

MEYCO<sup>®</sup> SA 540

(Replaces Atrospeed D-14)

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

MEYCO SA 540 is a high performance alkali-free, non caustic and non toxic accelerator for the use in dry-mix shotcreting processes. It is a powder additive whose dosage can be varied to the desired setting and hardening times.

**Features and benefits**

The quick setting properties allow:

- overhead layer thicknesses of 100 -150 mm in a single application (as with aluminate based accelerators)
- 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

**Fields of application**

MEYCO SA 540 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

**Packaging**

MEYCO SA 540 is available in 15kg bags.

**Typical properties\***

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

Form	Powder
Colour	White
Bulk density	750 - 1000 kg / m <sup>3</sup>
pH value (in water dispersion)	7 ± 0.5
Chloride Content	< 0.1%

**Dosage**

The dosage of MEYCO SA 540 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 MEYCO SA 540 will normally be in the range of 5-10% of cement weight. Over dosing, in excess of 10% will lead to lower final strengths. On site trials are recommended prior to use.

**Application procedure****Preparation of the substrate:**

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 SA 540 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 <sup>2</sup>	Good
5 minutes	8 - 12 minutes	12 - 15 N/mm <sup>2</sup>	OK
> 10 minutes	> 15 minutes	< 10 N/mm <sup>2</sup>	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 SA 540 is 350kg/m<sup>3</sup>, preferably it should be 400kg/m<sup>3</sup>.

### Application:

MEYCO SA 540 is added to the mix immediately prior to use.

### Compatibility with DELVOCRETE STABILISER

In combination with MEYCO SA 540, the DELVOCRETE STABILISER should not be dosed at more than 0.4% by weight of cement at ambient temperatures of > 20°C. At ambient temperatures of > 15°C only 0.2% by weight of

cement should be used. Below 15°C DELVO STABILISER should not be used at all. Dosages of DELVOCRETE STABILISER in excess of those above indicated can cause very slow setting, low early strength and retardation. With slowly reacting cements there could also be problems with adhesion to the rock substrate.

### Note

The information given here is true, represents our best knowledge and is based not only on laboratory work, but also on field experience. However, because of numerous factors affecting results, we offer this information

without guarantee and no patent liability is assumed. For more information or questions, contact your local Degussa representative.

### Storage

Store in dry conditions. In their existing and undamaged packing MEYCO SA 540 has a shelf life of 6 months.

### Safety precautions

Unlike traditional powder shotcrete accelerators, MEYCO SA 540 does not harm the skin. The risk for any health hazard is therefore significantly reduced. MEYCO SA 540 contains no hazardous substances.

### Note

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

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

### Quality

All products produced by Degussa certified manufacturing facilities, are produced to conform to systems designed to meet internationally recognised quality standards.

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