

Technical Data Sheet

AQUA ROVAL Cold Galvanizing Compound



Description

AQUA ROVAL Cold Galvanizing Compound contains 95% zinc powder in its dry film. Equivalent anti-corrosion performance to hot-dip galvanizing. It is an environmentally friendly water-based type while keeping the outstanding anti-corrosion ability of ROVAL Cold Galvanizing Compound.

Liquid product

| | |
|-----------------------------------|---|
| Components (Packed separately) | Zinc powder Paint solution |
| Specific Gravity (Mixed state) | 3.10 kg/L (± 0.10 kg/L) |
| Dilution | Water |
| Theoretical coverage | For 40µm DFT: 4 m ² /kg or 0.25kg/ m ² For 80µm DFT: 2 m ² /kg or 0.5kg/ m ² |
| Application Conditions | Temperature 5 - 40 °C, Humidity < 85% The metal substrate temperature < 50 °C |
| Shelf life (Not mixed) | 1 years |

Dry film

| | |
|--------------------|---|
| Color | Gray |
| Gloss | Matt |
| Zinc content | 95% (± 1%) by weight, use zinc ingot with a purity of 99.995% . AQUA 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 50% condition >> Touch dry and overcoating: 30 min >> Fully cured: 24 hours |

Surface Preparation

AQUA ROVAL 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 | ISO 8501 Sa2 1/2 *1 Remove all the rust and mill scale by sandblasting | ISO 8501 St3 Use a power tool to expose a clean metal surface. | | ISO 8501 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

AQUA ROVAL pots are sold with their zinc powder and paint solution packaged separately. Just before use, stir the paint solution, then add the zinc powder little by little. After that, stir the mixture well with a **power paint mixer** until the lumps disappear.

Powder : liquid = 4 : 1

Pot-life: The mixture should be used up within **8 hours**.

Coating method

| | |
|--------------------|--|
| Brush / Roller | Dilution by water: 0 ~ 2% |
| Conventional spray | Use Gravity feed spray gun. Nozzle size: 2.0 ~ 3.0 mm, Pressure: 0.3 MPa Dilution by water: 0 ~ 5% |
| Air-less spray | Tip size: above 0.017 inches (e.g. 517) Pressure: above 20 MPa, Gun filter: #50 ~ 60 Dilution by water: 0 ~ 2% |

Coating Specifications

AQUA ROVAL + AQUA 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) AQUA ROVAL | 250 | 300 | 325 | > 30 *2 | 40 |
| (2 nd coat) AQUA 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

*2 Depends on temperature and humidity

Properties

| Test item | Method used | Result |
|-----------------|--|----------------|
| Hardness | JIS K5600-5-4:1999 (ISO/DIS 15184:1996) Pencil scratching | Pencil HB |
| 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 | 10 days | 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

| | | |
|---|---------------------------|---------------|
| 1 kg set (Powder 800g : Liquid 200g) | 2 m ² / set * | 4 sets / case |
| 5 kg set (Powder 4kg : Liquid 1kg) | 10 m ² / set * | 1 set |
| 20 kg set (Powder 16kg : Liquid 4kg) | 40 m ² / set * | 1 set |

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

Refer to

✓ AQUA ROVAL Safety Data Sheet



<https://rovalworld.com/>