DARACEM® 100

Superplasticiser for the production of high workability concrete

Product Description

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

Daracem 100 is the first high range water reducer specially formulated for extended slump life. Conventional superplasticisers normally provide only 25 to 45 minutes of slump increase before the concrete begins to lose workability. Daracem 100, however, extends the time span of the slump increase up to twice as long or longer.

Daracem 100 is a chemical admixture meeting the requirements of the following chemical admixture specifications for concrete: ASTM C494 Type F and Type G; BS 5075: Part 3: 1985; AS 1478 and 1479 Re and WRRe. One litre weighs approximately 1.20kg ± 0.02kg

Chemical Action

Daracem 100 neutralises the surface charges on cement particles causing extreme dispersion, resulting in complete, efficient cement hydration which, in turn, greatly increases strength development.

Product Advantages

- Exceptional workability and flowability.
- Improved slump retention in flowable concrete.
- Good placeability into forms and around reinforcing steel.
- Early achievement of form stripping strengths.
- Reduced energy requirement for precast/prestress work.

Applications

Daracem 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.

It can be used in precast/prestress work to reduce the high energy requirement of external heat for accelerated curing. Daracem 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. Even at high slump, the concrete consolidates well without segregation. Daracem 100 concrete reaches stripping strengths quickly and finishes easily without the stickiness, tearing and surface drying characteristics sometimes experienced with other high range water reducers.

Compatibility with Other Admixtures

Daracem 100 treated concrete should use a Wood Resin air-entraining agent, (such as DARAVAIR®) or a tall oil derivative air entrainer (such as DAREX®AEA®) for proper air void parameters to provide resistance against freeze-thaw attack.

Pretesting of the concrete should be performed to optimise dosage rates, determine mix design and setting characteristics. Admixtures should not be in contact with each other before entering the concrete. Pretesting to determine optimum addition rates will benefit performance.

Addition Rates

Daracem 100 can be added at variable addition rates to suit job requirements. The normal dosage range is 400 to 1,200mL / 100kg of cementitious material. In the lower range, Daracem 100 meets the requirements for an ASTM C 494 Type F waterreducing, high range admixture and at the upper range for a Type G water-reducing, high range and retarding admixture. Varying addition rates may give added slump variances to match placement needs. Should job conditions require more than recommended addition rates, please consult your local GCP representative.

Dispensing Equipment

Please contact your local GCP representative for further information regarding the dispensing equipment for this product.

Packaging

Daracem 100 is available in bulk and in 205L drums.

Daracem 100 contains no flammable ingredients.

It will begin to freeze at 0 °C but will reconstitute to full strength after thawing and agitation. In storage and for trouble-free dispensing, Daracem 100 should be maintained at temperatures above 4 °C.

Health and Safety

See Daracem 100 Material Safety Data Sheet or consult GCP Applied Technologies.

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

GCP Applied Technologies (Malaysia) Sdn. Bhd, 7 Lorong CJ 1/1A, Off Jalan Balakong, 43200 Cheras Jaya, Kuala Lumpur, Malaysia

Last Updated: 2022-11-24
gcpat.my/solutions/products/daracem-100-0