

# ADVA<sup>®</sup> CAST 552

High Range Water Reducer / Superplasticiser for High Early Age Strength in Precast Applications

## Product Description

ADVA<sup>®</sup>CAST 552 is a powerful superplasticiser designed to yield high range water reduction, short setting time and very high early compressive strength as required by the precast industry

ADVA<sup>®</sup>CAST 552 superplasticiser allows concrete to be produced with low water/cement ratios for high early and final compressive strength. ADVA<sup>®</sup>CAST 552 is ideal for use in all precast / pre-stressed structures where high range water reduction is desired for strength development and/or heat energy savings.

ADVA<sup>®</sup>CAST 552 is based on next generation modified synthetic carboxylated polymers and offers concrete producers the advantages of the latest advances in concrete technology. ADVA<sup>®</sup>CAST 552 conforms to EN 934-2 and manufactured under controlled conditions to give a consistent product.

## Advantages

- ADVA<sup>®</sup> CAST 552 is especially suitable for producing high range water reductions, allowing considerable increases in compressive strength
- ADVA<sup>®</sup> CAST 552 provides improved impermeability and durability characteristics with reduced defects
- ADVA<sup>®</sup> CAST 552 can be used to reduce the energy requirements of external heat in accelerated curing
- 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
- ADVA<sup>®</sup> CAST 552 provides superior concrete surface finish characteristics with reduced surface defects

## Typical Properties

Appearance	Clear / Straw Liquid
Specific Gravity (20°C)	1.075
Alkali Content (eq.Na <sub>2</sub> O)	0.75%
Chloride Content	Nil
Air Entrainment	1.0 %
Freezing Point	0°C

## Method Of Use

ADVA®CAST 552 is supplied ready for use.

When producing high consistence concrete or concrete of low w/c ratio it is recommended that ADVA®CAST 552 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 552 to efficiently disperse the mix components.

## Compatibility with Cements

ADVA®CAST 552 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.

## Compatibility with Other Admixtures

ADVA®CAST 552 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	300 ml - 1000 ml per 100 kg cement
	0.30% - 1.00% (v/w) by wt. of cement
As a guide to trials an addition rate of 0.40 - 0.60% 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 552 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 552 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 552 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 552 is supplied in both 15 or 205 non returnable drums and 1,000 litre totes.

Alternatively, bulk deliveries can be arranged.

ADVA®CAST 552 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.

## North America customer service: 1-877-4AD-MIX (1-877-423-6491)

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