



# TechnoCrete® CIA 30

Bipolar Penetrating Corrosion-Inhibiting Admixture  
 For steel reinforced concrete.

## Description:

TechnoCrete® CIA 30 is a Calcium Nitrite based corrosion inhibiting admixture, designed to inhibit the corrosion of steel reinforcement in concrete which is added to the concrete during the batching process. TechnoCrete® CIA 30 reacts with the reinforcing steel to form a passivating layer of ferric oxide which resists chloride attack and thus increase concrete durability.

TechnoCrete® CIA 30 provides nitrite ions to compete with the chloride ions and convert the ferrous oxides into stable ferric oxides, hence protecting the reinforcing steel by delaying the onset of corrosion. TechnoCrete® CIA 30 contains no added chlorides or chemicals known to promote the corrosion of steel.

## Application Includes:

TechnoCrete® CIA 30 is recommended for use in the Following areas of application-

- Bridges and highway infrastructure
- Dams, reservoirs, and water and wastewater systems
- Ports, Coastal & Marine Structures
- Pilings, Retaining walls & Swimming pool etc.
- Tunnels, Rail & Metro systems
- Airport runways
- Power & telecom infrastructure
- Parking structures

## Features & Benefits:

- 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.
- Suitable for conventional reinforced concrete as well as Prestressed or post tensioned concrete.
- Compatible with other commonly used Techno Builders Solutions® Admixtures.
- Non-toxic, eco-friendly.
- Dosage rate is directly related to expected chloride exposure.
- Increases protection for reinforced steel and Prestressed strands in ready mix and precast/Prestressed concrete.

## Packaging

TechnoCrete® CIA 30 is supplied in 225 Kg plastic container.

## Storage & Shelf Life

12 months from date of production if stored properly in undamaged and unopened, original

## Directions for use

### Preconstruction Trial Mix

It is strongly recommended that trial mixes be made several weeks before construction start up. This will allow the concrete producer an opportunity to determine the proper batching sequence and amounts of other admixtures needed in order to deliver the required concrete mix to the job site.

Due to the cement response variation and the strong acceleration potential of TechnoCrete® CIA 30, it is vital that set time and slump retention of the proposed mix be thoroughly tested and evaluated in the light of job requirements. TechnoCrete® CIA 30 may be added with the concrete batch water. It should not be mixed with any other admixture prior to being introduced into the concrete mixer. Contact Techno Builders Solutions® technical representative for further information and help with trial mixes.

### Dosage

The recommended dosage rate will vary between 5-30L/m<sup>3</sup> of concrete, depending on the severity of the corrosion environment. TechnoCrete® CIA30 may accelerate the setting time. In order to prevent slump loss or finishing characteristics, a set retarding admixture may be required, especially in warm weather application. The full accelerating effect of TechnoCrete® CIA 30 may be used for cold weather concreting.

### Typical Properties at 25°C

Base	Calcium Nitrite
<b>Appearance</b>	Light brown or Pale Yellow liquid
<b>Density</b>	1.26 ± 0.02 at 25°C
<b>Standard</b>	Complies with complies with ASTM C 494, Types C and E.
<b>Dosage</b>	5-30 L/m <sup>3</sup>

## Performance

TechnoCrete® CIA 30 contains calcium nitrite which interacts with the embedded steel in concrete to prevent salt attack by chemically reacting with the reinforcing, 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.

Nitrite ions contained in TechnoCrete® CIA 30 admixture are effective in preventing ferrous chloride complex formation by reacting with defective ferrous oxide ions prior to chloride attack and reforming the passive layer. Nitrite ions surround the defective ferrous oxide ion and convert it to a more stable ferric ion species less susceptible to corrosion. This oxidation reaction serves to repassivate the reinforcing steel and re-establish the barrier between the steel and chlorides that initiate corrosion.

When added to concrete in sufficient quantity as determined by the anticipated chloride ion content of the concrete over the design life of the structure TechnoCrete® CIA 30 maintains an active corrosion-controlling system within the concrete matrix.

## Set Acceleration

Concrete setting times may be accelerated with the use of TechnoCrete® CIA 30 admixture. In most applications a retarding or hydration control admixture must be added to the concrete mixture to offset the acceleration effects of TechnoCrete® CIA 30 admixture. Please contact Techno Builders Solutions® Technical representative for additional information on the proper choice of retarding admixture for concrete to be treated with TechnoCrete® CIA 30 admixture.

sealed containers at temperatures between +10°C -40°C. Protected from direct sunlight and frost.

### Health and Safety instructions

In case of frost, the product recovers its properties after progressive thawing and homogenizing by agitation. In case of contact with skin or eyes, rinse thoroughly with water. If irritation persists, seek medical attention. If swallowed, do not induce vomiting and seek medical attention.

**Additional Information:** Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd - The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

\*Separate datasheet are available on these products.

**Disclaimer:** The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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