

DARACCEL®

Water-reducing and accelerating admixture

DESCRIPTION

DARACCEL® is a liquid admixture formulated to provide faster set acceleration and increased early strength development of concrete. It contains calcium chloride as well as other chemicals to enhance the effect of the calcium chloride.

The rate of cement hydration decreases with decreasing temperature. This results in a longer setting time for concrete and a slower rate of strength development.

Finishing time is delayed. Form removal must be postponed. The costs of placing and finishing concrete are increased.

The effect of low temperature on setting time and early strength may be completely offset by the addition of DARACCEL®.

ADVANTAGES

- Combines quality of a water reducer with qualities of a Type III cement
- Designed for cold weather concreting
- Provides earlier finishing and form removal with significant job economies
- Serves as a water-reducing accelerator

FIELDS OF APPLICATION

- All Cement Types
- Precast Concrete
- Ready Mix Concrete
- Concrete Patching
- Very High Early Strength Concrete
- Extended slump retention

Method of Use

Dosage

- DARACCEL® is used at an addition rate of 8 to 40 fl oz/100 lbs (520 to 2600 mL/100 kg) of cement. The amount used will depend upon the setting time of the non admixed concrete and the temperature at placement. In most instances, the addition of 12 to 16 fl oz/ 100 lbs of DARACCEL® (780 to 1040 mL/100 kg) of cement will reduce the setting time of a typical Type I cement concrete at 50°F (10°C) by 2 to 3 hours and increase the 3 day compressive strength by 25% to 50%. Trial mixes are recommended to determine optimum dosage rate.

Additional Usage Recommendations

- DARACCEL® is specifically designed for use in cold weather concreting or whenever accelerated properties of concrete are desired. DARACCEL® is a water-reducing accelerator formulated to comply with the requirements of ASTM™ C494 as a Type E admixture with a Type I or Type II cement.
- DARACCEL® combines the effect of a water-reducing admixture with the qualities of a Type III cement. The resulting reduction in water requirement, shorter setting time and higher early strengths permit earlier finishing and earlier form removal with significant job economies.
- Although specifically designed for cold weather concreting, DARACCEL® is not an anti-freeze but will reduce the time during which concrete must be protected from freezing. DARACCEL® is recommended for use in all types of concrete except prestressed and other applications where chloride is not acceptable.
- Concrete shall be designed in accordance with *Recommended Practice for Selecting Proportions for Normal Weight Concrete*, ACI 211.1, or *Recommended Practice for Selecting Proportions for Structural Lightweight Concrete*, ACI 211.2, or for reinforced concrete in accordance with ACI 318.
- When the temperature of the concrete is placed or the ambient temperature is 50°F (10°C) or less, all concrete shall be admixed with DARACCEL® as manufactured by GCP Applied Technologies, added at the rate of 8 to 40 fl oz/100 lbs (520 to 2600 mL/100 kg) of cement. The admixture shall be considered as part of the total mixing water.

The information contained in this technical data sheet is given to the best of our knowledge and the result from extensive testing - which were conducted in order to remain as objective as possible. However, it cannot, in any case, be considered as a warranty involving our liability in case of misuse or any different use of our products, other than those from the "Application" paragraph of this technical data sheet. Some application tests should be carried out before using the product to ensure that the methods of use and conditions of application of the product are satisfactory. Our technical assistance is at the disposal of the users.

TECHNICAL DATA SHEET

Chryso
Concrete
Solutions

10/24/2024

DARACCEL®

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- When DARACCEL® is used in air entrained concrete, trial mixes must be made to determine the quantity of air-entraining admixture required.

Equipment

- A complete line of accurate dispensing equipment is available. DARACCEL® may be added to the mix on the sand or in the water.

Complimentary Products

- DARACCEL® is compatible with most admixtures as long as they are added separately to the concrete mix, usually through the water holding tank discharge line. In general, it is recommended that DARACCEL® be added to the concrete mix near the end of the batch sequence for optimum performance. Different sequencing may be used if local testing shows better performance. Please see [Technical Bulletin TB-0110, Admixture Dispenser Discharge Line Location and Sequencing for Concrete Batching Operations](#) for further recommendations.

CHARACTERISTICS

Product Nature	Liquid
Color	Blue green
Shelf life	12 months
Cl ⁻ ions content	= 21,120 %
Specific gravity (25°C) in g/ml	1,324
pH (25°C)	9,20

PACKAGING

- Bulk
- 275 gallon tote
- 55 gallon drum

PRECAUTIONS

- Pretesting of the concrete mix should be performed before use, as conditions and materials change in order to assure compatibility, and to optimize dosage rates, addition times in the batch sequencing and concrete performance.
- For concrete that requires air entrainment, the use of an ASTM C260 air-entraining agent (such as Daravair® or Darex® product lines) is recommended to provide suitable air void parameters for freeze-thaw resistance. Please consult your GCP Applied Technologies representative for guidance.

SAFETY

Prior to any use, please read carefully the Safety data Sheet.

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