

*Technical Data Sheet*

# ROVAL ALPHA Zinc Rich Compound



## Description

ROVAL ALPHA contains 92% zinc in its dry film and not contain pigment (aluminum).

High rust preventive performance because silver color is achieved with zinc only.

As the main component of ROVAL ALPHA, the particularly processed zinc flakes provide the film with metallic texture and luster. An aerosol version is also available.

## Liquid product

Components	Zinc powder, Binder, Aromatic thinner
Specific Gravity	1.97kg/L (± 0.10kg/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
Product warranty period	3 years from manufacturing date (unopened)
Pot life	If closed correctly after use, it can still be used.
Storage	Protect from sunshine and store in a well-ventilated place.

## Dry film

Color	Silver
Gloss	Matte
Zinc content	92% (± 1%) by weight, use zinc ingot with a purity of 99.995%. Conforms to the standard <b>ASTM A780, ISO1461</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: 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	
<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>ISO8501 Sa2 1/2</b> *1 Remove all the rust and mill scale by sandblasting	<b>ISO8501 St3</b> Use a power tool to expose a clean metal surface.	<b>ISO8501 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: 0.3MPa Dilution: 5~10%,                  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

- 1) <Recommended!> **ROVAL** + **ROVAL ALPHA**
- 2) **ROVAL ALPHA** + **ROVAL ALPHA**

	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> or <b>ROVAL ALPHA</b>	250	300	325	30~60	40
(2 <sup>nd</sup> coat) <b>ROVAL ALPHA</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

**Note:** When applying only ROVAL ALPHA two coats, ensure sufficient film thickness. (more than 80μm)

## 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 6B
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 K5600-7-1:1999 (ISO 7253:1984) 5%NaCl (pH6.5~7.2) Temp of spray chamber: 35±1°C	1000 hours	No abnormality other than white rust

## Packaging & Painting area

Aerosol 420ml	0.4 m <sup>2</sup> / can	24 cans / case
1.5 kg	3 m <sup>2</sup> / can *	4 cans / case
20 kg	40 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 ALPHA Safety Data Sheet



<https://rovalworld.com/>