

MIX UK STERLING CORROSION INHIBITOR CALCIUM NITRITE SPECIAL (SCI-S)

Technical Data Sheet

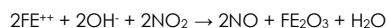
DESCRIPTION:

STERLING CORROSION INHIBITOR – S (SCI-S) is a chloride free, ready to use aqueous solution of Calcium Nitrite exhibiting a neutral concrete setting time. It complies with ASTM G109 and C494 requirements for type C admixtures. While having corrosion inhibiting properties, **SCI-S** will perform with-out the accelerating effect associated with normal Calcium Nitrite.

U. K. Mix has formulated a chemical treatment for concrete which provides an effective barrier for chloride induced corrosion on reinforcing steel in concrete structures.

SCI-S is specifically designed for use in climatic conditions such as that found in the Gulf Region.

Calcium Nitrite inhibits corrosion by reacting with ferrous ions at rebar level to form a stable passive film of ferric oxide (Fe_2O_3) on the reinforcement steel, around the anode according to the following:



Calcium Nitrite promotes the stabilization of the passivating layer of oxide normally found on the reinforcing steel in concrete. Its protective mechanism works through repairing the defects that usually occur in the oxide structure, thus preventing chloride ions from penetrating the pure ion of metal. The induced barrier is insoluble and after determining the chloride content, the Structural Engineer can specify the appropriate amount of **SCI-S** which should be added to ensure the structural integrity of concrete.

SCI-S is fully compatible with the full range of Superplasticizers, Retarders, Air Entraining Agents and other concrete admixtures. All admixtures should be dispensed separately to obtain the desired results.

The water cement ratio should be adjusted taking into consideration the water available in **SCI-S** in order to maintain the desired water cement ratio.

The water added at the batching plant should be reduced to compensate for the addition of **SCI-S** by 0.85 of a litre for water per litre of Calcium Nitrite added.

SCI-S is compatible with all types of portland cements and Pozzolanic cements. There are however significant variations and standards between cements even within the same type, so differences in reaction to any concrete additive may occur with different cements. Special attention should be given to mix designs containing ground granulated blast furnace slag.

SCI-S ADVANTAGES:

- Provides Protection for reinforcing steel.
- Exhibits neutral setting time for the concrete.
- Easy to use.
- Increases compressive strength
- For use in prestressed and post-tensioned concrete in vertical and horizontal members.

Specification: Calcium Nitrite content not less than 30% by weight.

SCI-S complies to the requirements of ASTM G109.

Specific Gravity: 1.30 ± 0.03

Predicted Chloride Content	Required Addition Rate of SCI-S Solution
KG/m ³	L/m ³
1	2.5
2	5.0
3	7.5
4	10.0
5	12.5
7	17.5
8	20.0
10	25.0

PACKAGING: 210 ltr. drums

STORAGE: **SCI-S** has a shelf life exceeding 12 months if stored in original sealed containers.

Freezes at approx. - 5°C

TECHNICAL ADVICE:

The Technical Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

Refer to the Technical Department when considering the use of **SCI-S** with GGBS.

SAFETY PRECAUTIONS

Information contained in this data sheet is based on knowledge considered to be true and correct and is offered for the user's consideration, investigation and verification, but we do not warrant the results to be obtained. No statement, recommendation or suggestion is intended for any use which will infringe any patent or copyright.

Mix UK Sterling Corrosion Inhibitor Calcium Nitrite Special (SCI-S) is marketed in the Gulf Region by:



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