BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET
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MAINTENANCE OF CONCRETE REINFORCING

Sika FerroGard®-908

DUAL FUNCTIONAL SURFACE-APPLIED CORROSION INHIBITOR AND PENETRATING SEALER FOR REINFORCED CONCRETE

Description

Sika FerroGard®-908 is designed to be applied to the concrete surface. Sika FerroGard®-908 penetrates the concrete and mitigates active corrosion and/or delays the onset of corrosion.

Where to Use

Sika FerroGard®-908 is recommended for steel-reinforced concrete, pre-stressed, precast, post-tensioned concrete or concrete in marine environments. Common applications include:

- Bridges and highways exposed to corrosive environments (deicing salts, weathering)
- Building facades and balconies
- Parking garages
- Piers, piles, and concrete dock structures
- Vertical, horizontal and overhead surfaces

Advantages

- Passes USBR M-82 Corrosion Mitigation Test Protocol
- Significantly reduces active corrosion due to chlorides and or carbonation, even in cracked concrete
- Increases the resistivity of the reinforced concrete
- Enhances the durability of reinforced concrete
- Long term efficiency, deep penetration
- Does not require concrete removal
- Repels additional water and chloride ions.
- Contains amino alcohol corrosion inhibitor
- Ready to use and easily applied by spray or roller
- Adds additional benefits when used prior to protective coatings in concrete restoration systems
- Not a vapor barrier; allows vapor diffusion
- Proven effective per ASTM G109/Cracked Beams
- Increases the resistance of concrete to freeze and thaw cycles and de-icing salts
- As part of Sika's system approach for buildings and civil engineering

Technical Data

Packaging	18.9 L (5 US gal.) pail, 208 L (55 US gal.) drum
Colour	Clear
Yield	Required consumption is 11.6 m^2/3.78 L (125 sq.ft /US gal). This is normally achieved with two (2) coats (23.2 m^2/3.78 L/coat); however three (3) coats may be required for dense concrete and 1 coat may be achievable on porous concrete. Site mockups should be completed to verify application rates and number of coats.
Shelf Life	2 years from production date. Store in unopened, undamaged and original sealed packaging in dry and cool conditions. Protect from moisture. Condition material at temperatures between 4 and 35 °C (40 and 95 °F) before application.
Application Temperature Range:	Between 4 and 35 °C (40 and 95 °F)

Properties at 23 °C (73 °F) and 50 % R.H.

Chemical base	Alkyl alkoxy Silane
Active Ingredients Content	99 %
Chloride Penetration (NCHRP 244)	@11.6 m^2/3.78 L (125 sq.ft /US gal) Series II – Absorbed chloride: 88 % Series IV – Absorbed chloride: 98 %
Flash point	40 °C (104 °F)
VOC Content	327 g/L
Chemical resistance	Consult Sika Canada

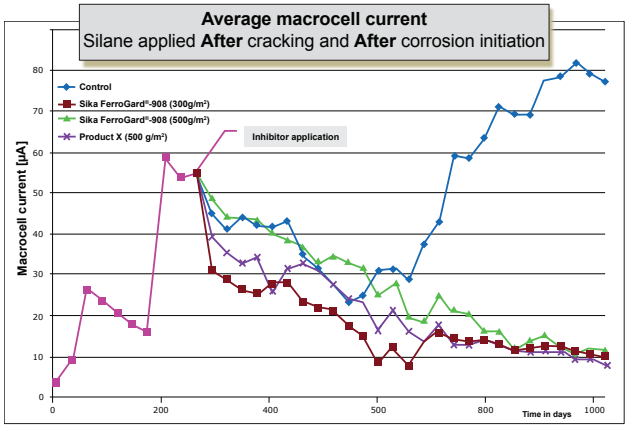
Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

CORROSION DATA

Cracked Concrete Beam (ASTM G 109 modified)

20 Ponding cycles: 2 weeks with 3 % sodium chloride solution and 2 weeks drying at 68 °F. After the 20th cycle, the concentration of the sodium chloride solution was increased to 5 %

Application before cracking – Measurement after 2.5 years of ponding		
	MacroCell Current in µA	Corrosion Reduction
Untreated	81.9	
Sika FerroGard®-908	6.9	92 %
Application after cracking – measurement after 2.5 years of ponding		
	MacroCell Current in µA	Corrosion Reduction
Untreated	81.9	
Sika FerroGard®-908	0.6	99 %
Application after cracking and after corrosion initiation – Measurement after 2.5 years of ponding		
	MacroCell Current in µA	Corrosion Reduction
Untreated	81.9	
Sika FerroGard®-908	10.9	87 %



US Bureau of Reclamation M-82

Standard Protocol to evaluate the performance of Corrosion Mitigation Techniques in Concrete Repairs

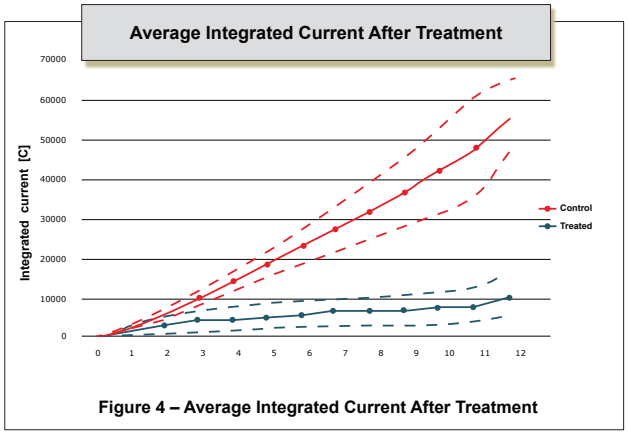
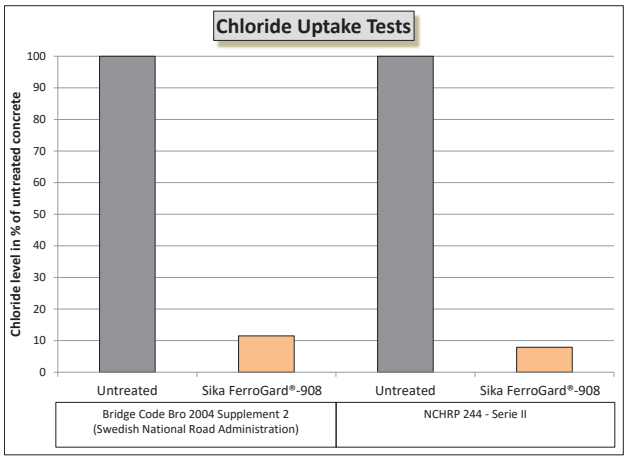


