

# DARACEM<sup>®</sup> 100

High-range water-reducing admixture ASTM C494 Type F and G and ASTM C1017 Type I

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## Product Description

DARACEM<sup>®</sup>100 is an aqueous solution of chemical dispersants combined with other chemicals which increase its beneficial effects on the quality and plasticity of a concrete mix.

DARACEM<sup>®</sup>100 is the first high-range water reducer specially formulated for extended slump life. Conventional superplasticizers normally provide only 25 to 45 minutes of slump increase before the concrete begins to lose workability. DARACEM<sup>®</sup>100, however, extends the time span of the slump increase up to twice as long or longer. One gallon of DARACEM<sup>®</sup>100 weighs approximately 10 lbs (1.2 kg/L).

## Product Advantages

- May be used as an ASTM C494 Type F and G high-range water-reducing admixture
- Can produce high slump flowable concrete with no loss in strength
- Can produce low water/cement ratio concrete and therefore, high strengths
- Concrete produced with Type I cement may be substituted for normal concrete produced with Type III cement to achieve early strengths
- At high slump, exhibits no significant segregation in comparison to concrete without a superplasticizer at the same slump

## Uses

DARACEM<sup>®</sup>100 provides improved slump retention in flowable concrete. It is ideal for low water/cement ratio concrete designed for high early compressive and flexural strengths with exceptional workability and flow characteristics. Because of its unique ability to draw maximum effect from the cement content of a mix, it frequently gives performance with a Type I cement comparable to that of a Type III cement.

DARACEM<sup>®</sup>100 helps to solve difficult placeability problems such as dense rebar networks or constricted forms and job conditions requiring that the concrete be transported or pumped for long distances. A DARACEM<sup>®</sup>100 mix flows easily into forms and around reinforcing steel. Even at high slump, the concrete consolidates well without segregation.

## Addition Rates

DARACEM<sup>®</sup>100 can be added at variable addition rates to suit job requirements. The normal dosage range is 5 to 20 oz/100 lbs (325 to 1300 mL/100 kg) of cement. In the lower range, DARACEM<sup>®</sup>100 meets the requirements for an ASTM C494 Type F water-reducing, high-range admixture and at the upper range for a Type G water-reducing, high-range and retarding admixture. Note that when used as a Type G admixture, concrete set times will increase. Varying addition rates may give added slump variances to match placement needs. Should job conditions require more than recommended addition rates, please consult your GCP representative.

## Compatibility with Other Admixtures and Batch Sequencing

DARACEM<sup>®</sup>100 is compatible with most GCP admixtures as long as they are added separately to the concrete mix, usually through the water holding tank discharge line. However, DARACEM<sup>®</sup>100 is not recommended for use in concrete containing ADVA<sup>®</sup>superplasticizers or polycarboxylate-based mid-range water reducers. In general, it is recommended that DARACEM<sup>®</sup>100 be added to the concrete mix near the end of the batch sequence for optimum performance. Different sequencing may be used if local testing shows better performance. Please see GCP Technical Bulletin TB-0110, *Admixture Dispenser Discharge Line Location and Sequencing for Concrete Batching Operations* for further recommendations.

Pretesting of the concrete mix should be performed before use, as conditions and materials change in order to assure compatibility, and to optimize dosage rates, addition times in the batch sequencing and concrete performance. For concrete that requires air entrainment, the use of an ASTM C260 air-entraining agent (such as Daravair<sup>®</sup> or Darex<sup>®</sup>II AEA) is recommended to provide suitable air void parameters for freeze-thaw resistance. Darex AEA is not recommended.

## Packaging & Handling

DARACEM<sup>®</sup>100 is available in bulk, delivered by metered tank trucks, totes and drums.

DARACEM<sup>®</sup>100 will begin to freeze at 32 °F (0 °C) but will reconstitute to full strength after thawing and agitation. In storage and for trouble-free dispensing, DARACEM<sup>®</sup>100 should be maintained at temperatures above 40 °F (4 °C).

## Dispensing Equipment

A complete line of accurate, automatic dispensing equipment is available.

[gcpat.com](http://gcpat.com) | North America Customer Service: 1 877-4AD-MIX1 (1 877-423-6491)

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Last Updated: 2022-04-21

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