



## **Product Overview**

### **Unique anti-rust mechanism**

This product adopts acrylic emulsion, resin and related fillers and auxiliaries, with scientific ingredients and strict modulation, so that the product has unique anti-rust function; the main mechanism is through certain active pigments and anti-rust pigments under the action of inorganic acid and related auxiliaries, which form ionic genes that absorb stable iron rust, so that the active iron rust loses its activity and achieves ligand complexation reaction, and in the process of painting, the paint fully penetrates into the pinholes on the steel surface, separating and enclosing the iron rust in the paint. During the coating process, the lacquer fully penetrates into the pinholes of the steel surface, separating and enclosing the rust in the lacquer, and after film formation, reacts with each other through slow hydrolysis to further form insoluble heteropolymeric acid complexes. After the film is formed, it reacts with each other through slow hydrolysis and further forms insoluble heteropolyacid complexes. The harmful rust is transformed into a beneficial protective layer and firmly adheres to the metal surface, thus obtaining effective and durable corrosion inhibition and rust prevention.

### **Advanced technology formula, scientific design scheme**

This product absorbs the essence of antirust primer, gathering the unique formula and process of penetrating, transforming and stabilizing as one, and scientifically adopting the design scheme that the penetrating and transforming mechanism is the leading one, taking into account the stabilizing inert shielding as a supplement, finally overcoming all the forbidden areas of water-based antirust primer, and all the technical indexes reach the industry requirements, creating a new era of water-based antirust primer. It is the replacement product of traditional rustproof primer.

### **Excellent safety**

The product adopts inorganic and non-toxic raw materials, makes reasonable use of nano-materials, chooses inorganic organic modified polymers, uses water as diluent, and the paint film is formed by inorganic salt layer, so it is non-toxic, low odor, non-polluting, non-trivial, non-flammable and non-explosive, with VOC content less than 25, ensuring environmental protection and fire safety, and safeguarding the health of workers.

### **Excellent permanent performance of paint film**

The paint film formed by this product has excellent resistance to salt spray, salt water, fresh water, gasoline, motor oil transformer oil, anti-UV light aging resistance, high temperature resistance, low temperature resistance, humidity and heat resistance, temperature change resistance, etc. It has strong film flexibility, repeated bending, and is not afraid of component collision, and has all-round compatibility with various topcoats, with a film life of 2 to 5 years.

### **Increase efficiency, energy saving and cost reduction**

This product has a rust coating function, part of the components can simplify the phosphate



process and intermediate coating, saving time and effort, simple and fast, can improve the efficiency of more than 3 times, water as a diluent, the product utilization rate of 100%, per kg brush area of 12 ~ 15 square meters, the unit cost of painting is low, rust performance is the general antirust primer 2 ~ 3 times, can significantly reduce the enterprise in corrosion prevention, labor protection, fire safety and environmental protection investment, It can significantly reduce the investment in corrosion prevention, labor protection, fire safety and environmental protection. It can significantly reduce the investment in corrosion prevention, labor protection, fire safety and environmental protection, and achieve the purpose of increasing efficiency, saving energy and reducing cost.

### **Wide applicability**

This product is a high-grade water-based antirust primer. Due to its unique mechanism, scientific design, advanced technology and excellent performance, it can be widely applied to all kinds of ships, railroad vehicles, automobile vehicles, tractors, various mechanical equipment, towers and bridges, containers, oil and gas pipelines, oil tanks, petrochemical facilities, coastal port facilities and other steel components to prevent rust and corrosion.

## **Water-based anti-rust paint instructions for use**

### **Surface treatment:**

Before painting, the surface of steel components should be cleaned of gray sand, weld slag, oil, loose thick rust floating rust, old varnish and anti-rust oil on top of cold-rolled steel plates, for components with high surface requirements, the rust must be thoroughly removed to reach Sa2.5 level, for steel components with low surface requirements or difficult to remove rust can be simply removed or painted with rust.

### **Stirring and dilution:**

If the viscosity is too large, add tap water to dilute the paint, but the amount of tap water should not exceed 10% of the total amount of paint, and adjust the moderate viscosity to 20~40S (coating-4 cups).

### **Construction environment:**

You should choose sunny day for painting, ambient temperature within 5~40°C, relative ambient humidity  $80\% \leq$  is good, not to be constructed in the environment below 3°C and relative humidity  $\geq 80\%$ , not to be constructed in rainy and snowy weather, the paint film after painting should not be rained within 4 hours, moreover, not to be rinsed with water.

