

RUST-ANODE PRIMER®

DATA SHEET

(November 2010)

Product and registered trademark of Bio-Protect SA, Belgium: www.rustanode.com

PRODUCT DESCRIPTION

Rust-Anode Primer® is a cathodic protection easily applied like single-component paint but providing rust protection identical to hot galvanization.

Rust-Anode Primer® is a ready-to-use, zinc-rich process.

Rust-Anode Primer® contains biodegradable solvents exclusively with an extremely low concentration of volatile organic compounds (VOCs) (approximately 250 gram/l), making it an environmentally-friendly product.

It may be applied with a brush, roller or gun.

Rust-Anode Primer® corrosion protection provides an estimated life expectancy equal to or greater than hot galvanization.

Rust-Anode Primer® may be used as a base coat (primer) or in a duplex system with a finishing paint.

CHARACTERISTICS

-Zinc quantity:	± 88% (+ - 2) (weight) of pure zinc in dry coating (DFT= dry film thickness)
-Zinc purity:	Approximately 99.995%
-Ready to use:	Single-component coating
-Colour:	Flat light grey
-Safety:	Non-toxic and non-flammable when dry
-Specific weight:	2.50 Kg/dm ³ ± 0,1
-VOCs:	300 gram/litre (meets California environmental standards)
-Solvent:	Dry

PROPERTIES

– May be used as a primer or finishing paint (on previous coats of Rust-Anode Primer®)	
– May be used to renew the cathodic protection of a previous hot galvanization coat or previous coats of Rust-Anode Primer®	
– Duplex system	: Rust-Anode Primer® may be covered with paint.
– Applications	: As a primer: 40 to 80 µm (1.6 to 3.2 mils) (dry) DFT or two coats up to 160 µm (6.4 mils) DFT
– Resistance	: High resistance to corrosion, abrasion and impact
– Resistance to cold/heat	: From -80°C to +200/250°C
– Application temperature	: From -10°C to +40°C (different setting times)
– Theoretical coverage	: 7.05m ² /kg at 40µm (1.6 mil) DFT
– Practical coverage	: 6.20m ² /kg (with spray gun) at 40µm (1.6 mil) DFT
– Resistance to saltwater	: Exceptionally good; duplex system is recommended
– Resistance to acids/bases	: May be applied in an atmosphere of 5.5 to 12.5 pH
– High plasticity	: No cracking: permits expansion of metal medium
– Weldability	: A coat up to 40 µm (1.6 mil) may be welded without affecting the weld (x-ray).
– Estimated life expectancy	: Similar to hot galvanization (depends on DFT)
– Duplex estimated life	: Similar to duplex hot galvanization

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- Conductivity	:	Dry film has very good conductivity.
- Salt mist	:	ISO 7253 (4,200 hours)
- Mandrel bend test	:	ASTM D-522
- Flexibility	:	CGSB, 1-GP-71, Method 119.5
- Organic zinc-rich coating	:	CAN/CGSB-1.181-99
- Resistance to hydrocarbons	:	Fuel, hydraulic and brake fluids, acetone and urea
- Meets requirements and specifications of	:	<ul style="list-style-type: none"> • BELGIUM BICP4525 • CORI certification • DND certification • Health Canada certification • Hydro-Québec certification • MTQ certification

USAGE

a) Surface preparation:

