

*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	2.50 kg/L (± 0.10 kg/L )
Type of thinner	<b>ROVAL Thinner</b> or Aromatic thinner like Xylene. (Within 5% of paint weight)
Theoretical coverage	For 40µm DFT: 4 m <sup>2</sup> /kg or 0.25kg/ m <sup>2</sup> For 80µm DFT: 2 m <sup>2</sup> /kg or 0.5kg/ m <sup>2</sup>
Application Conditions	Temperature 5 - 40 °C, Humidity < 85% The metal substrate temperature < 50 °C
Shelf life	3 years

## 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 <b>ASTM A780</b> 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: 30 min >> 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	
<b>Purpose</b>	Hot-dip-galvanizing alternative	Long-term rust prevention	Improved anti-corrosion performance of new galvanized surfaces. Renovation of old galvanized surfaces.	
<b>Surface condition</b>	Mill scale, Red rust, Old paint film, Welded part		Red rust, Old paint film, Welded part	No red rust (Only white rust)
<b>Surface preparation</b>	<b>ISO 8501 Sa2 1/2</b> *1 Remove all the rust and mill scale by sandblasting	<b>ISO 8501 St3</b> Use a power tool to expose a clean metal surface.		<b>ISO 8501 St2</b> 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	<b>Use Gravity feed spray gun.</b> Nozzle size: 1.5 ~ 2.0 mm,      Pressure: 0.3 MPa Dilution: 0 ~ 5%,                      Paint strainer: #100
Air-less spray	Tip size: above 0.017 inches (e.g. 517) Pressure: above 20 MPa,      Gun filter: #50 ~ 60 Dilution: 0 ~ 5%

## Coating Specifications

### ROVAL + ROVAL

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

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

## Coating interval

Temperature (°C)	5	10	20	30	40
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/DIS 15184:1996) Pencil scratching	Pencil B
Adhesion	JIS K 5600-5-6:1999 (ISO 2409:1992) 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 (ISO 7253:1984) 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 <sup>2</sup> / can	24 cans / case
2.5 kg	5 m <sup>2</sup> / can *	4 cans / case
10 kg	20 m <sup>2</sup> / can *	1 can
25 kg	50 m <sup>2</sup> / 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/>