ADVA® FLOW 411

High Range Water Reducer / Superplasticiser for Self-Compacting Concrete Applications

Product Description

ADVA® FLOW 411 is a high efficiency, new generation admixture designed to offer extremely high consistence and enable the production of self-compacting concrete having exceptional consistence retention.

ADVA® FLOW 411 is based on next generation modified synthetic carboxylated polymers and offers concrete producers the advantages of the latest advances in concrete technology.

ADVA® FLOW 411 conforms to EN 934-2 and is manufactured under controlled conditions to give a consistent product.

Advantages

- ADVA® FLOW 411 is extremely efficient, allowing the production of high flow / self-compacting concrete at 'normal' water contents
- Produces self-compacting concrete which retains its initial consistence for 60-90 minutes
- Using suitable mix design, self-compacting concrete produced with ADVA® FLOW 411, efficiently flows then compacts around rebar reinforcement without blocking or segregation
- ADVA® FLOW 411 is especially suitable for largescale civil engineering applications as it has near neutral setting time and high early strength, allowing rapid progress to be achieved
- Concrete produced using ADVA® FLOW 411 is tolerant of variations in both water content and aggregate grading, thus minimising problems in the field.

Typical Properties

ADVA® FLOW 411	
Appearance	Brown / Straw Liquid
Specific Gravity (20°C)	1.055
Alkali Content (eq.Na_2O)	1.10%
Chloride Content	Nil
Air Entrainment	1.0 %
Freezing Point	0°C

Method Of Use

ADVA® FLOW 411 is supplied ready for use.

When producing high consistence concrete or concrete of low w/c ratio it is recommended that ADVA® FLOW 411 be added in its supplied form with part of the batching water, after the addition of the cement. After the addition of the admixture, a further mixing cycle of two minutes is suggested to enable the ADVA® FLOW 411 to efficiently disperse the mix components.

Compatability with Cements

ADVA® FLOW 411 can be used with most types of Portland cements. It is also effective in concrete containing fly ash or ground granulated blast slag. For use with special cements we recommend contacting GCP.

Compatability with Other Admixtures

ADVA® FLOW 411 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	600 ml -1200 ml per 100 kg cement
	0.60% -1.20% (v/w) by wt. of cement
As a guide to trials an addition rate of 0.80% 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® FLOW 411 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® FLOW 411 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® FLOW 411 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 Safety Data Sheet from GCP Applied Technologies. In line with general chemical handling precautions avoid contact with skin or eyes and protective gloves/goggles should be worn.

Packaging and Storage

ADVA® FLOW 411 is supplied in both 15 or 205 non returnable drums and 1,000 litre totes.

Alternatively, bulk deliveries can be arranged. ADVA® FLOW 411 should when possible be stored away from extremes of temperature and then protected from frost. 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.

Last Updated: 2025-05-13
gcpat.uk/solutions/products/adva-flow-411