

DARACEM[®] SP1

High Range Water Reducing/Superplasticising Admixture

Product Description

DARACEM[®] SP1 is a high efficiency superplasticising admixture designed to yield extremely high water reductions and accelerate early strength development. It is ideal for precast concrete manufacture. DARACEM[®] SP1 can be used to impart extreme consistence to concrete mixes enabling large or difficult pours to be made with little or no vibration and where early strength is important.

DARACEM[®] SP1 is an extremely powerful deflocculating agent and operates by dispersing cement into its primary particles which dramatically increases the flow characteristics of the cement paste.

DARACEM[®] SP1 is manufactured under closely controlled conditions to give a consistent product. It is based on a soluble salt of a polymeric naphthalene sulphonate.

DARACEM[®] SP1 conforms to EN 934-2.

Advantages

- The accelerating and water reducing properties of DARACEM[®] SP1 enable exceptional early and subsequent strength development to be achieved
- Substantial increases in consistence can be obtained by direct addition of DARACEM[®] SP1 to a mix having a slump in the range 50mm–100mm
- The consistence retention and high early strength development properties of DARACEM[®] SP1 make it especially useful when manufacturing precast concrete units under high ambient temperatures
- Effective over a wide ambient temperature range and can be used in cold weather to effect a reduction in stripping time and enable normal production to be continued

Typical Properties

DARACEM® SP1		
Appearance	Dark brown liquid	
Specific Gravity (20°C)	1.195	
Alkali Content (eq.Na ₂ 0)	1.50%	
Chloride Content	Nil	
Air Entrainment	1.0%	
Freezing Point	0°C	

Method Of Use

DARACEM[®] SP1 is supplied ready for use.

When producing high consistence concrete or concrete of low w/c ratio it is recommended that DARACEM[®] SP1 be added in its supplied form with part of the batching water, after the addition of the cement. After the addition of admixture, a further mixing cycle of two minutes is suggested to enable DARACEM[®] SP1 to efficiently disperse the mix components.

Compatibility with Cements

DARACEM[®] SP1 can be used with most types of Portland cements. It is also effective in concrete containing fly ash or ground granulated blastfurnace slag. For use with special cements we recommend you to contact GCP Advantages Applied technologies.

Compatibility with Other Admixtures

DARACEM[®] SP1 should not under any circumstances be premixed with other admixtures. The performance of the product will be affected by the presence of other chemical admixtures. We recommend that all admixtures be added separately into the mix.

Addition Rates

Range	500 ml -2000 ml per 100 kg cement	
	0.50%-2.00% (v/w) by wt. of cement	
As a guide to trials an addition rate of 1.00% volume by weight of cement is suggested.		
For advice and assistance with trials we recommend that you consult GCP Applied Technologies.		

As with most products of this type, the magnitude of the effect obtained with DARACEM[®] SP1 is governed by the quantity of product used, w/c ratio, and specific nature of the concrete and constituent materials. It is necessary therefore to assess performance under site conditions using actual materials to determine optimum dosage and effect on plastic/ hardened concrete properties, such as cohesiveness, consistence retention, set characteristics, early rate of strength gain, ultimate compressive strength and shrinkage when these are of consequence.

Effects of Overdosing

The effect of overdosing DARACEM® SP1 is a function of the degree of overdose.



When producing low consistence pavement concrete, over-dosing will increase the level of consistence and may result in an overly cohesive concrete. Depending on the extent of the overdose, an increase in setting time may also occur, especially in low ambient temperatures and/or when employing Sulfate-resisting Portland cements or cement replacement materials. Any situation where an overdose is suspected, careful inspection of the concrete in its plastic state should be conducted. Particular attention to consistency and cohesiveness prior to a decision on the suitability of the concrete for the particular application in question.

Dispensing

It is preferable that the DARACEM[®] SP1 should be introduced into the mixer by automatic dispensing equipment. Equipment or advice on dispensing can be obtained from GCP Applied Technologies.

Health and Safety

For further information on Health and Safety matters regarding this product we recommend that you consult the relevant Safety Data Sheet from GCP Applied Technologies. In line with general chemical handling precautions avoid contact with skin or eyes and protective gloves/goggles should be worn.

Packaging and Storage

DARACEM® SP1 is supplied in 15 and 205 non returnable drums and 1,000 litre totes. Alternatively, bulk deliveries can be arranged. DARACEM[®] SP1 should be stored away from extremes of temperature and then protected from frost. The product should be kept out of direct sunlight in shaded storage at all times.

Storage Life in Manufacturer 's Drums:

12 months from date of manufacture.

Storage Life in Bulk Storage: 12 months from date of delivery.

Our Technical Service department of GCP Applied Technologies is available to assist you in the correct use of our performance chemicals.

gcpat.uk | United Kingdom customer service: +44 (0) 1925 855330 Fax: 01925 855350

the information here will be helpful. It is based on data and kn idered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not v recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

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