

MasterLife[®] 222

Dual mechanism corrosion inhibiting admixture

DESCRIPTION

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

Mechanism of Action

MasterLife 222 functions by inhibiting corrosion at its most critical points. **MasterLife 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.

MasterLife 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.

FIELDS OF APPLICATION

MasterLife 222 is recommended for steel reinforced concrete where longer service lives are desired and it is expected that the concrete will be exposed to environmental chlorides from de-icing salts or massive exposure.

FEATURES AND BENEFITS

- **Shrinkage compensated** - Retains filled volume by compensating for any mild plastic shrinkage.
- **Increases fluidity of the mix** - Enables complete filling of even narrow voids
- **Lowers water demand** - Denser grout. Increased strength properties.

PERFORMANCE DATA

Plastic Properties

The plastic properties of concrete are not significantly affected by use of the **MasterLife 222**.

Slump and Temperature Development

MasterLife 222 has no effect on slump or the temperature development profile of concrete although pumpability has been found to be improved.

Hardened Properties

The hardened properties of concrete are not significantly affected, by use of the **MasterLife 222**.

Concrete-Steel Bond Strength

Concrete to steel bond strength is not affected by **MasterLife 222**.

The extension in service life due to the product is a function of the chloride exposure level, structural design factors and the transport. Please contact local Master Builders Solutions Construction Chemicals representatives for additional guidance regarding specific applications, service life and the use of corrosion inhibitors.

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 dense, void-free concrete is obtained.

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

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 MasterLife SF 100 admixtures to reduce concrete permeability.

APPLICATION

MasterLife 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

MasterLife 222 dosed at 5 L/m³ 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.

MasterLife 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.

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PACKAGING

MasterLife 222 is available in 208L drums and bulk delivery.

SHELF LIFE

MasterLife 222 can be stored for 9 months if stored at temperatures above 5°C, in tightly sealed original drums. If found to be frozen, thaw it and reconstitute by stirring.

PRECAUTIONS

Health: **MasterLife 222** does not contain any hazardous substances requiring labelling.

It is safe for use with standard precautions followed in the construction industry, such as use of hand gloves, safety goggles, etc.

For detailed Health, Safety and Environmental Recommendations, please consult and follow all instructions on the product Material Safety Data Sheet.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this Master Builders Solutions publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability, or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

Field service where provided does not constitute supervisory responsibility. Suggestions made by Master Builders Solutions either orally or in writing may be followed, modified, or rejected by the owner, engineer or contractor since they, and not Master Builders Solutions, are responsible for carrying out procedures appropriate to a specific application.

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