

# Daracem<sup>®</sup> 551

## Superplasticizer concrete admixture

### Description

Daracem<sup>®</sup> 551 is a high range water reducer and superplasticizer concrete admixture that improves the workability of the concrete and/or helps to reach the same workability with lower water content resulting in significantly improved strengths. It also helps to improve the slump retaining properties of concrete.

Daracem<sup>®</sup> 551 produces a concrete with lower water content, longer slump life, greater plasticity and higher strength. As a result of those improvements it enables to produce less permeable and more durable concrete.

It can be used with a wide range of dosage rates.

Daracem<sup>®</sup> 551 does not contain added calcium chloride.

It conforms to the requirements of TS EN 934-2 Table 11.1 and 11.2. and ASTM C 494 Type G

### Applications

Daracem<sup>®</sup> 551 allows concrete to be produced for below applications:

- High quality concrete for durable structures
- Ready mixed concrete production and job site plants
- Bridge deck slabs
- Foundations, ceilings, beams and columns
- Blast furnace slag, silica fume concrete
- In the production of concrete with easy placement
- Normal and special types of concrete and reinforced concrete

### Advantages

- Effective over a wide range of cement contents and w/c ratios
- Improved cohesion
- Substantial improvement in workability without increased water
- Improves strengths
- It permits a high reduction in the water content of the concrete
- Helps to improve slump life of concrete
- Increased durability

### Method Of Use

Daracem<sup>®</sup> 551 is supplied ready for use. When producing concrete it is recommended that Daracem<sup>®</sup> 551 be added in its supplied form to the batching water prior to addition of the cementitious component.

Addition of any other chemical admixture should be undertaken separately.

### Compatibility

With Cements:

Daracem<sup>®</sup> 551 can be used with the most types of Portland cements. Also it can be used at the mixes including fly ash and silica fume.

With Other Admixtures:

Daracem<sup>®</sup> 551 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. We recommend that all admixtures be added separately into the mix.

### Addition Rates

**800 g – 1500 g per 100 kg binder**  
**0.8%-1.5 % (v/w) by wt. of binder**

The magnitude of the effect obtained with Daracem<sup>®</sup> 551, 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 Daracem<sup>®</sup> 551 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 Daracem<sup>®</sup> 551 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 °C and protected from extremes of cold, heat and direct sunlight, the shelf life is 12 months

<b>Base :</b>	Modified sulphonate
<b>Form:</b>	Homogenous, Liquid
<b>Appearance, Colour:</b>	Dark Brown
<b>Density ( @ 20°C):</b>	1.115 ± 0.030 g/cm <sup>3</sup> (TS 781 ISO 758)
<b>pH ( @ 20°C) :</b>	8.5 ± 1.5 (TS 6365 EN 1262)
<b>Total Chloride Ion Content :</b>	< 0,10 M.-% (TS 1116 EN ISO 1158)
<b>Water Soluable Ion Content :</b>	< 0,10 M.-% (TS EN 480-10)
<b>Alkali content:</b>	< 7,0 M.-% (TS EN 480-12)
<b>Storage:</b>	Keep original and unopened package (drums, containers) at temperatures above +5°C and protect from frost and direct sunlight.
<b>Recommended Dosage :</b>	0,8-1,5% by weight of cement
<b>Physical Effect :</b>	Please refer MSDS for detailed information or consult GCP
<b>Shelf Life:</b>	App. 12 months from date of production if stored properly in original and unopened package (drums, containers)

[www.graceconstruction.com](http://www.graceconstruction.com)

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