Hate Rust
ROVALize it Now!

Roval Cold Galvanizing Compound
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Hate Rust

Roval Cold Galvanizing Compound

ROVAL has a high 96% zinc content in its dry film and its anti-corrosion performance is equivalent to that of hot-dip galvanizing. Whether being used as an alternative to hot-dip galvanizing for the overall coating of steel structures, or being applied to the restoration and renovation of galvanized surfaces, ready-to-use ROVAL cold galvanizing has been widely used for more than half a century for the anti-corrosion protection of steel structure in various fields.

Renovation of galvanized surfaces

- Connector stitching between buildings
- Stereo garage

ROVAL can effectively extend the service life of galvanized sheets.

- Cut surfaces
- Welding parts

ROVAL is the best choice to repair the cutting surface, welding parts, and the galvanizing layers without zinc coating or with zinc coating falling off.

Anti-corrosion protection to steels

- Hall facilities
- Weak parts that are easily deformed under high temperature
- Steel fence
- Connection components

ROVAL can be used as an alternative to do anti-corrosion protection of large parts that can’t be put into the zincability tank and of weak parts that are easily deformed under high temperature.

ROVAL can achieve the same anti-corrosion effect with that of hot-dip galvanizing by being directly coated on the surface of the steel to prevent the steel from rust.

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Achieve high quality coating system by using together with RV-TOP (Color Customizable)

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Ready-to-use single pack type cold galvanizing. Equivalent anti-corrosion performance to hot-dip galvanizing.

**ROVAL**

Cold Galvanizing Compound

With 96% zinc content in its dry film, ROVAL has the strongest anti-corrosion and the highest cost-effective performance among ROVAL product line.

**Properties**

- **Single Pack Type**: Easy to handle, No pot life or mixing required.
- **Color Fading**: The paint color naturally weathers with exposure like that of hot-dip galvanized surfaces.
- **Film Hardness**: Hardness of the film improves with exposure.
- **Electrical Conductivity**: ROAL film conducts static electricity.

**Matching**

- **ROVAL Primer 0.5kg**: The weak thiophene R, R, R, and RS
- **ROVAL/MC Color Matching 400ml**: Spray 420ml
- **ROVAL/ZC Galvanizing Paint 400ml**: Spray 420ml
- Match with R, MC

**Water-based organic zinc rich compound**

**AQUA ROVAL**

Cold Galvanizing Compound

Aqua Royal Cold Galvanizing Compound is a 2 pack water-based anti-corrosion system based on waterborne synthetic resin. Aqua Royal is easy to use, and has little or no odor. It can be applied not only in serious corrosive environment, but also in our daily living environment. Due to its high zinc content (95%) in the dry film, it provides cathodic protection to steel structures and it can be applied either as a single-coat or as primer in a system with other intermediate coating and top coating.

- **VOC content is 38g/L**: Water-based anti-corrosion system greatly reduces VOC content.
- **Match well with galvanizing surfaces**: Aqua Royal can be applied directly on old galvanizing, No smell: Aqua Royal has little or no odor.

**How to apply Aqua Royal**

1. **Surface Preparation**: Pour the liquid part into the container and agitate with a powered tool. Pour the powder part into the liquid little by little, keeping stirring the mixture at least 3 minutes until the powder blend into the liquid without any lump. The mixture should be used up within 8 hours.

2. **Remove the oil**: Oil may peel or crack the paint film.

3. **Making compound**: The powder and liquid should be mixed according to powder:liquid = 4:1 proportion. The mixture should be used up within 8 hours.

4. **Brushing**: Use brush, roller to apply two coats. (Each coat: 40μm) Total dry film thickness is 80μm. Do not spread the paint too thin or thick.
Better heat resistance and solvent resistance
Achieve high-quality coating system by using together with RV-TOP

EPO ROVAL
Cold Galvanizing Compound

Any color you like!
RV-TOP
(Polyurethane Topcoat)

<table>
<thead>
<tr>
<th>Type</th>
<th>5kg Set</th>
<th>20kg Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical Coverage</td>
<td>31 m²</td>
<td>125 m²</td>
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- Color Customizable
  - The color of RV-TOP can be customized. Please consult the technical service department of Royal Company to know detailed information of color customization.
  - TEL: 021-66165684

- Weatherability
  - Having excellent light maintenance, color maintenance and UV resistance by using pigment with super weatherability.

- Impact Resistance
  - The film shows excellent protective performance with good impact resistance and abrasion resistance.

