BASF

The Chemical Company

Description

Rheocrete 222+ admixture is a patented state-of-the-art corrosion-inhibiting admixture formulated to inhibit the corrosion of steel in reinforced concrete. Rheocrete 222+ admixture provides two levels of corrosion protection, making it the most effective corrosion-inhibiting admixture available.

Applications

Recommended for use in:

- All types of reinforced concrete, including precast/prestressed and post-tensioned applications
- Parking garages, bridge decks, marine structures, slabs, floors and other reinforced concrete applications requiring corrosion protection against chlorides from de-icing salts or marine exposure

RHEOCRETE® 222+

Corrosion-Inhibiting Admixture

Features

- Inhibits corrosion at its most critical points
- Reduces the rate at which chlorides and moisture enter the concrete
- Adsorbs onto the reinforcing steel to form a corrosion-resistant protective film

Benefits

- Extended service life of reinforced concrete structures
- Premium corrosion protection by slowing the ingress of chlorides and moisture into the concrete and forming a strong, durable protective film on the reinforcing steel
- Effective in cracked concrete where the elements that cause corrosion have direct access to the reinforcing steel
- Increased sulfate resistance
- Normal set product that is easily used in elevated temperatures

Performance Characteristics

Plastic Properties: The plastic properties of concrete are not significantly affected by the use of Rheocrete 222+ admixture. However, a higher than normal dosage of air-entraining admixture may be required to achieve desired air contents.

Hardened Properties: Depending on the ingredients and proportions of a concrete mixture, a decrease in compressive strength may be experienced with Rheocrete 222+ admixture, typically in the range of 5 to 10 percent. Please consult your BASF Construction Chemicals representative for recommended concrete mixture adjustments prior to the use of Rheocrete 222+ admixture. Other hardened properties of concrete are not significantly affected by the use of Rheocrete 222+ admixture.

Slump and Temperature Development: Rheocrete 222+ admixture has no effect on slump or the temperature development profile of concrete.

Concrete-Steel Bond Strength: Concrete to steel bond strength is not affected by Rheocrete 222+ admixture.

Master Builders

Product Data: RHEOCRETE® 222+

Guidelines for Use

Corrosion-Inhibiting System: In order to control corrosion in reinforced concrete, the ACI Building Code 318 / 318R (318M / 318 RM) requires certain design considerations, such as limiting the water-cementitious materials ratio, providing adequate concrete cover over reinforcing steel and limiting the initial chloride ion content of the concrete. Additionally, construction practices should be such that a dense, void-free concrete is obtained.

In addition to the elements of good concrete practice required by the ACI Building Code, BASF Construction Chemicals recommends a corrosion-inhibiting system that inhibits corrosion at multiple levels for maximum protection.

The use of Rheocrete 222+ admixture restricts the ingress of chlorides and moisture and additionally slows the onset and rate of corrosion by forming a protective film on the reinforcing steel. Additional protection can be attained through the use of a high-range water-reducing admixture such as Glenium® admixture to provide adequate placability and consolidation at low water-cementitious materials ratios and/or the use of Rheomac® SF silica fume admixture to further reduce concrete permeability.

Dosage: Rheocrete 222+ admixture is recommended for use at a dosage of 1 gal/yd^3 of concrete (5 L/m^3) for all applications and corrosive environments.

Rheocrete 222+ admixture dosed at 1 gal/yd^3 (5 L/m^3) is formulated to provide optimum corrosion protection of reinforced concrete structures in severe corrosive environments, and, therefore provides excellent corrosion protection in less severe corrosion environments as well.

Rheocrete 222+ admixture is recommended for use at a single dosage in order to eliminate the confusion and uncertainties related to determining the severity of a corrosive environment and predicting the chloride exposure of the structure.

Mixing: Rheocrete 222+ admixture may be added with concrete batch water. It should not be mixed with any other admixtures prior to being introduced into the concrete mixer. Depending on local materials, mixing efficiency and other conditions, the use of this admixture may require changes in normal batching procedures to facilitate air entrainment.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: Rheocrete 222+ admixture is a corrosion-inhibiting admixture and will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of Rheocrete 222+ admixture.

Storage and Handling

Storage Temperature: Store at ambient temperatures above 35 °F (2 °C) but not exceeding 125 °F (52 °C). Precautions should be taken to protect Rheocrete 222+ admixture from freezing. If product freezes, thaw and reconstitute by mild mechanical agitation. ***Do not use pressurized air for agitation.***

Shelf Life: Rheocrete 222+ admixture has a minimum shelf life of 9 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of Rheocrete 222+ admixture has been exceeded.

Packaging

Rheocrete 222+ admixture is available in 55 gal (208 L) drums, 275 gal (1040 L) totes, and by bulk delivery.

Related Documents

Material Safety Data Sheets: Rheocrete 222+ admixture.

Additional Information

For additional information on Rheocrete 222+ admixture or its use in developing a concrete mixture with special performance characteristics, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative additives for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

BASF Construction Chemicals, LLC
Admixture Systems

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