

ADVA[®] XR 3021

High Range Water Reducer/Superplasticiser with Enhanced Consistence Retention Performance

Product Description

ADVA[®] XR 3021 is a high performance superplasticiser designed for the production of ready-mixed concrete. It is intended for use in a wide range of ready-mixed concrete applications where, in addition to the stated superplasticising effect, extended slump retention is required.

ADVA[®] XR 3021 is beneficial in improving cohesion of concretes especially in applications where difficult or inaccessible pours are to be made.

ADVA[®] XR 3021 is based on next generation modified synthetic carboxylated polymers and offers concrete producers the advantages of the latest advances in concrete technology.

ADVA[®] XR 3021 conforms to EN 934-2; manufactured under controlled conditions to give a consistent product.

Advantages

- ADVA[®] XR 3021 is especially suitable for producing high consistence concrete, with excellent rheology and consistence retention properties
- High consistence flowing concrete can be obtained by incorporating ADVA[®] XR 3021 with highly flexible dosage to allow water reductions from 10 to 30%
- Minimal impact on setting time
- Suitable for use in mix designs containing fly ash, ggbs or silica fume
- ADVA[®] XR 3021 can be used to achieve high range water reduction leading to considerable increases in compressive strength; impermeability and durability are correspondingly improved
- Dose efficient

Typical Properties

ADVA [®] XR 3021	
Appearance	Amber/Straw Liquid
Specific Gravity (20 °C)	1.055
Alkali Content (eq.Na ₂ O)	1.00%
Chloride Content	Nil
Air Entrainment	1.0 %
Freezing Point	0°C

Method Of Use

ADVA® XR 3021 is supplied ready for use.

When producing high consistence concrete or concrete of low w/c ratio it is recommended that ADVA® XR 3021 be added in its supplied form with part of the batching water, after the addition of the cement. After the addition of admixture, a further mixing cycle of two minutes is suggested to enable the ADVA® XR 3021 to efficiently disperse the mix components.

Compatibility

With Cements:

ADVA® XR 3021 can be used with most types of Portland cements. It is also effective in concrete containing fly ash or ground granulated blastfurnace slag. For use with special cements we recommend contacting GCP Applied Technologies.

With Other Admixtures:

ADVA® XR 3021 should not under any circumstances be premixed with other admixtures. The performance of the product will be affected by the presence of other chemical admixtures. We recommend that all admixtures be added separately into the mix.

Addition Rates

Range	400 ml - 1200 ml per 100 kg cement
	0.40% - 1.20% (v/w) by wt. of cement
As a guide to trials an addition rate of 0.50 - 0.70% volume by weight of cement is suggested.	
For advice and assistance with trials we recommend that you consult GCP Applied Technologies.	

As with most products of this type, the magnitude of the effect obtained with ADVA® XR 3021 is governed by the quantity of product used, w/c ratio, and specific nature of the concrete and constituent materials. It is necessary therefore to assess performance under site conditions using actual materials to determine optimum dosage and effect on plastic/ hardened concrete properties, such as cohesiveness, consistence retention, set characteristics, early rate of strength gain, ultimate compressive strength and shrinkage when these are of consequence.

Effects of Overdosing

The effect of overdosing ADVA® XR 3021 is a function of the degree of overdose.

When producing high consistence concrete, overdosing will increase the level of consistence and may induce the onset of segregation. Depending on the extent of the overdose, an increase in setting time may also occur, especially in low ambient temperatures and/or when employing Sulfate-resisting Portland cements or cement replacement materials. Any situation where an overdose is suspected, careful inspection of the concrete in its plastic state should be conducted. Particular attention to consistency and cohesiveness prior to a decision on the suitability of the concrete for the particular application in question.

Dispensing

It is preferable that ADVA® XR 3021 should be introduced into the mixer by automatic dispensing equipment. Equipment or advice on dispensing can be obtained from GCP Applied Technologies.

Health and Safety

For further information on Health and Safety matters regarding this product we recommend that you consult the relevant Material Safety Data Sheet from GCP. In line with general chemical handling precautions avoid contact with skin or eyes and protective gloves/goggles should be worn.

Packaging

ADVA® XR 3021 is supplied in both 15 or 205 non returnable drums and 1,000 litre totes. Alternatively, bulk deliveries can be arranged.

Storage

ADVA® XR 3021 should be stored away from extremes of temperature and then protected from frost. If the product does become frozen, it should be carefully mixed after thawing out to restore it to its normal state. The product should be kept out of direct sunlight in shaded storage at all times.

Storage Life in Manufacturer 's Drums:

12 months from date of manufacture.

Storage Life in Bulk Storage:

12 months from date of delivery.

Technical Service

Our Technical Service department of GCP Applied Technologies is available to assist you in the correct use of our performance chemicals.

gcpat.uk | United Kingdom customer service: +44 (0) 1925 855330 Fax: 01925 855350

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