<table>
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<tr>
<th>Application</th>
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<tbody>
<tr>
<td>Household sunshade</td>
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<tr>
<td>Water-based multiple coating system (Aqua Royal + water-based intermediate coating + water-based top coating)</td>
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</tbody>
</table>

EPO ROVAL can be used together with top-coat from other companies

- Coating process of iron surface
  - Primer: EPO ROVAL + RV-TOP (grey)
  - Topcoat: EPO ROVAL + RV-TOP (white)

- Recommended Film Thickness: 80µm
- Packaging: 4 / case, 4 drum

- Heat Resistance
  - 24 consecutive hours without abnormal situation at 200°C
  - (The highest intermittent temperature is 450°C)

- Electrical Conductivity
  - ROVAL film conducts static electricity.

- Color Fading
  - The paint color naturally weathering with exposure like that of hot-dip galvanized surfaces.

- Film Hardness
  - Hardness of the film improves with exposure.

- Single Pack Type
  - Easy to handle. No pot life or mixing required.

- Anti-corrosion Effect
  - Anti-corrosion Effect Sample
  - Hot-dip Galvanizing
  - Normal Paints

- Zinc Content
  - 96%

- Color Sample

Compliance with the EU Regulations on Organic Chemicals

EPO ROVAL TINNER is an exclusive product for being viscosity of EPO ROVAL. DO NOT mix ROVAL TINNER. Rotation ratio must be less than 5% (weight ratio).

EPO ROVAL, TINNER, and other can be used together with top-coat from other companies.

- Coating process of iron surface
  - Coating panel (Cold Panel)
  - Preparation of the surface
    - Prepare the metal surface by sanding or with appropriate power tool to remove all contamination on the surface.
  - Priming
    - Primer: EPO ROVAL
    - Paint: EPO ROVAL
  - Intermediate coat
    - Intermediate coat: EPO ROVAL
  - Topcoat
    - Polyurethane and fluorocarbon top coat
  - Specify by paint manufacturers.

- Coating panel (Direct Application)
  - Coating panel (Direct Application)
  - Preparation of the surface
    - Prepare the metal surface by sanding or with appropriate power tool to remove all contamination on the surface.
  - Priming
    - Primer: EPO ROVAL
    - Paint: EPO ROVAL
  - Intermediate coat
    - Intermediate coat: EPO ROVAL
  - Topcoat
    - Polyurethane and fluorocarbon top coat
    - Matching with intermediate coat
  - Specify by paint manufacturers.
**Anti-bacterial and mildew free compound with strong rust proof performance**

**ROVAL α**

**Zinc Rich Compound**

- **Antimildew**
- **Antibacterial**

**Color Sample**

**All Zinc Powder**

Ro does not contain pigment (aluminum). As the main component of Ro, the particle size processed zinc flakes provide the film with metallic texture and luster.

**Properties**

- **Single Pack Type**
  - Easy to handle
  - No pot life or mixing required.
- **Color Fading**
  - The paint color naturally weathered exposure like that of hot-dip galvanized surfaces.
- **Film Hardness**
  - Hardness of the film improves with exposure.
- **Electrical Conductivity**
  - ROVAL film conducts static electricity.
- **Antimildew Antibacterial**
  - Activated zinc ions in Ro inhibit mildew and bacterial growth.

**Use ROVAL as primer for better anti-corrosion performance.**

To achieve the best anti-rust effect, ROVAL Cold Galvanizing Compound is highly recommended to be used as primer when using ROVAL Silver Zinc Rich Compound to do anti-corrosion pretreatment of steel. Large-area coating or in severe corrosive environment, if applying ROVAL Silver Zinc Rich Compound alone without primer, the thickness of the coating film must be larger than 80um.

**ROVAL SILVER**

**Zinc Rich Compound**

**Properties**

- **Contains Aluminum**
  - Aluminum pigments provide barrier protection to a metal.
- **Single Pack Type**
  - Easy to handle
  - No pot life or mixing required.
- **Color Fading**
  - The paint color naturally weathered exposure like that of hot-dip galvanized surfaces.
- **Film Hardness**
  - Hardness of the film improves with exposure.
- **Electrical Conductivity**
  - ROVAL film conducts static electricity.

Compliance with the EU Regulations on Organic Chemicals
Galvanizing Repair Metallic Spray

ZC Anti-corrosion Effect ★★

- Color Sample
- Theoretical coverage: 1m²
- Dry to Touch Time: 20-40 minutes
- Recommended Film Thickness: 40μm
- Packaging: 24 / case

Properties

- Power Up! Enhance anti-corrosion performance as a topcoat to ROVAL.
- Ripping Spray: Suitable for repair of damaged or zinc-plated surfaces.
- Temporal Film: Offers short-term protection while zinc is being applied to freshly galvanized surfaces.
- Anti-corrosion protection: Contains 90% zinc as well as aluminum compounds to effectively prevent corrosion.

