

# DARACEM<sup>®</sup>

Superplasticiser

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## Product Description

DARACEM<sup>®</sup> 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 is a high range water reducer, commonly referred to as a superplasticiser. It is an aqueous solution of a modified naphthalene sulfonate. It is a low viscosity liquid which has been formulated by the manufacturer for use as received. Daracem contains no added chloride. Daracem is formulated to comply with the following chemical admixture specifications for concrete: BS 5075: Part 3: 1985; SS 320:1987; AS 1478 Type HWR (App C4, Class (g)(i)). One litre of Daracem weighs approximately  $1.17\text{kg} \pm 0.02\text{kg}$ .

## Dispersion

Daracem 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, in this respect, exceeds that of normal water-reducing admixtures.

## Product Advantages

- The low sodium content of Daracem is particularly useful in applications where a limit on the equivalent sodium oxide of the mix design is specified.
- Daracem can produce high slump flowable concrete at no loss in strength.
- Daracem can produce low water-cement ratio concrete and therefore, high strengths.
- Daracem, in prestress/precast work, can be used to substantially reduce or eliminate the high energy requirements of external heat for accelerated curing.
- Daracem concrete produced with Type I cement may be substituted for normal concrete produced with Type III cement to achieve early release strengths.
- Daracem concrete, even at high slump, exhibits no significant segregation compared to concrete without a superplasticiser at the same slump.
- Daracem aids in rapid discharge of concrete from truck mixers thereby reducing on the job time and improving mixer utilisation.

## Addition Rates

Addition rates of Daracem can vary with type of application, but will normally range from 400 to 1,500mL / 100kg of cementitious material. In most instances the addition of 400 to 1,100mL / 100kg of cementitious material 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 local GCP representative.

## Compatibility with Other Admixtures

In concrete containing Daracem, the use of an air-entraining agent (such as DARAVAIR® or DAREX® AEA®) is recommended to provide suitable air void parameters for resistance against freeze-thaw attack.

Most water reducers or water-reducing retarders are compatible with Daracem as long as they are separately added to the concrete. Pretesting of the concrete should be performed to optimise dosages and addition times of these admixtures. Caution should be exercised when using Daracem together with a retarder, as excessive retardation can occur if the admixture dosages are too high. The admixtures should not be in contact with each other before they enter the concrete.



## Applications

Daracem produces concrete with extremely workable characteristics referred to as high slump, flowing concrete. Daracem also allows concrete to be produced with very low water-cement ratios at low or normal slumps.

Daracem 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 will also fluidise concrete making it ideal for tremie concreting or other applications where high slumps are desired.

## Dispensing Equipment

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

## Packaging

Daracem is available in bulk, and in 205L drums. Daracem contains no flammable ingredients. It will begin to freeze at approximately 0°C, but will return to full strength after thawing and agitation. In storage and for proper dispensing, Daracem should be maintained at temperatures above 0°C.

## Health and Safety

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

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