

NIPPON Corrosion Resistant Solution

(Previously known as Nippon CRS)

Description

Nippon Corrosion Resistant Solution has the ability to create an ionic bond with metal and provide a surface coating that encapsulates corrosion and protects old, deteriorating, ferrous substrates. It may be applied directly to surfaces with tightly adhered intact rust (with proper preparation) and will penetrate tightly adhered intact rust to bond with the metal substrate below to stop the corrosion process.

When properly applied, it provides both the applicator and asset owner with a cost effective infrastructure maintenance program. Nippon Corrosion Resistant Solution is environmentally friendly due to it being water-based, extremely low VOC level, and ease of application and use.

Basic Usage

It is primarily used as a primer coating to protect ferrous materials from further deterioration and loss of mass, through exposure to many naturally occurring elements.

- Concrete Encased Metal
- Metal Stairs and Ramps
- Corrosion Under Insulation (CUI)
- Corrugated and Metal Roofs
- Ship Decks
- Column - Beams - Bridges
- Tanks
- Mines, Infrastructure, Pipe exteriors

In some cases, may be used in as a stand-alone solution, although more often as a part of a more comprehensive solution utilizing other Nippon Paint products. In addition, Nippon Corrosion Resistant Solution may be used as a functional primer for other coating systems.

Benefits

- Simplified surface preparation
- Can be applied via brush, spray, or roll
- Remarkable ease of application
- Extends time between maintenance cycles
- 1K water-borne product
- Ease of clean-up (water and solvents)
- Minimal odor
- Water resistant

Information / Composition of Components

Proprietary formulation no hazardous ingredients according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Number of components	: One
Mass Density	: 1.2-1.3 gr/cc
Volume Solids	: 52% \pm 2%
VOC (ISO 11890-2)	: 34.4 g/L
Viscosity	: 200-600 cSt
pH	: 8-9
Physical	: Liquid
Appearance	: Grey / Black
Gloss Level	: Semi Gloss (\geq 30 GU)
Odor	: Slight Acrylic
Freezing Point	: 0°C
Boiling Point	: 100°C
Vapor Pressure	: 2.3 kPa at RT
Flammability (Solid, Gas)	: Not flammable
Theoretical Coverage	: 0.08 l/m ²
TVOC Emission	: 0.01 mg/m ³ (SGBC min. Criteria \leq 0.50)
Formaldehyde Emission	: 0.008 mg/m ³ (SGBC min. Criteria \leq 0.008)

Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit Upper (%)	: N/A
Flammability Limit Lower (%)	: N/A
Solubility in Water	: Partial
Auto-ignition Temperature (°C)	: N/A
Decomposition Point (°C)	: N/A

Corrosion Potential

Third party test conducted on steel treated with Nippon CRS shows more than 50% reduction on corrosion potential compared with untreated steel.

	<u>Steel treated with Nippon CRS</u>	<u>Untreated Steel</u>
Corrosion Current (mV)	-60.3	-658.9

Corrosion Rate

Third party test conducted on steel treated with Nippon CRS shows a corrosion reduction rate from 0.2mm/yr to 8.66×10^{-11} mm/yr compared with untreated steel.

	<u>Steel treated with Nippon CRS</u>	<u>Untreated Steel</u>
Corrosion Current (μ A/cm ²)	7.44×10^{-12}	1.72×10^{-2}
Corrosion Rate (mm/yr)	8.66×10^{-11}	0.20

Surface Preparation

All surfaces should be clean dry, and free from contamination. Remove all loose rust and debris of rusted substrates using brass wire brush

Application Guide

Recommended DFT	: 25-75 microns Dry Film Thickness (DFT)
Time Dry to Touch	: 20-40 min
Overcoating Intervals	: When dry to touch
Full Cure After	: 24-48 hours
Theoretical Coverage	: 0.08 litre / m ²
Application Method	: By spray, brush or roller
Spray Application	: Tip Size 1.8mm - 2.0mm
	: Pressure at Nozzle 80-120 psi

Shelf-Life

Shelf life is expected to be 24 months at 25°C if container is new/sealed and stored in a cool, dry environment. Shelf life from date of manufacture, when stored in original, unopened containers. Subject to re-inspection thereafter. Higher temperature during storage may reduce the shelf life and may lead to gelling in the tin. Frequent temperature cycles may also shorten the shelf life. Store in tightly closed container in a dry, cool and well-ventilated space, keep away from sources of heat and ignition.

Packaging

Unit : 3.79 litre

Disclaimer

Refer to our Material Safety Data Sheet (MSDS) regarding regulatory compliance, safety, hazards, spill procedures and disposal of this product.

While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use.

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