



RSI
INDUSTRIAL
PAINTS Inc.

HEAT RESISTANT SILICONE ALUMINIUM PAINT RHR-301

PRODUCT DESCRIPTION

RHR-301 is a one component silicone coating. It is an aluminium pigmented product. It is heat resistant up to 600 °C. Can be used as primer, mid coat or finish coat in atmospheric environments.

Suitable for properly prepared carbon steel, galvanised steel, stainless steel and aluminium substrates.

GENERAL PROPERTIES

Adhesion	Good to both primed and blasted clean surfaces.
Temperature resistance	Dry film: Maximum 650°C.

PHYSICAL PROPERTIES

Colors/Shade No	Grey
Finish	Gloss- Semi flat
Volume Solid	40±3 %
Theoretical spreading rate	16 m ² /liter 25 Mic. Dft.
Flash point	30 °C
Specific gravity	1± 0.05 kg/liter
Shelf life	12 months (25°C) from time of production. Depending on storage condition, mechanical stirring may be necessary before usage. Storage environment should be ventilated and away from sunlight and high temperature (above 30 ° C).

APPLICATION

Conditions	Before application, test the atmospheric conditions in the vicinity of the substrate for the dew formation according to ISO 8502-4. To avoid condensation, apply on a clean and dry surface with a temperature that is at least 3°C above the dew point. - Surface temperature must be above 5°C during application and curing. - Relative humidity must be above 50% during curing.		
Method	Airless sprays	Air spray	Brush (touch-up)
Thinner (max. vol.)	RTH-106 (5%)	RTH-106(15%)	RTH-106(5%)
Pump ratio minimum	32:1		
Tip size	0.015"-0.017"		
Tip pressure	100-125 bar		
Cleaning of tools	RTH-106		
Dry film thickness	20-30 micron		
Wet film thickness	50-75 micron		

DRYING AND CURING TIMES

Condition	Drying times are generally related to air circulation, temperature, film thickness and number of coats, and will be affected correspondingly. Below data is reported at 25 microns dry film thickness.
Dry to touch	1 hour
Full curing	2 hours (200 °C)
Recoat interval, min	4 hours

