

ROCKSET C-303

Alkali-Free Liquid Accelerator for Shotcreting

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Formerly Pagel Pakistan Pvt. Ltd.

Description

RockSet C-303 is a high performance, alkali-free set accelerator, suitable for used in wet mix spraying processes. The required hardening time can be achieved by adjusting the dosage.

- Development of high early strength as well as long term strength.
- Extremely fast setting, allows for rapid work progress.
- Low rebound properties, which lead to minimal waste and faster progress.
- Alkali free material – safe to use with easy handling and low environmental effects.
- Compatible with all type of cement but preferably Ordinary Portland or high-performance cements.

Recommended Uses

RockSet C303 is recommended for use in shotcreting applications where fast setting time and high early strength are required:

- Tunnels, caverns and mines.
- Rock and slope stabilization.
- Shotcrete for lining.

ADMIXTURES

SPECIAL ADMIXTURES

SURFACE IMPROVEMENT

GROUTS

WATER PROOFING

FLOORING

INDUSTRIAL COATINGS

JOINT SEALANTS

REPAIR / CRACK INJECTION

TILING SYSTEMS

Technical Data

Type	C-303
Color	Thixotropic beige suspension
Chloride content to BS5075 :1982	<0.1%
Specific Gravity	1.43 - 1.46 @25°C
PH Value(1:1 water solution)	2.6 ± 0.5
Viscosity by Brookfield viscometer	650 ± 350 mPas
Thermal stability	+5°C to +35°C

Important Information:

Supplied in: 210 Liter Drums or 1000 litre IBC tanks.

Storage: In a dry, Frost free, out of direct sunlight, unopened containers. The material must not be stored in stainless steel containers as pH can cause corrosion. It must be fully agitated prior to use by mechanical stirring or reticulating pumps.

Shelf life: 6 months, when stores as above.

Hazard Class: No dangerous goods. Consult MSDS for details.

Consumption:

The dosage of RockSet C-303 depends on the temperature conditions, reactivity of cement, required thickness of layers, setting time and the degree of early strength development. The consumption of RockSet C-303 is normally in the range of 3-10% of the weight of the binder. Overdosing (>10%) may result in decreased final strengths.

Substrate Preparation:

The substrate must be clean and free from all loose particles and preferably damp. It is recommended to use fresh cement to avoid any negative influence on the setting characteristics of the mix. RockSet C-303 can be sensitive to the type of cement. With some cements 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. RockSet C-303 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 time and the 24 hours strength.

The evaluation of the setting time 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

Mixing:

When RockSet C-303 is used for wet mix spraying, the w/c ratio should be below 0.5 and preferably less than 0.45. When targeting extremely high early strength, it should be 0.40 or lower. The lower w/c+b ratios provides faster setting, higher early strength, better durability, lower accelerator dosage, while allowing for thicker layers to be applied overhead.

Dosage:

RockSet C-303 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:

Works Well With:

- Mono pumps (screw pumps).
- Squeeze pumps.

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.

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