

DARACEM[®] 170

Concrete Superplasticiser

Product Description

DARACEM[®]170 is a high efficiency superplasticising admixture designed to impart extremely high workability to readymixed concrete and to yield excellent workability retention to enable large or difficult pours to be made.

DARACEM[®]170 yields excellent water reduction of concrete mixes, with minimal retardation of setting time.

DARACEM[®]170 is based on a synthetic carboxylated polymer and is manufactured under closely controlled conditions to give a consistent product. DARACEM[®]170 complies with EN934 part 2 and also with BS 5075 part 3 and ASTM C494 Type F.

Product Advantages

- DARACEM[®] 170 is especially suitable for producing high workability concrete that has excellent workability retention. In this application, minimum extensions of setting time and little loss in early age compressive strength are observed.
- High workability flowing concrete can be obtained by incorporating DARACEM[®] 170 into a concrete mix designed for a 50mm slump. Normal pump mixes are recommended.
- DARACEM[®] 170 can be used to effect high range water reductions, leading to considerable increases in compressive strength. Impermeability and durability are correspondingly improved.

Typical Properties

Appearance	Mid brown liquid
Air Entrainment	1.0% approx.
Chloride Content	Nil

Compatibility

With Cements:

DARACEM[®]170 can be used with all types of Cements, including Limestone Cements. It is also effective in concretes containing pulverised fuel ash or ground granulated blast furnace slag. For use with special cements we recommend that you consult GCP Applied Technologies.

With other Admixtures:

DARACEM[®]170 should not be pre-mixed with other admixtures. The performance of the material may be affected by the presence of other chemicals and we recommend that you consult GCP in such circumstances.

Method of Use

DARACEM[®]170 is supplied ready for use. When producing high workability concrete it may be added in its supplied form with the batching water, after the addition of the cementitious component, or at the end of the mixing process. It may also be added on site, directly into the truck. A further mixing cycle of at least 2 minutes is recommended to enable DARACEM[®]170 to fully disperse the mix components.

Addition Rates

Range	400 ml - 1200 ml per 100 kg cement
Range	0.5% - 1.0% (v/w) by wt. of cement

As with most products of this type, the magnitude of the effect obtained with DARACEM[®]170 is governed by the quantity of product used and the specific nature of the concrete and its constituent materials. It is necessary, therefore, to assess performance under site conditions using site materials to determine optimum dosage and effect on both plastic and hardened concrete properties, such as cohesiveness, workability retention, set characteristics, early rate of strength gain, ultimate compressive strength and shrinkage when these are of consequence.

As a guide to these trials, an addition level of 0.6-0.8% DARACEM[®]170 volume/weight of cement is recommended.

For advice and assistance with your trials we would recommend that you consult GCP.

Effects of Overdosing

The effects of overdosing of DARACEM[®]170 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.

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 liquid admixtures for concrete should be introduced into the mixer by means of automatic dispensing equipment. Such equipment is available from GCP and details will be supplied on request.

Health and Safety

DARACEM[®]170 is formulated from chemicals which present no fire or health hazards. If, however, it is spilt the floor will be made slippery and should be washed down immediately with cold water. For further information see DARACEM[®]170 Safety Data Sheet, or consult GCP.

Packaging

DARACEM®170 is supplied in 205-litre free, non-returnable drums. Alternatively, bulk deliveries can be arranged.

Storage

DARACEM®170 should preferably be stored protected from frost. If the product does become frozen, it should be carefully mixed after thawing out to restore it to its normal state.

Storage life in manufacturer's drums:

12 months from the date of manufacture.

Storage life bulk storage:

12 months from the date of delivery.

Technical Service

The GCP Technical Service Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

gcpat.ae | United Arab Emirates customer service: +971 4 5139560

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GCP Applied Technologies Inc., 2325 Lakeview Parkway, Alpharetta, GA 30009, USA

P. O. Box 5006, Office 2104, 21 Floor, The Exchange Tower, Opp. JW Marriott Marquis Hotel, Business Bay, Dubai – United Arab Emirates

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Last Updated: 2025-05-15

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