APPLICATION AND CURING CONDITIONS

Surface preparation	<p>The required quality of surface preparation can vary depending on the area of use, expected durability and if applicable, project specification.</p> <p>When preparing new surfaces, maintaining already coated surfaces or aged coatings it is necessary to remove all contamination that can interfere with coating adhesion, and prepare a sound substrate for the subsequent product.</p> <p>Inspect the surface for hydrocarbon and other contamination and if present, remove with an alkaline detergent. Agitate the surface to activate the cleaner and before it dries, wash the treated area using fresh water. Paint solvents (thinners) shall not be used for general degreasing or preparation of the surface for painting due to the risk of spreading dissolved hydrocarbon contamination. Paint thinners can be used to treat small localized areas of contamination such as marks from marker pens. Use clean, white cotton cloths that are turned and replaced often. Do not bundle used solvent saturated cloths. Place used cloths into water.</p>
Process sequence	<p>Surface preparation and coating should normally be commenced only after all welding, degreasing, removal of sharp edges, weld spatter and treatment of welds is complete. It is important that all hot work is completed before coating commences.</p>
Soluble salts removal	<p>Soluble salts have a negative impact on the coating systems performance, especially when immersed. RSI general recommendations for maximum soluble salts (sampled and measured as per ISO 8502-6 and -9) content on a surface are: For areas exposed to (ISO 12944-2): C1-C4: 200 mg/m² C5M or C5I: 100 mg/m²</p>
Carbon steel	<p>After pre-treatment is complete, the surface shall be dry abrasive blast cleaned to Sa 2½ (ISO 8501-1) using abrasive media suitable to achieve a sharp and angular surface profile.</p>
Galvanised steel	<p>Recommended surface profile 30-60 µm, grade Fine G (ISO 8503-2).</p> <p>After removal of excess zinc and surface defects the area to be coated shall be degreased to ISO 12944-4, Part 6.2.4 Alkaline Cleaning. The galvanised surface shall be sweep blast-cleaned with the nozzle angle at 45-60° from perpendicular at reduced nozzle pressure to create a sharp and angular surface profile using approved nonmetallic abrasive media. As a guide, a surface profile 25-55 µm, grade Fine G; Ry5 (ISO 8503-2) should be achieved. Care must be exercised when sweep blasting. The zinc coating thickness should be reduced as little as possible, preferably not more than 10 µm. Smaller areas can be lightly treated with abrasive paper. Finished surfaces shall be dull, profiled and show no areas of shiny metal. Do not handle the prepared surface with bare hands.</p>
Aluminium	<p>After removal of surface defects, the area to be coated shall be degreased according to ISO 12944-4, section 6.2.1 Water cleaning or 6.2.4 Alkaline Cleaning. The surface shall be sweep blast-cleaned with the nozzle angle at 45-60° from perpendicular at reduced nozzle pressure to create a sharp and angular surface profile using approved non-metallic abrasive media. As a guide, a surface profile 25-55 µm, grade Fine to Medium G; Ry5 (ISO 8503-2) should be achieved. Smaller areas can be lightly treated with abrasive paper. Finished surfaces shall be dull, profiled and show no areas of shiny metal. Do not handle the prepared surface with bare hands.</p>
Stainless steel	<p>After removal of surface defects, the area to be coated shall be degreased according to ISO 12944-4, section 6.2.1 Water cleaning or 6.2.4 Alkaline Cleaning. The surface shall be sweep blast-cleaned with the nozzle angle at 45-60° from perpendicular at reduced nozzle pressure to create a sharp and angular surface profile using approved non-metallic abrasive media. As a guide, a surface profile 25-55 µm, grade Fine to Medium G; Ry5 (ISO 8503-2) should be achieved. Smaller areas can be lightly treated with abrasive paper. Finished surfaces shall be dull, profiled and show no areas of shiny metal. Do not handle the prepared surface with bare hands.</p>
Coated surfaces	<p>When the surface is an existing coating, verify with technical data sheet and application guide of the involved products, both over coatability and the given maximum over coating interval.</p> <p>When applied on coatings past maximum intercoating interval light abrading may be required to achieve proper intercoat adhesion.</p>

REMARKS

Preceding Coat	Can be used directly on blast-cleaned steel. For maximum corrosion protection, a primer coat of one of the following paints is recommended: RHR-105. This will lower the heat resistance, reference is made to the product data sheets for the mentioned primers.
Subsequent Coat	None.
Film thickness	It is recommended to avoid too high thicknesses of the paint as this will give a risk of blistering at later heating. RTH-106 must be added at application to secure the low dry film thickness. Normal DFT is a 20-30 microns.
Maximum over coating intervals	Maximum time before thorough surface preparation is required. The surface must be clean and dry and suitable for over coating. Inspect the surface for chalking and other contamination and if present, remove with an alkaline detergent. Agitate the surface to activate the cleaner and before it dries, wash the treated area by lowpressure water cleaning using fresh water. If maximum over coating interval is exceeded the surface should in addition be carefully roughened to ensure good inter coat adhesion.
Thinning	The type and amount of thinner depend on application conditions, application method, temperature, ventilation, and substrate. RTH-106 is recommended in general.
High temperature service	For high temperature service, the total dry film thickness of the paint system should preferably be kept at 50 micron as maximum.
First exposure to heat	Do not expose the paint system to heat before it is through dry (minimum 12 hours at 25°C).

SAFETY

Handle with care. Before and during use, observe all safety labels on packaging and paint containers, consult RSI material safety data sheets and follow all local and national safety regulations. Harmful or fatal if swallowed; immediately seek medical assistance. Avoid inhalations of possible solvent vapors or paint mist, as well as paint contact with skin and eyes. Apply only on well-ventilated areas and ensure that adequate forced ventilation exists when applying paint in confined spaces or when the air is stagnant. Always take precautions against the risks of fire and explosions.

RSI Co.

Product data sheet RHR-301
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