

Technical Data Sheet

ROVAL Cold Galvanizing Compound



Description

ROVAL Cold Galvanizing Compound contains 96% zinc powder in its dry film. Equivalent anti-corrosion performance to hot-dip galvanizing. As it's prepackaged in single packs, it doesn't require mixing, or the additional use of a primer or top coat. It's easy to use and can be applied directly to steel and galvanized surfaces. Like other conventional paints, it can be applied with a brush or a roller, as a conventional spray, or an air-less spray. An aerosol version is also available.

Liquid product

Components	Zinc powder, Binder, Aromatic thinner
Specific Gravity	2.50kg/L (± 0.10kg/L)
Type of thinner	ROVAL Thinner or Aromatic thinner like Xylene. (Within 5% of paint weight)
Theoretical coverage	For 40µm DFT: 4m ² /kg or 0.25kg/m ² For 80µm DFT: 2m ² /kg or 0.5kg/m ²
Application Conditions	Temperature 5-40°C, Humidity < 85% The metal substrate temperature < 50°C
Shelf life	3 years
Pot life	If closed correctly after usage, ROVAL will remain applicable.
Storage	Store in a cool, well-ventilated place at 5°C to 25°C.

Dry film

Color	Gray
Gloss	Matt
Zinc content	96% (± 1%) by weight, use zinc ingot with a purity of 99.995%. ROVAL conforms to the standard ASTM A780 in regard of its use as repair coating for hot-dip galvanizing.
Dry film thickness	80µm (40µm x 2 coat)
Drying time	For 40µm DFT at 20°C, humidity 65% condition >> Touch dry and overcoating: 30min >> Fully cured: 24 hours

Surface Preparation

ROVAL products requires direct contact between the zinc dust in the film and the metal substrate for optimum performance. Since the surface must be dry and free of any other paint and contaminants, employ adequate methods to remove them thoroughly.

- (1) Salt: Use high pressure washing to remove salt deposits.
- (2) Oil: Wipe off perfectly with solvent rags.

	Steel surface		Galvanized surface	
Purpose	Hot-dip-galvanizing alternative	Long-term rust prevention	Improved anti-corrosion performance of new galvanized surfaces. Renovation of old galvanized surfaces.	
Surface condition	Mill scale, Red rust, Old paint film, Welded part		Red rust, Old paint film, Welded part	No red rust (Only white rust)
Surface preparation	ISO8501 Sa2 1/2 *1 Remove all the rust and mill scale by sandblasting	ISO8501 St3 Use a power tool to expose a clean metal surface.	ISO8501 St2 Use a hand tool to remove white rust.	

*1 Confirmation method: Compare the surface with standard photograph by visual observation.

Adequate agitation of products

Because ROVAL products contains a lot of powdered zinc, the contents may settle at the bottom of the can. Use a **power paint mixer** to obtain uniform density.

Coating method

ROVAL series are an easy-to-handle, single liquid type compound. It does not require any mixing like two liquids and has no limitation of pot life. The rest of the paint can be kept in a closed container.

Brush / Roller	Dilution is not required. Only when the product thickens, use thinner within 5% of paint weight.
Conventional spray	Use Gravity feed spray gun. Nozzle size: 1.5~2.0mm, Pressure: 0.3MPa Dilution: 0~5% Paint strainer: #100
Air-less spray	Tip size: above 0.017inches (e.g.517) Pressure: above 20MPa, Gun filter: #50~60 Dilution: 0~5%

Coating Specifications

ROVAL + ROVAL

	Theoretical Coverage (g/m ²)	Practical Coverage *1		Coating Interval (min)	Dry film Thickness (μm)
		BRUSH (g/m ²)	SPRAY (g/m ²)		
Surface Preparation	Refer to [Surface preparation]				
(1 st coat) ROVAL	250	300	325	30~60	40
(2 nd coat) ROVAL	250	300	325		40
Total	500	600	650		80

*1 Practical coverage includes 20% of loss for brush application, and 30% for spray application

Coating interval

Temperature	5°C	10°C	20°C	30°C	40°C
Recommended Interval (min)	60	40	30	10	5

*Based on the condition: thickness 40μm, humidity 65%.

Properties

Test item	Method used	Result
Hardness	JIS K5600-5-4:1999 (ISO/DIS15184:1996) Pencil scratching	Pencil B
Adhesion	JIS K5600-5-6:1999 (ISO2409:1992) Peel off a sticky tape on 25 cells check pattern (square: 2mm x 25)	No abnormality
Heat resistance	Electrical constant temp. drier 170°C, 24 hours	No abnormality
Cold resistance	Low temp. cycle test for 72 cycles <1 cycle> Left at -30°C for 5 hours and Left at +10°C for 1 hour	No abnormality

Anti-corrosion performance

Test item	Testing method	Duration	Result
Water immersion	Immersed in ion exchanged water	3 months	No abnormality other than white rust
Salt water immersion	Immersed in 3% salt water	3 months	No abnormality other than white rust
Salt spray	JIS K 5600-7-1:1999 (ISO7253:1984) 5%NaCl (pH6.5~7.2) Temp of spray chamber: 35±1°C	2256 hours	No abnormality other than white rust

Packaging & Painting area

Aerosol 420ml	0.5 m ² / can	24 cans / case
1 kg	2 m ² / can *	8 cans / case
2.5 kg	5 m ² / can *	4 cans / case
10 kg	20 m ² / can *	1 can
25 kg	50 m ² / can *	1 Pail

* The theoretical coating area is displayed. For practical coverage, consider a 20% loss with brush application, 30% loss with spray application.

Refer to

- ✓ ROVAL Series Paint Specifications
- ✓ ROVAL Safety Data Sheet



<https://rovalworld.com/>