RHEOCRETE® 222+

Organic corrosion inhibiting admixture

Master Builders Technologies

DESCRIPTION:

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

ADVANTAGES:

RHEOCRETE 222+ admixture extends the service life of reinforced concrete by slowing the ingress of chlorides and moisture into the concrete and by forming a strong, durable protective film on the reinforcing steel for a second level of corrosion protection. This dual mechanism system makes RHEOCRETE 222+ admixture effective with all cement factors, as well as in cracked concrete where the elements that cause corrosion have direct access to the reinforcing steel.

HOW IT WORKS:

RHEOCRETE 222+ admixture functions by inhibiting corrosion at its most critical points. RHEOCRETE 222+ admixture lines the pores of the concrete matrix thus slowing the rate at which chlorides and moisture enter the concrete and denying the corrosion process of its two most important components.

RHEOCRETE 222+ provides additional protection by adsorbing onto the reinforcing steel to form a corrosion resistant protective film. This protective film dramatically slows the corrosion process by preventing chlorides from reacting with the reinforcing steel, and by depriving the corrosion process of moisture and oxygen, thus slowing the rate of corrosion once it begins.

PLASTIC PROPERTIES:

The plastic 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.

HARDENED PROPERTIES:

The hardened properties of concrete are not significantly affected by the use of RHEOCRETE 222+ admixture.

CONCRETE-STEEL BOND STRENGTH:

Concrete to steel bond strength is not affected by RHEOCRETE 222+ admixture.

CORROSION-INHIBITING SYSTEMS:

In order to control corrosion in steel reinforced concrete, the ACI Building Code (ACI 318) 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, Master Builders recommends a corrosion-inhibiting system that inhibits corrosion at multiple levels for maximum protection.

The basis for this system can be established through the use of RHEOCRETE 222+ admixture which restricts the ingress of chlorides and moisture and slows the 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 to provide adequate placeability and consolidation at low water-cement ratios and/or the use of RHEOMAC SF silica fume admixtures to reduce concrete permeability.

QUANTITY TO USE:

RHEOCRETE 222+ admixture is recommended for use at a dosage rate of 1 gal/yd^3 of concrete (5 L/m^3) for all applications and corrosion 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 the corrosive environment and predicting the chloride exposure of the structure.

DIRECTIONS FOR USE:

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. The use of this admixture does not require changes in normal batching procedures.

TEMPERATURE PRECAUTION:

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.

PACKAGING:

RHEOCRETE 222+ admixture is available in 55 U.S. gallon (208 L) drums, 275 gallon (1000 L) totes, and bulk delivery.

NON-CHLORIDE:

RHEOCRETE 222+ admixture will not initiate or promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Neither calcium chloride nor any chloride-based ingredients are used in the manufacture of RHEOCRETE 222+ corrosion-inhibiting admixture.

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