

# DARATARD<sup>®</sup> R1

Concrete Retarder

## Product Description

DARATARD<sup>®</sup> R1 is a 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<sup>®</sup> R1 is formulated from carefully selected raw materials and is based on inorganic hydroxylated polymers.

DARATARD<sup>®</sup> R1 conforms to EN 934-2 and manufactured under controlled conditions to give a consistent product.

## Advantages

- The fully hardened concrete possesses improved physical properties in terms of ultimate strength and concrete to reinforcement bond strength
- DARATARD<sup>®</sup> R1 does not entrain any additional air or plasticise the concrete
- Predictable retardation up to several days is possible
- Conventional and sprayed concreting can be continued at high temperatures
- Delivery of concrete can be made over long distances from a ready mixed or site batching plant
- Cold joints can be eliminated
- Consistence loss in long distance pumping applications can be avoided, particularly when used in conjunction with ADVA<sup>®</sup> superplasticisers

## Typical Properties

DARATARD <sup>®</sup> R1	
Appearance	Pale Straw Liquid
Specific Gravity (20°C)	1.190
Alkali Content (eq.Na <sub>2</sub> O)	8.30
Chloride Content	Nil
Air Entrainment	Nil
Freezing Point	-9°C

## Method Of Use

DARATARD<sup>®</sup> R1 is supplied ready for use. It should be added to the concrete mixture during the mixing process at the same time as the water or the aggregates. It should not be added directly to the cement. No extension of normal mixing time is necessary. Compatibility with Cements DARATARD<sup>®</sup> R1 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 that you contact GCP Applied Technologies.

## Compatibility with Other Admixtures

DARATARD<sup>®</sup> R1 should not be premixed with other admixtures. The performance of the product may be affected by the presence of other chemical admixtures. We recommend that all admixtures be added separately into the mix.

## Effects of Overdosing

The effect of overdosing DARATARD<sup>®</sup> R1 is a function of the degree of overdose.

Overdosing DARATARD<sup>®</sup> 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 rates, care must be taken to allow for the retardation effect on stripping time and formwork pressure. In such cases, provided the concrete is properly cured, the ultimate strength will generally be higher than for normal concrete.

## Addition Rates

Range	300 ml -3000 ml per 100 kg cement
	0.30%-3.00% (v/w) by wt. of cement
As a guide to trials an addition rate of 0.30-3.00% volume by weight of cement is suggested.	
For advice and assistance with trials we recommend that you consult GCP Applied Technologies.	

DARATARD<sup>®</sup> R1 is a versatile material which gives benefits in a wide variety of applications. As with most products of this type, the level of effect of DARATARD<sup>®</sup> R1 is governed, within limits, by the quantity of product used and the specific nature of the concrete mix. The performance of DARATARD<sup>®</sup> 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.

## Dispensing

It is preferable that the DARATARD<sup>®</sup> R1 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

DARATARD<sup>®</sup> R1 is supplied in both 15 or 205 non returnable drums and 1,000 litre totes. Alternatively, bulk deliveries can be arranged. DARATARD<sup>®</sup> R1 should be stored away from extremes of temperature then protected from frost and should be kept out of direct sunlight in shaded storage at all times. 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 in Bulk Storage:

12 months from date of delivery.

## Technical Service

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**

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