DARACEM® 19 Data Sheet

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

Product Description

DARACEM®19 is an aqueous solution of a modified naphthalene sulfonate. DARACEM®19 is a superior dispersing admixture having a marked capacity to disperse the cement agglomerates normally found in a cement-water suspension. The capability of DARACEM®19, in this respect, exceeds that of normal water-reducing admixtures. It is a low viscosity liquid manufactured for use as received. DARACEM®19 contains no added chloride. DARACEM®19 is formulated to comply with *Specifications for Chemical Admixtures for Concrete*, ASTM C494 as a Type A and Type F admixture, and ASTM C1017 as a Type I admixture. One gallon of DARACEM®19 weighs approximately 10 lbs (1.2 kg/L).

Product Advantages

- 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®19 produces concrete with extremely workable characteristics referred to as high slump. DARACEM®19 also allows concrete to be produced with very low water/cement ratios at low or normal slumps. DARACEM®19 is ideal for use in prestress, precast, bridge deck or any concrete where it is desired to keep the water/cement ratio to a minimum and still achieve the degree of workability necessary to provide easy placement and consolidation. DARACEM® 19 will also fluidize concrete, making it ideal for tremie concreting or other applications where high slumps are desired.

Addition Rates

Addition rates of DARACEM®19 can vary with type of application, but will normally range from 6 to 20 fl oz/100 lbs (390 to 1300 mL/ 100 kg) of cement. In most instances the addition of 10 to 16 fl oz/ 100 lbs (650 to 1040 mL/100 kg) of cement will be sufficient. At a given water/cement ratio, the slump required for placement can be controlled by varying the addition rate. Should job site conditions require using more than recommended addition rates, please consult your GCP Applied Technologies representative.

Compatibility with Other Admixtures and Batch Sequencing

DARACEM®19 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®19 is not recommended for use in concrete containing polycarboxylate based ADVA®superplasticizers or MIRA®mid-range water reducers. In general, it is recommended that DARACEM®19 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, and 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®or DAREX®II AEA) is recommended to provide suitable air void parameters for freeze-thaw resistance. Darex AEA is not recommended. Please consult your GCP Applied Technologies representative for guidance.

Packaging & Handling

DARACEM®19 is available in bulk, delivered by metered tank trucks, in totes and drums DARACEM®19 will begin to freeze at approximately 32 °F (0 °C), but will return to full strength after thawing and thorough agitation. In storage, and for proper dispensing, DARACEM®19 should be maintained at temperatures above 32 °F (0 °C).

Dispensing Equipment

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

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