

DARASET[®] 580C

Non-Corrosive, Non-Chloride Set Accelerating Admixture

Product Description

DARASET[®]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 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 conforms to EN934-2 and to Type C of ASTM C 494

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 -7°C. • 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.

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 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	Light brown liquid
Air Entrainment	Nil
Chloride Content	Nil as per EN480-10
Freezing Point	-23°C

Addition Rates

Range	500 ml - 4000 ml per 100 kg cement
Range	0.5% - 4.0% (v/w) by wt. 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 of cement, but levels as high as 4000 ml/100 kg of cement can be used

DARASET 580C is supplied ready for use.

Technical Service

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

Method of Use

With cements:

In concrete mixtures, DARASET 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 580C may reduce the ultimate compressive strength of concrete. The extent of strength loss should be established by conducting concrete trial mixes.

With other Admixtures:

DARASET 580C is compatible with air -entraining admixtures such as the Darex[®]AE Series; water reducers such as WRDA[®]P4, WRDA P7 and WRDA P10; mid-range water reducers such as Daracem 55 and WRDA 90, and high-range water reducers such as Daracem SP1 and Daracem SP5. Precaution should be taken to avoid mixing DaraSet 580C with other admixtures before they enter the concrete. However, once they have been separately added to the mixture, the products will function as prescribed.

Dispensing

A range of equipment is available, and advice on supply and fitting is 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.

Packaging

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

Storage

DARASET 580C 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 DARASET 580C Safety Data Sheet or consult GCP Applied Technologies.

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Last Updated: 2022-11-24

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