

Corrosion inhibiting admixtures

CAA Admixtures Categories for "Special Purposes"

Description of Product

RHEOCRETE[®] 222+ is a state of the art organic corrosion-inhibiting admixture. RHEOCRETE[®] 222+ provides two levels of corrosion protection, making it the most effective corrosion-inhibiting admixture available.

Fields of Application

RHEOCRETE[®] 222+ extends the service life of any reinforced concrete. It is applicable to any structure that would be exposed to 'chloride' attack.

Features and Benefits

- RHEOCRETE[®] 222+ functions by inhibiting corrosion at its most critical points.
- RHEOCRETE[®] 222+ 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 absorbing onto the reinforcement steel to form a corrosion resistance protection film. This film is not destroyed and dramatically slows the corrosion process by preventing chlorides from reacting with the reinforcement steels and depriving the corrosion process of moisture and oxygen, thus slowing the rate of corrosion should it begin.

Corrosion Inhibiting System

In order to control corrosion in steel reinforced concrete current Codes of Practice requires certain design considerations, such as limiting the water-cementitious materials ratio. Additionally, construction practice should be so that a dense, void free concrete is obtained.

Technical Data/Typical Properties

Appearance	White liquid
Specific Gravity @ 20°C	0.98 - 0.99 g/cm ³
pH-value	11.6 – 11.6
Alkali Content%	less than or equal to 0.10
Chloride Content%	less than or equal to 0.10

In addition to the elements of good concrete practice required by current Code of Practice, BASF IBC Admixture Systems recommends a corrosion-inhibiting system that inhibits corrosion at multiple levels for maximum protection. The basis for this system can be established throughout 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 RHEOBUILD[®] TDS silica fume admixture to reduce further concrete permeability.

Technical Data

Plastic Properties

The plastic properties of concrete are not significantly affected by the use of RHEOCRETE[®] 222+.

Workability and Temperature Development

RHEOCRETE[®] 222+ has no effect on workability or the temperature development profile of concrete.

Hardened Properties

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

Concrete-Steel Bond Strength

Concrete to steel bond strength is not affected by RHEOCRETE[®] 222+.

Application Procedure

RHEOCRETE[®] 222+ 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.

Dosage

RHEOCRETE[®] 222+ is recommended for use at a dosage rate:

By Volume - 5.0 litres per m³ for all applications and corrosion environments.

By Mass - 4.8 kg per m³

RHEOCRETE[®] 222+ dosed at 5.0 litres per m³ is formulated to provide optimum corrosion protection of reinforced concrete structures in severe corrosion environments, and therefore provides excellent corrosion protection in less severe corrosion environments as well.

Single Dosage

RHEOCRETE[®] 222+ 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.

Packaging

RHEOCRETE[®] 222+ is available in 205 litre drums and bulk delivery on request.

Shelf Life

Minimum 12 months if stored according to manufacturer's instructions in unopened containers.

Storage

RHEOCRETE[®] 222+ must be stored in a place where temperature does not drop below +5°C. If product has frozen, thaw at +3°C and agitate until completely reconstituted. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult BASF IBC Admixture Systems Technical Services Department.

Application

All reinforced steel concrete subject to chloride attack.

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RHEOCRETE[®] 222+, BASFIBC Admixture Systems Limited, Version 4

Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Spillage

Chemical products can cause damage; clean spillage immediately.

DISCLAIMER

"BASF IBC Admixture Systems Limited" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.