

# Proset AF Ultra

High performance, alkali-free set accelerator for sprayed concrete



## DESCRIPTION

Proset AF Ultra is a high performance, alkali and chloride free rapid set accelerator used for wet 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).

The use of Proset AF Ultra allows sprayed concrete to better adhere to surfaces on which it is applied, reduces rebound, and by adjusting the dosage different setting times can be achieved.

## ADVANTAGES

- » Rapid setting time and high early strength, allows thick sections to be built-up.
- » Alkali-free.
- » Factory controlled formula, specially developed for High temperature and humidity environments.
- » Minimum rebound.
- » Single pass spraying for thick layers.
- » Excellent for overhead applications.
- » Low dust production during application.

## COMPATIBILITY

Proset AF Ultra is suitable to use with all types of Portland cement and cement replacement materials. Proset AF Ultra is compatible with other DCP admixtures when used in the same concrete mix.

If more than one type of admixture is to be used in the concrete mix, they must be dispensed to the concrete separately.

## STANDARDS

Proset AF Ultra complies with ASTM C1141, Type I and II, Grade 9.

## METHOD OF USE

Stiffening occurs approximately after 10 seconds of mixing concrete with Proset AF Ultra. As with all other processes and products, the rapid initial acceleration of the cement hydration process, will affect the ultimate concrete strength.

## TECHNICAL PROPERTIES @ 25°C:

Specific gravity:	1.42 ± 0.05
Viscosity: ASTM D1084, N <sub>2</sub> S <sub>50</sub>	385 ± 25 mPa.s (cp)
Chloride content:	< 0.1%
Setting time* @ 7.5% dosage range: EN 196-3	
Initial setting time	≤ 5 min
Final setting time	≤ 13 min

*\*The above data was developed under controlled laboratory conditions. Properties in the field may vary. Expect reasonable variations from these results, depending on cement type, jobsite or test conditions.*

## DOSAGE

The optimum dosage for Proset AF Ultra to meet specific requirements should be determined by trials using the materials and conditions that will be experienced in use.

This can best determine the optimum dosage to be used and will ensure most cost effective site application.

The typical dosage range for Proset AF Ultra is 3.0 - 10.0 kg per 100 kg of cementitious and cement replacement material, including PFA, GGBFS or microsilica, which can be used as a starting point for the trials.

## USE AT OTHER DOSAGES

Dosages outside the typical range quoted above may be used if necessary to meet particular mix requirements. Compliance with requirements must be assessed through trial mixes. For further information and support, contact DCP Technical Staff.

## EFFECTS OF OVER DOSAGE

An overdose of the intended amount of Proset AF Ultra will result in reduced setting of the mix and will result in some loss of strength.

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## DISPENSING AND MIXING

Proset AF Ultra is normally introduced directly after the air ring in the spray nozzle. In order to obtain a consistent supply of admixture at the nozzle the delivery system should have a 600 KPa pressure pot, and a 20 mm inside diameter pressure delivery hose controlled by a pressure restrictor and tap.

With 'wet process' the use of a water reducing admixture to reduce the water content while increasing workability of the mix is recommended.

## CLEANING

Clean Proset AF Ultra with fresh cold water.

## PACKAGING

Proset AF Ultra is available in 30 kg & 275 kg plastic drums. IBC bulk supply is also available upon request.

## STORAGE

Proset AF Ultra has a shelf life of 6 months from date of manufacture if stored in a dry area out of direct sunlight and exposure to frost in original unopened container. Make sure containers are tightly closed everyday after use, in order to avoid lumps forming due to reaction with air, which can cause problems with the dosing pumps.

After extended storage, stir the Proset AF Ultra admixture before using, as it can have settlement which in some case is not visually detectable.

If these conditions are exceeded, contact DCP Technical Department for advice.

## CAUTIONS

### HEALTH AND SAFETY

Proset AF Ultra is not classified as a hazardous material. Proset AF Ultra should not come into contact with skin and eyes. Goggles and gloves should be used. In case of contact with eyes, immediately flush with plenty of water and seek medical attention.

For further information refer to the Material Safety Data Sheet.

### FIRE

Proset AF Ultra is nonflammable.

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- » Grouts and anchors.
- » Concrete repair.
- » Flooring systems.
- » Protective coatings.
- » Sealants.
- » Waterproofing.
- » Adhesives.
- » Tile adhesives and grouts.
- » Building products.
- » Structural strengthening.

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### Note:

We endeavour to ensure that any information, advice or recommendation we may give in product literature is accurate and correct. However, because we have no control over where and how products are applied, we cannot accept any liability arising from the use of the products.

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