

DARACEM[®] 303

Concrete Superplasticiser

Product Description

DARACEM[®]303 is a high performance superplasticiser designed specially to impart high workability to concrete containing silica fume, while possessing excellent slump retention properties. It can also be used in normal concrete mix designs where high workability is required for long periods, to aid placement, such as piling concrete, congested areas of reinforcement, etc.

DARACEM 303 is based on selected raw materials and is manufactured under controlled conditions to give a consistent product. It is formulated from specially designed polymeric sulphonate materials and naturally derived products. DARACEM 303 meets the requirements of ASTM C-494 Type G and BS 934-2.

DARACEM 303	
Appearance	dark brown liquid
Specific Gravity	1.22 at 20°C
Air Entrainment	0.5% approx.
Chloride Content	Nil

Advantages

- Effective over a wide range of cement contents and w/c ratios
- Aids concrete cohesion.
- Imparts excellent slump retention over prolonged periods of time.
- Allows greater time for placement and compaction, especially in concrete containing silica fume.
- Can be used to achieve large water reductions in concrete, to obtain high early and ultimate compressive strength gains as required in precast / pre-stressed concretes.

Addition Rates

Range: 0.4%–3.2% volume by weight of cement

The performance of DARACEM 303 is best assessed after preliminary trials in the laboratory or on site, using the actual mix constituents under consideration, to determine the optimum dosage and effect on concrete properties such as compressive strength, setting times, workability retention, etc. when these are of consequence.

As a guide to these trials, an addition rate of 400 ml–3200 ml DARACEM 303 per 100 kg cement is recommended.

For silica fume concrete mixes, addition rates greater than 1500 ml per 100 kg cement are recommended, but lower dosage levels may be feasible following trial mixes and depending upon w/c ratios.

Method of Use

DARACEM 303 is supplied ready for use. It should be added to the concrete mixes during the mixing process at the same time as the water. It should not be added directly to the cement.

For mixes containing silica fume, DARACEM 303 should be incorporated into the mix after the addition of the silica fume, at the same time or just after the mix water. DARACEM 303 should not be added to slurrified silica fume before addition to the mix.

Compatibility with Cements

DARACEM 303 can be used with all types of Portland, Pozzolanic and Blast Furnace cements. It can also be used in mix designs containing fly ash, and/or silica fume.

Compatibility with other Admixtures

DARACEM 303 should not be premixed under any circumstances with other admixtures. While some admixtures can be usefully combined within the same mix the performance of this product may well be affected by the presence of other chemicals and we recommend that GCP Applied Technologies be contacted for advice in all such circumstances.

Effects of Overdosing

Overdosing of DARACEM[®]303 will generally produce an increase in workability and a slight increase in air entrainment, which will be accompanied by a delay in the concrete setting time

However, provided the overdosed concrete is cured properly, the ultimate strength will generally be higher than normal concrete.

The effects of overdosing with respect to set retardation are increased when sulphate resisting cement (Type V) is used in the mix design.

Dispensing

It is preferable that liquid admixtures for concrete should be introduced into a mixer by means of automatic dispensing equipment details of which are available upon request.

Health and Safety

For further information see the DARACEM 303 SDS (Safety Data Sheet) or consult GCP.

Packaging

DARACEM 303 is supplied in 210 litre, non-returnable containers.

Alternatively, 1000 litre IBCs or bulk deliveries can be arranged.

Storage

DARACEM 303 should be stored in original containers or suitable closed tanks, preferably out of direct sunlight and protected from extremes of temperature.

Shelf Life in Manufacturer's drums and IBCs:

12 months from the date of manufacture

Shelf Life in Bulk Storage:

12 months from the date of delivery

Technical Service

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

GCP

Emirates Chemicals LLC

Festival Tower, Suite 1701

Dubai Festival City

P.O. Box 5006

Dubai, United Arab Emirates

Tel: +971 4 2329901

Fax: +971 4 2329940

Email: meinfo@grace.com

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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