

DARATARD[®] R1

Concrete Retarder

Product Description

DARATARD[®]R1 is liquid retarding admixture for concrete which temporarily delays the hydration of cement allowing the transportation and placing of concrete to be extended. It can be used with all types of concrete, including sprayed concrete. DARATARD[®]R1 is formulated from carefully selected raw materials and is manufactured under controlled conditions to give a consistent product. It is based on inorganic hydroxylated polymers and conforms to EN934-2 and to Type B of ASTM C494.

Product Advantages

- The degree of retardation is proportional to the dosage used. It is possible, therefore, to produce charts relating dosage to retardation according to the mix design and prevailing site conditions.
- The fully hardened concrete possesses improved physical properties in terms of ultimate strength and concrete to re-inforcement bond strength.
- DARATARD[®] R1 does not entrain any additional air or plasticise the concrete.
- Predictable retardation of up to several days is possible.
- Conventional concreting and sprayed concreting can be continued under conditions of high ambient temperatures.
- Delivery of concrete can be made over long distances from a ready-mix or site batching plant.
- Cold joints can be eliminated.
- Workability loss in long distance pumping applications can be avoided, particularly when used in conjunction with a Daracem superplasticiser.

Typical Properties

Appearance	Pale straw coloured liquid
Air Entrainment	Nil
Chloride Content	Nil as per EN480-10
Freezing Point	<-9°C

Addition Rates

Range	300 ml - 3000 ml per 100 kg cement
Range	0.3% - 3.0% (v/w) by wt. of cement

DARATARD[®]R1 is a versatile product which gives benefits in a wide variety of applications. As with most products of this type, the level of effect of DARATARD[®]R1 is governed, within limits, by the quantity of product used and the specific nature of the concrete mixture.

The performance of DARATARD®R1 is best assessed after preliminary tests using the actual concrete materials to determine the optimum dosage and effect on both plastic and hardened concrete properties. **As a guide to these trials, we recommend an addition of 100ml per 100kg cement for each additional hour of set retardation required.**

DARATARD®R1 is supplied ready for use. It should be added to the concrete mix during the mixing cycle with the water, after the addition of the cementitious component. It should not be added directly to the cement. No extension of normal mixing time is required.

Overdosing of DARATARD®R1 will generally produce a considerable increase in set retardation, without any significant increase in air entrainment. In cold weather, this retardation will be further increased. If the increase is above the recommended dosage rate employed, care must be taken to allow for the retardation effect on stripping time and form work pressure. In such cases, however, provided the concrete is properly cured, the ultimate strength will generally be higher than for normal concrete.

Compatibility

With cements:

DARATARD®R1 can be used with Ordinary and Rapid Hardening Portland Cements. The effect produced by a retarding admixture is affected by the nature of the cement. When the cement source or type is changed, field trials should be repeated. For use with Sulphate Resisting Cements or other special cements we recommend that you consult GCP.

With other Admixtures:

DARATARD®R1 should not be premixed with other admixtures. The performance of the material may be affected by the presence of other chemicals and we recommend that you consult GCP Applied Technologies in such circumstances.

Dispensing

DARATARD®R1 is supplied in 205-litre, non-returnable containers. Alternatively, bulk deliveries can be arranged.

Packaging

DARASET®580C is supplied in 205-litre, non-returnable containers. Alternatively, bulk deliveries can be arranged.

Storage

DARATARD®R1 should be stored above 0°C and protected from frost. If the product does freeze, it should be carefully thawed before mixing.

Storage life in manufacturer's drums: 12 months from date of manufacture.

Storage life bulk storage: 12 months from date of delivery.

Health and Safety

See DARATARD®R1 Safety Data Sheet or consult GCP Applied Technologies.

Technical Service

The Technical Service department of GCP Applied Technologies is available to assist you in the correct use of our products.

gcpat.ae | United Arab Emirates customer service: +971 4 5139560

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