

RockAccel 60 (Accelerating Admixture)

Technical Datasheet

1. Description

RockAccel 60 is a liquid, high performance alkali-free set accelerator for sprayed concrete, whose dosage can be varied to the desired setting and hardening times.

2. Product Information

Composition:	Blend of special inorganic materials
Packaging:	25 Liters 210 Liters 1000 Liters
Colour:	Beige Liquid
Shelf Life	6 Months from production date if stored properly
Storage Conditions:	Minimum +5°C Maximum +35°C Optimum and Performance +20°C Must be kept in closed containers made of plastic, glass fibre or stainless steel. Must not be stored in normal steel containers After prolonged storage or transport we recommend to fully agitate it prior to use by mechanical stirring or re-circulation pumping.
Density:	1.43Kg/l (+25°C)
pH Value:	2.1 – 3.1
Viscosity:	>200 mPa.s
Chloride Content:	Nill (EN480-10)
Sodium Oxide:	< 1.0% by mass (EN480-12)

3. Technical Information

	Initial set	Final set	Performance
Concreting guidance	<2min	<6-8min	Very Good
	5 min	8-12min	Acceptable
	>10min	>15min	Poor

Concrete Mix Design

When RockAccel 60 is used for wet mix spraying, it is advised to have the w/c ratio <0.45

When targeting extremely high strength, it is preferable to have w/c ratio ≤ 0.40

The lower w/c ratio provides faster setting, higher early strength, better durability and lower accelerator dosage; moreover, it allows for thicker layers to be applied overhead.

4. Application Information

Recommended Dosage

3%-10 by weight of binder
Dosage by weight of binder depends on the mix design, raw materials, climatic conditions and concrete requirements.

Compatibility

RockAccel 60 is compatible with:
RockPlast Sky 3610
Silicafume
Fibre
RockStab HCA 10

Dispensing

RockAccel 60 is added at the nozzle. It is essential to have a constant and accurate dosage of accelerator into the concrete stream. To ensure quality sprayed concrete, follow the pump selection guidelines.

Works with:

- Mono Pumps
- Peristaltic Pumps

Should not be used with:

- Piston Pumps
- All pumps with ball and seat valves
- Pressure Tanks
- Gear Pumps

5. Direction of Use

- Temporary and permanent ground support in tunnelling and mining
- Slope stabilisation
- Suitable for accelerator of cementitious grouts, such as for annulus grout in TBM tunnels, cemented ground injection and foam concrete

6. Features

- The quick setting property allows rapid work progress and the ability to construct thick sprayed concrete linings via layered applications during one construction sequence.
- The product formulation provides fast setting, continuous early-age strength development high durability and enhanced long term strength
- Very low dust generation during application and therefore a good working environment.
- Possibility of low rebound application when using the correct nozzle angle and distance.
- Non-aggressive properties provide improved working safety, reduce environmental impact and lower handling cost.

7. Important Considerations

- Do not mix or interchange RockAccell 60 with any type of accelerator produced by another manufacturer, as this can cause immediate clogging of dosing pumps and hoses
- The effect of the accelerator depends on the content, age and type of cement as well as the shotcrete temperature. It is recommended to use fresh cement. With some cements the setting characteristics can be slower. We recommended the use of Portland cements, which normally give faster setting than blended or sulphate resistant cement types.
- RockAccell 60 also works well with composite cement types (blended cements, fly ash/slag). In all cases, it is strongly recommended to carry out preliminary tests to check setting and the 24H strength of the cements planned for use in a project.
- Evaluation of setting and 24h strength should be carried out of a test mortar in accordance with EFNARC European Specification for Sprayed Concrete (1996), Appendix 1, Clause 6.3
- The shotcrete quality is widely affected by the substrate, the applied layer thickness, the spraying process, the quality of equipment and the application techniques.
- The w/c ratio of the base shotcrete mix in the wet spraying process, and the quantity of

gauging water in the dry spraying process are also parameters influencing the accelerator effect of RockAccell 60.

- Overdosing (>10% by weight of binder) may result in decreased final strength.

8. Ecology, Health and Safety

User must read the most recent corresponding Safety Data Sheet (SDS) before using any products. This SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecologic, toxicological and other safety-related data.

9. Application Instructions

Substrate Preparation: The substrate should be cleaned and free from loose particles and preferably damp.

Cleaning of Equipment: After the use of RockAccell 60, 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 when next used.

10. Local Restrictions

Note that as a result of specific regulations the declared data and recommended uses of the product may vary from country to country. Consult the local Product Data Sheet for exact product data sheets and uses.

11. Legal Notes

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