- Surface must be free of oil, grease and other chemical contaminants (SSPC-SP1).
 - **Never use Galvanol to clean parts to be galvanized.**
 - Surface must be free of dust.
 - Surface humidity must not exceed 90%.
 - Substrate temperature must be a least **3°C above the dew point.**
 - **Normal** application temperature is between -5°C and +40°C.
 - Rugosity degree: Ra 12.5 µm (0.5 mil)
 - Sharp edges and drilled holes must be smoothed.
1. **New steel (ideal):** remove scale by sandblasting or grit blasting (SSPC-SP6), and smooth sharp edges on cut angles and drilled holes (minimum rugosity degree = 12.5 µm (0.5 mil)).
 2. **Chemical option:** acid clean and then water rinse (rotating nozzle) at 3,000 to 5,000 pounds of pressure.
 3. **Rusted steel with or without existing paint film:** strip the surface at high pressure (rotating nozzle) (SSPC-SP12-WJ4) (5,000 lbs. minimum). If there is corrosion (black iron oxide), mechanically remove it. **Never apply Rust-Anode Primer® to bituminous or aluminium-containing products.**
 4. **On new or previous galvanization (or spray welding):** Rust-Anode Primer® may be directly applied without any mechanical surface preparation. Previously galvanized or spray-welded surfaces should be pressure-washed with water at 3,000 to 5,000 lbs. of pressure (rotating nozzle) in order to remove any surface contamination (zinc salts). Rust-Anode Primer® will renew the previous zinc coat and re-establish continuous cathodic protection. New galvanization or spray welding damaged by drilling, oxygen cutting or welding will regain complete cathodic protection by applying a coat of Rust-Anode Primer®. On galvanized surfaces with new welds, brushing and an application of Rust-Anode Primer® are ideal (**recommended: two coats of 40-60 µm - 1.6 to 2.4 mils**). Before any application, all surfaces must be free of grease, oil and other contaminants.

b) Application procedure:

Important comments:

- **Product is ready to be applied with a brush or roller.**
- **Never shake sealed can in order to avoid the formation of hydrogen.**
- **Due to Rust-Anode Primer® density, mixing with a flat paddle or mixer is recommended before use.**

1. **Open can carefully:**

If there appears to be a bulge in the lid, hydrogen, a reconstitution product, may be present, so the can must be opened with caution in order to allow the hydrogen to escape. The formation of hydrogen does not affect product quality in any way, and the product may be used after proper mixing.

2. **The product is ready to be used with a brush or roller.** *An application of two coats is preferable, with one to 24 hours between coats depending on ambient humidity and temperature, to obtain a minimum dry coat of 80 µm (dry thickness = DFT).*

Brush/roller : *Ready to use
Covers 6.20 m²/kg per 40 µm coat (1.6 mil) (dry measurement = DFT)
Rust-Anode Primer® may be diluted with a little Galvanol solvent in order to obtain the desired viscosity.*

Spray gun : *Dilute by 2 to 4% max. with Galvanol solvent as needed.
Theoretical coverage: 7.05m²/kg at 40 µm (DFT)
Practical coverage: 6.20 m²/kg per 40 µm coat DFT (low pressure)*

**Rust-Anode Primer® must not be mixed with any paint solvents.
Use only Galvanol to dilute Rust-Anode Primer®.**

3. **Drying and setting time:**

- *Dust-free dry after 20 minutes (variable depending on film thickness and ambient humidity and temperature)*
- *Dry to the touch after one hour (variable depending on film thickness and ambient humidity and temperature)*

Second coat:

- *Ready for a second coat of Rust-Anode Primer® after one hour (variable depending on film thickness and ambient humidity and temperature)*
- *Ready for sealer, epoxy or finishing paint after two to six hours (recommended) up to a maximum of 36 hours, depending on film thickness, ventilation, temperature and humidity*

4. **Recommendations:**

- **A stripe coating is recommended for edges, bolts, contours of bolted plates and openings between non-continuous welds.**
- *We recommend using the mist coat technique before applying total desired thickness.*
- *At the end of the workday, it is necessary to cover the surface of the Rust-Anode Primer® remaining in the can with a thin layer of Galvanol solvent. Once cans are opened, product life expectancy is limited.*
- *Clean equipment with Galvanol solvent.*

LIFE EXPECTANCY:

Life expectancy is equal to that of hot galvanization.

PACKAGING

- *3.5 kg and 12 kg cans*

STORAGE

*Keep cans tightly closed in a dry location between 5°C and 20°C in the original sealed packaging.
Product life expectancy in its packaging under standard storage conditions is 36 months.*

NOTE

These data are provided in good faith as information only. They do not signify the liability of the manufacturer, which has no way of controlling product application.