

DCI® S

Corrosion Inhibiting Admixture

DESCRIPTION

DCI-S® is a corrosion inhibiting admixture added to concrete during the batching process. It protects reinforcing steel and prestressed strands from chloride-induced corrosion, while also enhancing the strength development of the concrete, contributing to its overall durability and performance.

Meets or exceeds the requirements of ASTM C494 Type C, and ASTM C1582

ADVANTAGES

- Chemically inhibits the corrosive action of chlorides on reinforcing steel and prestressed strands in concrete
- Extends the service life of structures in a de-icing salt and marine environment
- Provides a cost effective solution to control reinforcing steel chloride-induced corrosion
- Accelerates the set of concrete, enabling usage as a concrete set accelerator

FIELDS OF APPLICATION

- All Cement Types
- Precast Concrete
- Post Tensioned & Prestressed Concrete
- Ready-Mix Concrete

Method of Use

Dosage

- DCI-S® dosage rates can vary with the type of application. Addition rates range between 2.0 gal/yd³ to 6.0 gal/yd³ (10 L/m³ to 30 L/m³).
- The level of corrosion protection increases in proportion to the dosage. Project specification should indicate the addition rate.
- Optimal addition rates will depend on other concrete mixture components, job conditions, and desired performance characteristics.
- Dosage rates may vary when used in conjunction with other CHRYSO® admixtures.
- Should conditions require using more than the recommended addition rates, please consult your CHRYSO® representative.

Additional Usage Recommendations

- Recommended for all steel-reinforced, post tensioned and prestressed concrete that will come in contact with chlorides from de-icing salts or a marine environment.
- Suitable for concrete where chlorides are added during manufacturing.
- Ideal for the construction of parking garage decks, support & prestressed structures, bridge decks, and structures in marine environments.

Implementation

- In general, it is recommended that DCI-S® 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.
- Due to the cement response variation and the strong acceleration potential of DCI-S®, it is vital that set time and slump retention of the proposed mix be thoroughly tested and evaluated in the light of job requirements.

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.

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- When used in air entrained concrete, trial mixes must be made to determine the quantity of air-entraining admixture required. Normal addition rates of DCI-S® may moderately reduce the entrained air content. It may be necessary to increase the dosage of the air-entraining admixture to compensate.
- The concrete producer should account for the water contained in the product. Each gallon of DCI-S® added to a concrete mix will contribute 7.0 lbs (0.84 kg/L) of water to that mix.
- Pretesting of the concrete mix should be performed before use and as conditions and materials change in order to assure compatibility with other admixtures, and to optimize dosage rates, addition times in the batch sequencing and concrete performance.

Equipment

- A complete line of accurate, automatic dispensing equipment is available.

Complimentary Products

- DCI-S® is compatible with most CHRYSO® admixtures as long as they are added separately to the concrete mix.
- Classified as an ASTM C494 Type C set accelerator, it may be used to accelerate the set time of concrete. If a neutral set is required, the addition of an ASTM Type B or D set retarder may be added to the concrete mix.
- For concrete that requires air entrainment, the use of an ASTM C260 air-entraining agent is recommended to provide suitable air void parameters for freeze-thaw resistance.
- DCI-S® is compatible with all types of Portland cements and concretes containing pozzolans. However, due to the significant variation between cements, even the same type, may result in different cement responses.

Performances

- Interacts with the embedded steel in concrete to prevent salt attack by chemically reacting with the reinforcing steel, a barrier is formed which prevents chloride penetration. Corrosion initiation is delayed and corrosion rates are kept under control. Once corrosion has been inhibited, physical disruption of the concrete due to rust formation will not occur.
- Maintains an active corrosion-controlling system within the concrete matrix when added to concrete in sufficient quantities as determined by the anticipated chloride ion content of the concrete over the design life of the structure.

CHARACTERISTICS

Product Nature	Liquid
Color	Brown
Shelf life	12 months
Cl⁻ ions content	< 0,100 %
Specific gravity (25°C) in g/ml	1,299
pH (25°C)	8,60

PRECAUTIONS

- Product will begin to freeze at approximately 5°F (-15°C), but will return to full capabilities after thawing and thorough agitation.

SAFETY

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

PACKAGING

- Bulk
- 55 gallon drum
- 275 gallon tote