

PRODUCT DATA SHEET

Sika® FerroGard® CI 222 AE

(formerly MLife CI 222AE)

Organic corrosion inhibiting admixture

DESCRIPTION

Sika® FerroGard® CI 222 AE is an organic migratory corrosion inhibiting admixture formulated to inhibit the corrosion of steel reinforcement in concrete. Sika® FerroGard® CI 222 AE provides two levels of corrosion protection, inhibiting and waterproofing. Sika® FerroGard® CI 222 AE functions by inhibiting corrosion at its most critical points. Sika® FerroGard® CI 222 AE lines the pores of the concrete matrix thus waterproofing and slowing the rate at which chlorides and moisture enter the concrete and denying the corrosion process of its two most important components. Suitable to use in hot and tropical climatic conditions.

USES

Sika® FerroGard® CI 222 AE typical uses:

- Concrete bridges, highways and pavements exposed to de-icing salts.
- Concrete marine structures operating in chloride environments.
- Concrete tunnels, infrastructure or retaining walls.
- Concrete in industrial plants where corrosive substances are present.
- Concrete parking structures and decks.
- Concrete piers, piles, caissons and dock structures.

PRODUCT INFORMATION

Packaging	1000 L flowbin or bulk supply on request.
Colour	Clear to brownish yellow
Shelf life	9 months from date of production if stored properly
Storage conditions	Store in undamaged, unopened, original sealed packaging in dry conditions at temperatures between +5°C and +50°C. Mix well before using.
Density	~1.01 kg/l (at 25°C)

FEATURES

Sika® FerroGard® CI 222 AE increases the life expectancy and durability 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 protective film 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.

This dual mechanism system makes Sika® FerroGard® CI 222 AE effective with all supplementary cementitious materials, as well as in cracked concrete where the elements that cause corrosion have direct access to the reinforcing steel.

CERTIFICATES AND TEST REPORTS

Sika® FerroGard® CI 222 AE follows the requirements of ASTM G109, ASTM C494 and BS 6920 (concrete containing Sika® FerroGard® CI 222 AE is suitable for contact with water)

TECHNICAL INFORMATION

Concreting guidance

The standard rules of good concreting practice for production and placing must be observed when using Sika® FerroGard® CI 222 AE in concrete. Refer to relevant standards.
Fresh concrete must be cured properly especially at high temperatures in order to prevent plastic and drying shrinkage. Use Sika® Antisol® products as a curing agent or apply wet hessian.

APPLICATION INFORMATION

Recommended dosage

5 L/m³ of concrete for all applications and corrosion environments. Sika® FerroGard® CI 222 AE dosed at 5 L/m³ is formulated to provide optimum corrosion protection of reinforced concrete structures in severe corrosive environments and therefore provides excellent corrosive protection in less severe corrosion environments as well.
Sika® FerroGard® CI 222 AE is formulated 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.

Compatibility

Sika® FerroGard® CI 222 AE is suitable for mixes containing all types of cement and supplementary cementitious materials such as Microsilica (Silica Fume), Fly Ash (PFA), GGBS (ground granulated blast furnace slag) and the following Sika products:
SikaPlast®, Sika® ViscoCrete®, Sikament®, Plastiment®, SikaPump®, SikaFume®, SikaFiber®, Sika® Aer, Sika® Stabilizer, SikaControl®
We recommend to perform trial mixes to establish the required performance when combining Sika® FerroGard® CI 222 with the above products or other admixtures. Please consult our Sika Technical Department.

Dispensing

Sika® FerroGard® CI 222 AE 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.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

Sika® FerroGard® CI 222 AE has no effect on slump or the temperature development profile of concrete. Concrete to steel bond strength is not affected by Sika® FerroGard® CI 222 AE. Additional protection can be attained through the use of high-range water-reducing admixtures to provide adequate placeability and consolidation at low water-cement ratios and/or the use of supplementary cementitious material to reduce concrete permeability.
Sika® FerroGard® CI 222 AE will not initiate or promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanised steel floor and roof systems. Neither calcium chloride nor any chloride-based ingredients are used in the manufacture of Sika® FerroGard® CI 222 AE corrosion inhibiting admixture.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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ISO 9001, 14001, 45001 – SGS
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ISO 9001, 14001 – SGS
Sika Saudi Arabia Limited
ISO 9001, 14001 – TUV
Sika MB Construction Chemicals LLC
Sika Construction Chemicals for Manufacturing LLC
ISO 9001 – LMS
Sika MB LLC

All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



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