

# DARASET<sup>®</sup> 580C

Non-Corrosive, Non-Chloride Set Accelerating Admixture

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## Product Description

DARASET<sup>®</sup>580C is a non-corrosive, non-chloride admixture for concrete. It accelerates cement hydration, resulting in shortened setting times and increased early compressive strengths. DARASET<sup>®</sup>580C does not contain calcium chloride and is completely non-corrosive to reinforcing steel, metal decks, and to all metal components of admixture storage and dispensing systems. It meets the requirements of BS EN 934-2 and to Type C of ASTM

## Advantages

- Specially formulated to reduce concrete setting times and increase early strength of concrete in very cold conditions.
- May be used to reduce the time for which the concrete must be protected against freezing in ambient temperatures as low as -70C.
- May be used to speed finishing operations and/ or form removal, leading to savings in concrete construction costs.
- Provides set acceleration and early strength development similar to that provided by calcium chloride, but without the potential corrosive effects.
- Can be used where potential corrosion of embedded or stressed steel must be avoided.
- Can be used in concrete that is to be placed on steel clad or zinc coated steel decks where corrosion must be avoided.

## Compatibility with Cements

In concrete mixtures, DARASET<sup>®</sup>580C accelerates the chemical reaction between Portland Cement and water. It speeds up the formation of gel – the binder that bonds concrete aggregates together. Accelerated gel formation, shortens the setting time of concrete, compensates for the set-slowing effects of cold weather and contributes to the development of higher strength. Gel formation promotes heat generation within the mixture, helping to protect the concrete from freezing during the critical first hour after placement.

In common with most concrete accelerators, the inclusion of DARASET<sup>®</sup>580C may reduce the ultimate compressive strength of concrete. The extent of strength loss should be established by conducting concrete trial mixes.

## Compatibility with other Admixtures

DARASET<sup>®</sup>580C is compatible with air-entraining admixtures such as the DAREX<sup>®</sup>AE Series; water reducers such as WRDA<sup>®</sup>P4 and WRDA<sup>®</sup>P7; mid-range water reducers such as WRDA<sup>®</sup>90, and high-range water reducers such as DARACEM<sup>®</sup>205. DARASET<sup>®</sup>580C 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 Applied Technologies be contacted for advice in all such circumstances.

## Addition Rates

**Range: 500 ml – 4000 ml per 100 kg cement (0.5%–4.0% volume by weight of cement)**

The amount of DARASET®580C used will depend on specific job conditions, on local materials and on the degree of set acceleration and early strength development required. Typical addition levels range from 500 ml to 2000 ml/100 kg cement, but levels as high as 4000 ml/100 kg cement can be used.

DARASET®580C is supplied ready for use. Since DARASET®580C may be used at high dosages, the concrete producer should account for the water contained in the DARASET®580C. One litre of DARASET®580C weighs approximately 1.40 kg.

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One litre of DARASET®580C weighs approximately 1.40 kg and added to a concrete mixture will contribute 0.77 kg of water to that mixture.

Overdosing of DARASET®580C will produce an increased rate of setting and a reduction of the ultimate concrete strength.

### Typical Properties

Appearance:	Clear Pale Brown Liquid
Specific Gravity:	1.34
Air Entrainment	Nil
Chloride Content:	Nil as per BS EN 480-10 C 494.

## Dispensing

A range of equipment, advice on supply and fitting are available from GCP on request. DARASET®580C may be introduced on the sand, in the water, or at the end of the batch of cycles. Similar to all concrete admixtures, DARASET®580C should not come in contact with other admixtures prior to entering the concrete.

## Health and Safety

For further information see the DARASET®580C SDS (Safety Data Sheet) or consult GCP.

## Packaging

DARASET®580C is supplied in 210 litre free, non-returnable containers.

Alternatively, 1000 litre IBCs or bulk deliveries are also available

## Storage

DARASET®580C should be stored in original containers or suitable closed tanks, preferably out of direct sunlight and protected from extremes of temperature.

### 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

The Technical Service Department of GCP Applied Technologies is available to assist you in the correct and best use of our products. These resources and advice are at your disposal entirely without obligation. Please contact:

GCP Applied Technologies  
Emirates Chemicals LLC  
Festival Tower, Suite 1701  
Dubai Festival City  
P.O. Box 5006  
Dubai, United Arab Emirates  
Email: [meinfo@gcpat.com](mailto:meinfo@gcpat.com)

[gcpat.ae](http://gcpat.ae) | United Arab Emirates customer service: +971 4 5139560

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GCP Applied Technologies Inc., 2325 Lakeview Parkway, Alpharetta, GA 30009, USA

P. O. Box 5006, Office 2104, 21 Floor, The Exchange Tower, Opp. JW Marriott Marquis Hotel, Business Bay, Dubai – United Arab Emirates

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