ADVA® Cast 515 N

High early strength superplasticizer for precast concrete

Description

ADVA® Cast 515 N is a high range water reducer and superplasticizer concrete admixture especially suitable for the production of concrete mixes which require high early strength development, powerful water reduction and high flowability.

ADVA® Cast 515 N is based on modified synthetic carboxylated polymers. It is manufactured under rigid control which provides uniform predictable performance.

ADVA® Cast 515 N does not contain added calcium chloride.

It conforms to the requirements of TS EN 934-2 Table 3.1 and 3.2. and ASTM C494 - Type F

Applications

ADVA® Cast 515 N allows concrete to be produced with high levels of workability at low water/cement ratios for high early (12-24 hours) and final compressive strength.

ADVA® Cast 515 N allows concrete to be to be produced for below applications:

- Precast / prestressed concrete element production where high range water reduction is desired for early strength development and/or heat energy savings

- For production of concrete slabs, columns, beams, bridges and walls subject to early loading

-Concrete applications where quick removal of formworks is required

- In the production of cold weather concrete applications

Method of Use

ADVA® Cast 515 N is supplied ready for use. When producing concrete it is recommended that ADVA® Cast 515 N be added in its supplied form to the batching water prior to addition of the cementitious component. It should not be added directly to the cement.

Addition of any other chemical admixture should be undertaken separately.

Compatibility

With Cements:
ADVA® Cast 515 N can be used with the most types of Portland cements. Also it can be used at the mixes including fly ash, ggbs and silica fume.

With Other Admixtures:
ADVA® Cast 515 N should not be premixed under any circumstances with other admixtures. The performance of the product will be affected by the presence of other chemical admixtures. Trial mixes need to be carried out to determine the compatibility between ADVA Cast 515 N and other admixtures before use.

We recommend that all admixtures be added separately into the mix.

Advantages

- Increases high early strength development
- Improves final strengths
- Powerfull water reduction
- Reduced energy cost for steam cured precast elements
- Allows to produce very high slump concrete at low water cement ratios
- Improves surface finish
- Increased durability

Addition Rates

Range:
500 g - 2000 g per 100 kg binder
0.5 %-2,0 % (v/w) by wt. of binder

The magnitude of the effect obtained with ADVA® Cast 515 N is governed by the quantity of product used, w/c ratio and the specific nature of the concrete and constituent materials.

It is necessary therefore to assess performance under site conditions using actual materials to determine optimum performance and dosage.

Addition rates outside of the recommended dosage range may be used for special concrete applications. In such circumstances it is important to conduct preliminary trials on the actual mix constituents to assess the effect on the properties of the concrete at the dosage level specified.

For advice and assistance with trials we recommend that you consult Grace Construction Products.

Effects of Overdosing

The effects of overdosing of ADVA® Cast 515 N are a function of the degree of overdose. When producing high workability concrete, overdosing will increase the level of workability and may induce the onset of segregation. Depending on the extent of the overdose, an increase in the setting time may occur, especially in low temperatures and/or when employing sulphate resisting cement or cement replacement materials. During this period the concrete must be kept moist in order to prevent premature drying out

In any situation where overdosing is suspected, a careful inspection of the concrete in its plastic state should be conducted. Particular attention should be paid 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 515 N should be introduced into the mixer by means of independent automatic dispensing equipment. Please consult Grace Construction Products on this subject

Health and Safety

For further information we recommend that you consult Grace Construction Products or please refer to MSDS.

Packaging

It is available in bulk, 1000 lt plastic containers, 200 lt non returnable drums and 20 lt pails.

Storage

If stored shaded storage area, above +5 ^{0}C and protected from extremes of cold, heat and direct sunlight, the shelf life is 12 months.

Base :	Modified synthetic carboxylated polymers
Form:	Homogenious, Liquid
Appearance, Colour:	Dark brown
Density (@ 20°C):	1.040 ± 0.02 g/cm^3 (TS 781 ISO 758)
pH (@ 20°C) :	3,5 ± 1.5 (TS 6365 EN 1262)
Total Chloride Ion Content :	< 0,10 M.-% (TS 1116 EN ISO 1158)
Water Soluable Ion Content :	< 0,10 M.-% (TS EN 480-10)
Alkali content:	< 7,0 M.-% (TS EN 480-12)
Storage:	Keep the temperatures above +5°C.
Recommended Dosage :	0,5-2,0 % by weight of binder
Physical Effect :	Please refer MSDS for detailed information
Shelf Life:	1 year from date of production

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