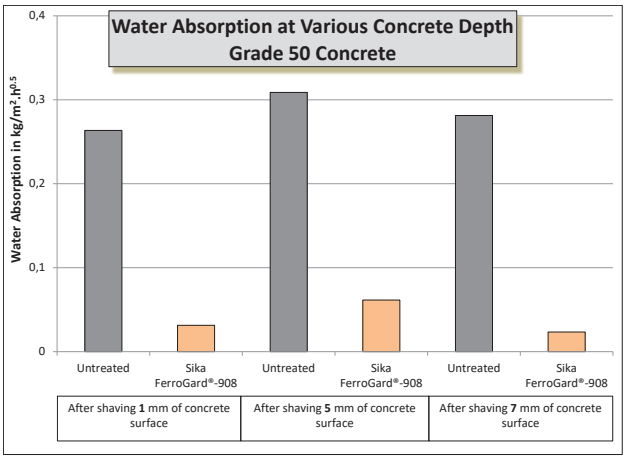
Figure 4 – Average Integrated Current After Treatment

Figure 4 taken from the test report indicates “the corrosion rate in the treated slabs was significantly lowered. This can be seen by the slope of the curves in figure 4”

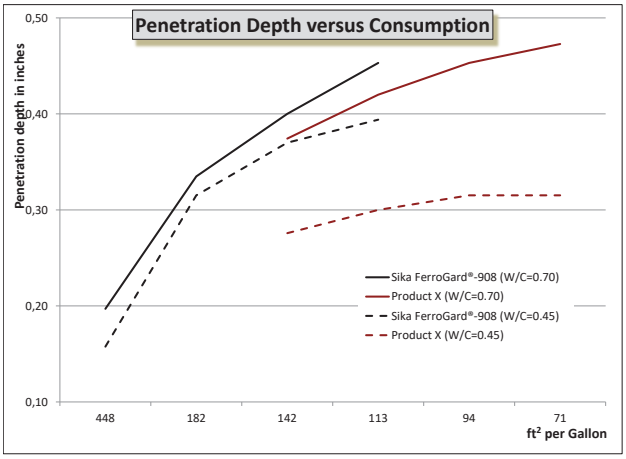
Chloride ion uptake reduction
Compared to untreated concrete, concrete treated with Sika FerroGard®-908 shows a significantly reduced chloride uptake (test carried out using various methods).



Water penetration reduction
Test performed according to the European Standard EN 13057:2002 modified (100 mm sample size). Capillary absorption measurement were carried out after shaving 1 mm, 5 mm and 7 mm off the concrete surface to assess the reduction of water absorption in the depth of the concrete surface.



Penetration depth
Sika FerroGard®-908 is compared to a product available in the market on two types of concrete mixes (one concrete with water cement ratio of 0.70 and the second one with 0.45). The results show clearly a higher penetration of Sika FerroGard®-908 into the test concrete when the same consumption was applied.



HOW TO USE

Surface Preparation

Surfaces must be sound, clean, dry and free of frost, dirt, dust, loose concrete, grease, oil, contaminants or other foreign matter that may adversely affect the penetration of Sika FerroGard®-908. New concrete should cure a minimum of 28 days; however, sooner is possible, please contact Sika Canada for more information. Concrete surfaces must be prepared using mechanical means (sandblast, shotblast, high pressure water, etc.). Cracks in concrete more than 12 mils should be repaired ahead of the treatment.

Mixing

No mixing required, Sika FerroGard®-908 comes ready to use. Do not dilute with water or solvent.

Application

Apply using a low-pressure spray, brush or roller, in a single pass from the bottom up taking care not to let the product run. Apply subsequent coats 'wet on wet'. Avoid ponding on the surface.
If used as a corrosion treatment prior to the application of Sikagard® and Sikalastic® protective coatings, please contact Sika Canada for more information. To ensure excellent bond, use of Sika® Concrete Repair Systems, sealants and coatings is strongly encouraged. Field mock ups are always recommended to verify final construction installation requirements.

Clean Up

Collect and contain spills with absorbent materials. Dispose of in accordance with current applicable local, provincial and federal regulations. Clean tools and equipment with water. Wash soiled hands and skin thoroughly in hot soapy water or use Sika® Hand Cleaner towels.

Limitations

- Do not apply Sika FerroGard®-908 to wet or damp substrates.
- Do not apply if rain is expected within four (4) hours following application or if high winds or other conditions prevent proper application.
- Areas such as window frames which still need to be painted must be protected during application.
- Can damage some coatings and bituminous products.
- May lead to darkening of concrete, apply test areas first.
- Cannot be overcoated with limewash or cement paint.
- Do not dilute with water or solvent.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data.

KEEP OUT OF REACH OF CHILDREN
FOR INDUSTRIAL USE ONLY

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