Application

- Application

Color Matching Metallic Spray

MC (No Anti-corrosion Effect)

- Theoretical coverage: 3m²
- Dry to Touch Time: 15-30 minutes
- Recommended Film Thickness: 10μm
- Packaging: 24 / case

Properties

- No anti-corrosion effect.

Application

- Application

ROVAL vs Normal paints

ROVAL (Anti-corrosion by electrochemical reaction)

- Water may penetrate through the zinc oxide on the steel surfaces, but the steel is protected by the electrochemical reaction of zinc.

Mechanisms of Anti-corrosion

- The oxidation of zinc forms corrosion products which act as a protective barrier against air and moisture, improving anti-corrosion performance.

Normal paints (Artificial corrosion by barrier protection)

- Paint film provides protection to a metal surface by shielding it from water.

Maintenance

- Preparation
  - Hand tool: Suitable for light cleaning.
  - Power tool: For deeper cleaning.

- Reapplying
  - No need to remove old film.

- Complex application

- Preparation
  - Sandblasting: Removes old film
  - Power tool: Removes old film

- Easy application
  - No need to remove old film

- High cost

- Complex application
ROVAL has the distinctive property to stop rust creeping under the film.

We have proven results from a 36-month atmospheric exposure test concluded at Japan Weathering Test Center in Miyako-jima Island testing ROVAL and other companies’ paints for anti-corrosion performance. These results and pictures prove that ROVAL protects steel surfaces from rust creepage with its electrochemical reaction, whereas other paints allowed the rust to spread from the cross-cut areas.

|Miyakojima Island Testing Ground|
Miyakojima Island is located the far southern portion of Japan, with roughly the same latitude as Florida, U.S.A. The island is surrounded by a lot of deteriorating factors such as high temperature, high humidity, strong sunshine, and a salt-witch atmospheres. This environment is known to be the best for accelerating film deterioration.
Anti-corrosion performance of ROVAL is equivalent to the highest grade of hot-dip galvanizing available in Japan.

In order to compare the anti-corrosion performance of ROVAL with those from the hot-dip galvanizing process, corrosion accelerating tests were conducted by the Japan Paint Inspection and Testing Association in accordance with Japanese standard “JIS H8502-1998”.

The results and pictures from the test show that ROVAL has an equivalent anti-corrosion performance to hot-dip galvanizing. ROVAL has been certified to have equivalent anti-corrosion performance as hot-dip galvanizing by the Council for Construction Technology Review and Certification in Japan.

*JIS H8502-1998 is based on ISO standards: 4540, 4541, 8407, 8565, 9227, and 10082.
Color weathering of Roval products

The film of Roval products weathers the same as galvanized materials by exposure. This characteristic makes repaired unapparent.

User Guides

<Tips>

ROVAL has to be applied DIRECTLY to metal surfaces.
The direct contact between the zinc and the metal surface will result in a cathodic reaction.

X Never use primers.
Primer will compromise the performance of Roval products.

3 Important Points

01 Surface Preparation
Prepare the metal surface by sandblasting or with appropriate power tools.

02 Adequate Agitation of Product
Agitate the products well to obtain uniform density.

03 Sufficient Film Thickness
Apply two coats. (Each coat: 40μm)
Total dry film thickness = more than 80μm
Do not spread the paint too thin. Anti-corrosion performance is proportional to DFT.

Application methods

- Brush:
  - E.g., Soft brush

- Roter:
  - E.g., Long hand-reeler

- Conventional/airless spray:

The importance of Surface Preparation

Surface pretreatment directly affects the anti-corrosion performance and service life of coating film.

To get the best anti-corrosion performance, surface pretreatment is very important.

Brushing only after the cleaned and bare metal surface is exposed out by using sandblasting or power tools to remove the contamination on the metal and galvanized surfaces.

Wrong Application

- Applying product to rusted surfaces
- Applying product to painted surfaces

Results of salt spray experiments under different surface preparation conditions

- Brushing on the clean and bare metal surface
- Brushing after roughening the rust by sand blast
- Brushing directly on the rust (without surface preparation)

Deviations can occur between the samples shown, the delivered products and the standard references due to differences in shooting angle, light, and the surroundings.
Applications

From ordinary to extreme
Various ways to use the Roval products

- Roads
- Bridges
- Marine equipment
- Power stations
- Pedestrian bridges
- Buildings
- Cut surfaces
- Un-galvanized areas
- Welds
- Cathodes
- Lighting towers
- Steel frames
- Ducts
- Pipes
- Gratings
- Lightning rods
- Steel gates

Steel Recycling Project!

What if the steel structure becomes old?

Restore it with ROVAL!

Applying ROVAL on worn galvanized surfaces prolongs a life of steel structures. This property leads to the sustainability of steel resources. It is time to switch from "Scrap & Build" to "Recycle." Let's kick start with ROVAL!