### **Re-coating time:**

Under normal ambient humidity and temperature conditions ambient temperature ( $23^{\circ}\text{C} \pm 2$ , ambient humidity  $50\% \pm 5$ ), two coats can be applied after 15 hours, if the ambient temperature is above 30°C and relative humidity is below 50%, recoating operation can be done in 6 hours.

### **Construction method:**

This product is suitable for brushing, spraying, dipping, rolling and high pressure airless spraying.

### **Painting tools:**



## Water-based anti-rust paint (240 hours of salt spray)

For brushing, a soft brush (hair length 5cm) should be used; for rolling, a roller (hair height 5mm) should be used; for spraying, a gun with a diameter of 0.4-0.6mm should be used. Spraying pressure in the Mpa0.25-0.5 range for. Selection of airless spraying, nozzle diameter should be selected in the range of 0.4-1.3mm, nozzle pressure should be 12-15Mpa is appropriate. During the construction process, the painting apparatus must be used separately, not mixed with other paints or apparatus, and cleaned with tap water after use for repeated use.

### **Compatibility:**

This product can be used with any topcoat, but it can only be painted under the condition that the primer is thoroughly dried.

### **Reference dosage:**

About 70g per square meter (dry film thickness is about 25um).

### **Product packaging:**

The product is packed in color-printed tinplate and plastic drums, with specifications of 5kg, 20kg and 50kg.

### **Product transportation:**

In transportation, it should not be inverted, broken, collided, avoid sunburst, rain and freezing, and the stacking height is below 2 meters. Transport temperature should be kept within the range of 0-40°C. The product is water-based, non-toxic, odorless, non-flammable and non-explosive, and belongs to the "non-dangerous goods rules".

### **Product storage:**

The product should exist in a cool and ventilated warehouse with a stacking height of 2 meters or less, ambient temperature 0-30°C, and ambient humidity should be kept within the range of 50-85%.

### **Product shelf life:**

12 months from the date of delivery, such as after the shelf life, as long as the container is not hard lump, after stirring evenly, the inspection of technical indicators if there is no change, can continue to use.

## **Technical parameters of water-based anti-rust paint**

Item	Test method	Technical index	Remarks
Paint film appearance	GBSG51001-94	R01 iron red B01 dark	Paint film is smooth and
Paint viscosity (S)	GB/T1723-93	≥20	Coating-4 cup viscomete
Paint fineness (um)	GB1724-2019	≤60	
Coating hardness (Pendulum type)	GB/T1730-93	≥0.36	
Coating impact strength (kg/cm)	GB/T1732-2020	50	
Surface drying time	GB6753.2-86	20	
Actual drying time	GB1728-89	15	
Drying time (h)	101-1 type blast drying o	1	120°C temperature



## Water-based anti-rust paint (240 hours of salt spray)

Solid content (%)	GB1725-2007	≥45	
Covering power (g/m <sup>2</sup> )	GB1726-79	≤70	
Circle method adhesion	GB1720-89	≤2 grade	
Salt spray resistance (h)	GB/T1771-2007	No blistering, no peeling Slight discoloration	Dry film thickness greater than 80um
Water resistance (h)	GB/T1733-93	No blistering, no peeling Slight discoloration	Same as above
Artificial aging resistance (h)	GB/T14522-2008	No blistering, no peeling Slight loss of color	Same as above
Temperature resistance (times)	GB1735-2009	No blistering, no shedding No cracks	Adopt JB-1733-76 wet and hot climate test box -20°C 300min+50°C 30min cycle
Oil resistance (h)	GB/T1734-93	No blistering, no shedding Slight color loss	70#, 90#, 120#
Nitro resistance	GB9274-88	No blistering, no swelling No color bleeding	Choose white nitro or white magnetic paint
Flexibility	GB6742-2007	1mm	
Dry film thickness (μm)	GB1764-89	≥20	One-time coating on flat surface Large thickness on the surface
Volatile compounds (VOC)	HJ2537-2014	25.5	

Note: Due to the wide range of products, technical parameters are quite different, please refer to our website or request information for detailed parameters.

### Statement

The information provided in this product specification is based solely on our knowledge gained in the laboratory and in practice. However, since the use of the product is usually beyond our control, we only give a guarantee of the quality of the product itself. We reserve the right to modify this manual without prior notice. For more information, please consult our website: [www.towercoating.com](http://www.towercoating.com)

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