ADVA® CAST 558

High Range Water Reducer / Superplasticiser for High Performance Precast Applications

Product Description

ADVA® CAST 558 is a high efficiency, new generation liquid superplasticiser designed to yield high range water reduction, high consistence and high early compressive strength concrete as required by the precast industry.

ADVA® CAST 558 has been specially adapted for use in mix designs containing manufactured sands.

ADVA® CAST 558 reduces the stiffening effect often associated with such materials, resulting in improved flow and slump retention. The inherent stabilizing behaviour is also beneficial in mixes where segregation or bleeding is experienced with conventional PCE based superplasticisers.

ADVA® CAST 558 is based on next generation modified synthetic carboxylated polymers and is manufactured under controlled conditions to give a consistent product. ADVA® CAST 558 conforms to EN 934-2.

Advantages

- ADVA® CAST 558 is especially suitable for producing high range water reductions, allowing considerable increases in compressive strength
- ADVA® CAST 558 is recommended for use with manufactured sands and mixes exhibiting bleeding and/or segregation
- ADVA® CAST 558 provides improved impermeability and durability characteristics with reduced defects
- Dose efficient with linear water reductions
- High consistence flowing concrete can be obtained with excellent rheology and handling properties
- Improved concrete cohesion
- Suitable for use in mix designs containing fly ash, ggbs or silica fume

Typical Properties

ADVA® CAST 558	
Appearance	Clear / Pale Straw Liquid
Specific Gravity (20°C)	1.040
Alkali Content (eq.Na_2O)	0.50%
Chloride Content	Nil
Air Entrainment	1.0 %
Freezing Point	0°C

Method Of Use

ADVA® CAST 558 is supplied ready for use.

When producing high consistence concrete or concrete of low w/c ratio it is recommended that ADVA® CAST 558 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 ADVA® CAST 558 to efficiently disperse the mix components.

Compatability with Cements

ADVA® CAST 558 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.

Compatability with Other Admixtures

ADVA® CAST 558 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	200 ml -3000 ml per 100 kg cement
	0.20% -3.00% (v/w) by wt. of cement
As a guide to trials an addition rate of 0.60 - 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® CAST 558 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® CAST 558 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® CAST 558 should be introduced into the concrete mixer by means of 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® CAST 558 is supplied in both 15 or 205 non returnable drums and 1,000 litre totes. Alternatively, bulk deliveries can be arranged. ADVA® CAST 558 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-cast-558