

DARACEM[®] 19CF

Concrete Superplasticizer

Product Description

DARACEM[®]19CF is a high performance liquid concrete superplasticiser that has been developed to allow concrete to attain high performance in both the plastic and hardened states. It is particularly useful for imparting extreme workability to concrete mixes so that large or difficult pours can be made, whilst maintaining excellent slump retention properties especially in climatically hot conditions.

DARACEM 19CF can also be utilized to affect large water reductions, thus achieving high performance in both plastic and hardened states.

DARACEM 19CF is an extremely powerful deflocculating agent and performs by dispersing cement into its primary particles, dramatically increasing flow characteristics of the cement paste. DARACEM 19CF meets the requirements of ASTM C494 Type D and G, BS EN 934-2 and ASTM C1017.

Applications

Main applicational areas are:

- Pozzolan and blast furnace slag concretes
- Silica Fume concrete
- High quality concrete for durable structures
- Reinforced and pre-stressed precast elements
- Bridge deck slabs
- Piling & In-situ structures

Advantages

- High compressive strength concrete especially at early ages. A high workability concrete mix with DARACEM 19CF will have the same or higher compressive strength compared to plain concrete of similar w/c ratio.
- Plastic concrete exhibits high cohesion, fluidity and flowability. Concrete with DARACEM[®] 19CF will maintain slump properties in excess of 2 hours, even at high ambient temperatures.
- Addition of DARACEM[®] 19CF to plain concrete allows a water reduction of up to 30%.
- Low water/cement ratios lead to excellent durability of concrete.
- Good surface finish, providing highly aesthetic concrete appearance.

Typical Properties

Appearance	Dark Brown Liquid
Specific Gravity	1.22 at 20o C
Air Entrainment	0.5%
Chloride Content	Nil

Method Of Use

DARACEM 19CF is supplied ready for use and should be added to concrete mixes either during the mixing cycle or at the same time as the water, or alternatively it should be added in its supplied form to a normal concrete mix a few minutes before the pour is made.

In the latter case a mixing cycle of at least 2 minutes should be provided to ensure complete dispersion.

Compatibility with Cements

DARACEM 19CF is compatible with all Portland, Pozzolanic and Blast furnace cements. It is also compatible with concrete containing fly ash and/or silica fume.

Compatibility with other Admixtures

DARACEM 19CF 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. We recommend that GCP be contacted for advice in all such circumstances.

Addition

Rates Range: 0.60% - 2.0% volume by weight of cement

The optimum dosage is assessed after preliminary trials depending upon the actual mix constituents and specifications required. Addition rates outside of the recommended dosage range may be used for special concrete applications. In such circumstances it is important to conduct preliminary trials on the actual mix constituents to assess the effect on the properties of the concrete at the dosage level specified.

Effects of Overdosing

Serious overdosing of DARACEM 19CF will generally produce a concrete mix of even greater workability. Set retardation and a slight increase in air entrainment may be noticed. In SRC mixes and cooler weather, set retardation will be further increased. If intentional or accidental increases above the recommended addition rates are encountered, care must be taken to allow for the effect on the stripping time of formwork. In such cases, however, provided the concrete is properly cured, the ultimate strength will generally be higher than for normal concrete.

Dispensing

It is preferable that DARACEM 19CF be introduced into the mixer by means of independent automatic dispensing equipment. Such equipment or advice on dispensing can be obtained from GCP.

Health and Safety

For further information see the DARACEM 19CF SDS (Safety Data Sheet) or consult GCP. Packaging DARACEM 19CF is supplied in 210 Litre non-returnable drums. Alternatively, 1,000 Litre IBCs or bulk deliveries can be arranged.

Storage

DARACEM 19CF should be stored in original containers or suitable closed tanks, preferably out of direct sunlight and protected from extremes of temperature.

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Storage Life in Manufacturer's Drums:

12 months from date of manufacture

Storage Life in Bulk Storage:

12 months from date of delivery

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