



Chryso® Daraset 442

Accelerating Admixture
Non-Chloride

DESCRIPTION

Chryso® Daraset 442 is a non-corrosive, non-chloride admixture for concrete. It accelerates cement hydration resulting in shortened setting times and increased early compressive and flexural strengths. Chryso® Daraset 442 does not contain calcium chloride and is non-corrosive to reinforcing steel, to metal decks and to metal components of admixture storage and dispensing systems. It is formulated to comply with ASTM C494 Type C, and can be used at any dosage to comply with ACI 318 guidelines for chloride content of concrete. Chryso® Daraset 442 weighs approximately 11.5 lbs/gal (1.38 kg/L).

Chryso® Daraset 442 non-corrosive, non-chloride set accelerator provides setting time results and early strength development similar to that provided by calcium chloride, but without the potential corrosive effects. Chryso® Daraset 442 can, therefore, at recommended dosage rates, safely be used where the potential corrosion of embedded or stressed steel must be avoided. It can also be used in concrete that is to be placed on steel clad or zinc coated steel decks where corrosion must be similarly avoided.

Meets or exceeds the requirements of ASTM C-494 Type C and ACI 318 Guidelines for chloride content of concrete.

ADVANTAGES

- Accelerates setting time
- Increases early compressive and flexural strengths
- Offsets the retarding effects of pozzolans such as slag or fly ash
- Non-corrosive

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

- The amount of Chryso® Daraset 442 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 10 to 60 fl oz/100 lbs (650 to 3910 mL/100 kg) of cement. Higher dosage rates may be used for select applications after consulting with your local Chryso sales representative.

Additional Usage Recommendations

- In concrete mixtures, Chryso® Daraset 442 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 in turn shortens the setting time of concrete, compensates for the set-slowing effects of cooler weather, and contributes to the development of higher early strengths.
- Chryso® Daraset 442 may be used wherever it is desirable to reduce the setting time of concrete and/or to increase its early compressive and flexural strengths. For mixes designed with pozzolans, such as fly ash or slag, Chryso® Daraset 442 can help offset the retarding effects of these materials, especially in cooler temperatures.
- In cold weather, Chryso® Daraset 442 may be used to reduce the time that it takes the concrete to set, prior to finishing. Typical results show that when concrete containing Chryso® Daraset 442 is poured at 50°F (10°C), the concrete will set up to 2 hours faster than the reference concrete.
- When used in the manufacture of precast concrete, Chryso® Daraset 442 speeds the concrete's strength development allowing for earlier form removals and more efficient production. Chryso® Daraset 442 can also be used in masonry mortar to obtain higher early strengths and accelerated setting time effects.

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
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Equipment

- A complete line of accurate dispensers is available. While Chryso® Daraset 442 may be added to the mix on the sand or in the water, for greatest effectiveness, we recommend Chryso® Daraset 442 be added at the end of the batch cycle.
- Similar to all concrete admixtures, Chryso® Daraset 442 should not come into contact with other admixtures prior to entering the concrete.

Process Component

Compatibility with Other Admixtures and Batch Sequencing

- Chryso® Daraset 442 is compatible with most Chryso 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 Chryso® Daraset 442 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.
- 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 Chryso® Daravair or Chryso® Darex product lines) is recommended to provide suitable air void parameters for freeze-thaw resistance. Please consult your Chryso representative for guidance.

Mix Adjustment

- Since Chryso® Daraset 442 may be used at high dosages, the concrete producer should account for the water contained in the product. Each gallon of DARASET® 442 added to a concrete mix will contribute 6.3 lbs (0.76 kg/L) of water to that mix.

CHARACTERISTICS

Product Nature	Liquid
Color	Light brown
Shelf life	18 months
Cl ⁻ Ions content	< 0,100 %
Specific gravity (25°C)	1,453
pH (25°C)	9,30

PACKAGING

- Bulk
- 1000L Tote (275 gallons)
- 210 L (55 Gallons) Drum

ADDITIONAL INFORMATION

PRECAUTIONS

- Chryso® Daraset 442 freezes at approximately -10°F (-23°C), but its set acceleration, strength gain and non-corrosive properties are completely restored by thawing and thorough agitation.

SAFETY

- The set-accelerating admixture shall be Chryso® Daraset 442, non-corrosive, non-chloride set accelerator, as manufactured by GCP Construction Products. The admixture shall be used in strict accordance with the manufacturers' recommendations. The admixture shall comply with ASTM Designation: C494 Type C and will not contain purposely added chlorides or contribute to steel corrosion. Certification of compliance will be made available upon request.
- Concrete shall be proportioned 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 in accordance with ACI 318.

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

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