

## Description:

Rockset® AF is an alkali-free non-toxic liquid high performance Set Accelerator, specifically designed for wet-mix and dry-mix Sprayed Concrete processes in the tunneling and mining industry. The product is applied where initial ground support is needed or where a permanent lining has been designed (such as for single-shell tunnel lining). Rockset® AF may also be used to accelerate cementitious based grouts for TBM tunnel lining backfilling and ground stabilization works. By adjusting the dosage, setting times and rebound can be reduced providing a safe and efficient work environment.

## Usage:

Rockset® AF reacts with all commonly used ordinary Portland cements and blended cements, and therefore can be used to accelerate all cement based grouts and concrete types where fast setting is required. Recommend for Wet-mix and dry-mix sprayed concrete applications such as:

- Quality inner lining.
- Initial and permanent support of surfaces in underground spaces.
- Slope and rock stabilization
- Repair & renovation works.

## Features & Benefits:

- Fast setting times and continued high early age strength gain allows for spraying in thicker layers.
- High final compressive strength development after 28 days and excellent long-term durability.
- Assured performance also at low temperatures and onto wet substrate conditions.
- Very low dust production during application ensures a safer working environment.

## Typical Properties at 20°C:

Form	Suspension Liquid
Colour	Transparent
Specific Gravity	1.40 ± 0.02
pH	2-5
Viscosity (ASTM D1084)	300 ± 100 mPa.s (cp) <b>Brookfield LV4, 100 rpm</b>
Setting Time @ maximum dosage range ASTM C1398	Initial setting time : 3-5 min Final setting time : 10-12 min
Alkali content ( Na2O equivalent) % by mass	≤ 1.0
Chloride content (EN 480-10 ASTM D512) % by mass	< 0.10
Standards	<b>RockSet® AF</b> complies with ASTM C1141/C1141M, Types I & II, Grade 9, Class A.
<b>Note:</b> Setting performance guide when testing RockSet®AF in cement paste with low water-cement ratio at 20°C.	

## Method of use:

### Dosage:

Sprayed trials should be conducted to determine the optimum dosage of Rockset® AF to meet the performance requirements by using the materials and conditions in actual use. Dosage of Rockset® AF will vary depending on the performance requirements of the sprayed concrete, cement type, age and content, temperature of the sprayed concrete, substrate and air, the water to binder ratio as well as the other admixtures and materials in the concrete mix.

Typical dosage is between 5.0 -7.0 litre/100 kg of cementitious and cement replacement material, including PFA, GGBFS or microsilica, which can be used as a starting point for the trials.

### Effects of Overdosing:

Overdosing of Rockset® AF will decrease the ultimate concrete strength.

### Application:

In the case of wet-mix and dry-mix sprayed concrete, Rockset® AF should not be added to the cement mixer or concrete mix, but through a liquid dispensing system that connects to the main hose right at the nozzle. In both sprayed concrete methods, the minimum cement weight per cubic meter of the concrete mix should be no less than 350 kg/m<sup>3</sup>.

### Shelf life & storage:

Rockset® AF should be stored at room temperature (min 5°C and max 35°C), kept dry and out of direct sunlight. If these conditions are maintained and the product packaging is unopened, then a shelf life of up to 6 months can be expected. Rockset® AF must be stored in stainless steel or plastic containers. Storage tanks made of mild (carbon) steel must not be used. After prolonged storage it is recommended to gently agitate Rockset® AF prior to use. This can be done either by stirring or by pumping (recirculation).

## Packaging:

Rockset® AF is supplied in 210 litre plastic drums & 1000 litre plastic bulks containers.

## Compatibility:

**Cement:** Rockset® AF is recommended to be used in concrete mixes based on Ordinary Portland Cement (OPC) or Rapid Hardening Portland Cement (RHPC). The minimum cement weight per cubic meter of the concrete mix should be no less than 350 kg/m<sup>3</sup>. With the assistance of STIPL Technical Service preliminary testing can be conducted for RockSet® AF compatibility with cements available to the job site.

**Admixtures:** Rockset® AF is compatible with all STIPL Superplasticisers and other STIPL admixtures. It is recommended STIPL Technical Department should be contacted for advice. Do not use other set accelerators in the concrete mix.

## Health & Safety Instructions:

Protect your health while working with this material, always use safety goggles, gloves and safety clothing. When handling hazardous materials or pressurized materials, or during any application that may result in spills, splashes or airborne particles, a full face shield is strongly recommended. Protect yourself and others on the jobsite. Consider property in proximity of the application area to prevent loss or damage.

Protect your jobsite from unauthorized persons. Store all materials and equipment safely and out of reach of children and animals. Observe container labels, SDS, applicable laws and regulations and all instructions before using the product and equipment. In case one of the components comes in contact with the skin, wash thoroughly with soap and water. Provide adequate ventilation in volume and pattern in working area.

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\*Further protection: Emergency showers and eyewash stations. Get immediate medical attention as needed.

**Additional Information:** Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

\*Separate datasheet are available on these products.

**Disclaimer:** The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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