 - 20 N/mm ²	Good
5 minutes	8 - 12 minutes	12 - 15 N/mm ²	OK
> 10 minutes	> 15 minutes	< 10 N/mm ²	Poor

Remarks: If the setting times are poor, the 24 hour strength is usually good. With a slow setting it is possible to apply 50-70 mm on the vertical and 30-50 mm overhead.

Mixing

The minimum cement content with the use of MEYCO SA540 is 350 kg/m³ preferably it should be 400kg/m³.

Placing

MEYCO SA540 is added to the mix immediately prior to use.

Dosage

The dosage of MEYCO SA540 depends on the temperature of concrete, air, substrate and reactivity of the cement being used. Depending on the required setting time and early strength requirements dosage of



The Chemical Company

MEYCO SA540 will normally be in the range of 2-6% of cement weight. Over dosing, in excess of 10% will lead to lower final strengths. On site trials are recommended prior to use.

Storage and Shelf life

Store under cover out of direct sunlight and protect from extremes of temperature. In tropical climates the product must be stored in an air-conditioned environment.

Shelf life is 12 months when stored as above.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice please consult BASF's Technical Services Department.

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.

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