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PLOT NO. 60/61, PANDOL INDUSTRIAL AREA, VED ROAD, KATARGAM,  
SURAT, GUJARAT -395004

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## **TECHNICAL DATA SHEET RP-203**

### **HEAT RESISTANT 600°C**

#### **PRODUCT DESCRIPTION**

Heat Resistant Aluminium Paint – 600°C is a single-component, metallic aluminium pigmented, silicone resin-based coating specially formulated to provide long-term protection against corrosion, oxidation, and thermal degradation on metal surfaces exposed to extreme temperatures.

The coating forms a durable metallic barrier that withstands continuous exposure to temperatures up to 600°C while maintaining excellent adhesion, heat stability, and resistance to atmospheric corrosion. The aluminium pigments reflect radiant heat and improve the overall thermal resistance of the coating system.

This air-drying coating is suitable for industrial equipment, process plants, power generation facilities, and automotive components operating under high-temperature conditions.

#### **PRODUCT FEATURES**

- Single-pack, ready-to-use coating.
- Heat resistant up to 600°C continuous service temperature.
- Excellent resistance to oxidation and scaling.
- Superior corrosion protection at elevated temperatures.
- Metallic aluminium finish with excellent reflectivity.
- Resistant to thermal shock and repeated heating cycles.
- Good weathering and atmospheric resistance.
- Fast air-drying characteristics.
- Excellent adhesion to properly prepared substrates.
- Suitable for indoor and outdoor industrial applications.
- Easy application by brush, roller, conventional spray, or airless spray.

#### **RECOMMENDED USES**

Recommended for the protection of metal surfaces exposed to high temperatures:

## Industrial Equipment

- Chimneys and exhaust stacks
- Flue ducts
- Process pipelines
- Storage vessels
- Industrial steel structures

## Thermal Equipment

- Boilers and boiler jackets
- Heat exchangers
- Drying kilns
- Industrial ovens
- Furnaces
- Incinerators

## Manufacturing Plants

- Hot rolling mill machinery
- Foundry equipment
- Metal processing equipment

## Automotive & Transport

- Engine components
- Exhaust manifolds
- Silencers and mufflers
- Turbocharger housings

## Power Generation Equipment

- Turbines
- Generators
- Heat recovery units
- Steam lines
- Power plant equipment

## TECHNICAL DATA

| Property                   | Value                                                                           |
|----------------------------|---------------------------------------------------------------------------------|
| <b>Product Type</b>        | Silicone-Based Heat Resistant Coating                                           |
| <b>Colour</b>              | Aluminium (silver), Black, Blue, Red                                            |
| <b>Finish</b>              | Smooth Metallic Aluminium                                                       |
| <b>Components</b>          | Single Pack                                                                     |
| <b>Volume Solids</b>       | 45–55%                                                                          |
| <b>Specific Gravity</b>    | 1.00 – 1.20                                                                     |
| <b>Coverage</b>            | 10–15 m <sup>2</sup> /Litre per coat                                            |
| <b>Recommended DFT</b>     | 20 ± 5 Microns per coat                                                         |
| <b>Recommended WFT</b>     | 40–50 Microns per coat                                                          |
| <b>Flash Point</b>         | Above 30°C                                                                      |
| <b>Application Methods</b> | Brush, Roller, Air Spray, Airless Spray, Dipping, Flow Coating, Curtain Coating |
| <b>Shelf Life</b>          | 12 Months                                                                       |

## FILM PROPERTIES

### Drying Characteristics

| Property               | Time             |
|------------------------|------------------|
| <b>Touch Dry</b>       | 60 Minutes       |
| <b>Hard Dry</b>        | 24 Hours         |
| <b>Recoat Interval</b> | Minimum 12 Hours |
| <b>Full Cure</b>       | 7 Days           |

### Finish

Smooth metallic aluminium finish.

### Adhesion

100% adhesion by Cross Hatch Test.

### Flexibility

Passes O-T Bend Test.

### Scratch Hardness

Minimum 1000 grams.

### Impact Resistance

Greater than 60 kg-cm.

### Weather Resistance

Excellent for industrial and outdoor exposure.

### UV Resistance

Excellent.

## CHEMICAL RESISTANCE

| Chemical                          | Performance |
|-----------------------------------|-------------|
| <b>Water</b>                      | Excellent   |
| <b>3% Hydrochloric Acid (HCl)</b> | Excellent   |
| <b>3% Sodium Hydroxide (NaOH)</b> | Excellent   |
| <b>Industrial Atmospheres</b>     | Excellent   |
| <b>Mild Solvents</b>              | Excellent   |

## TEMPERATURE RESISTANCE

| Exposure Condition              | Temperature |
|---------------------------------|-------------|
| <b>Continuous Service</b>       | Up to 600°C |
| <b>Intermittent Exposure</b>    | Up to 650°C |
| <b>Thermal Shock Resistance</b> | Excellent   |
| <b>Oxidation Resistance</b>     | Excellent   |

The coating maintains its protective properties under prolonged high-temperature service and repeated thermal cycling conditions.

## SURFACE PREPARATION

Proper surface preparation is essential for optimum coating performance.

### Cleaning

All surfaces must be clean, dry, and free from:

- Oil and grease
- Dust and dirt
- Rust and mill scale
- Moisture
- Old loose coatings
- Surface contaminants

### Degreasing

Remove oil and grease by:

- Solvent cleaning
- Emulsion degreasing
- Approved industrial cleaning methods

### Steel Surface Preparation

- Abrasive blast cleaning to Sa 2½ (ISO 8501-1) is recommended.
- Mechanical cleaning with power tools may be used where blasting is not practical.
- Remove all rust, scale, and oxidation products.

### Priming

Where corrosion protection is required before service, apply a compatible heat-resistant silicone primer. Conventional alkyd, epoxy, or polyurethane primers should not be used for high-temperature applications.

## APPLICATION PROCEDURE

### Mixing

The product is supplied as a single-pack coating.

- Stir thoroughly before use until a uniform consistency is achieved.
- Continue occasional stirring during application.

## Application Methods

The coating may be applied by:

- Brush
- Roller
- Conventional Air Spray
- Airless Spray
- Dipping
- Flow Coating
- Curtain Coating
- Tumbling

## Thinning

Use only the recommended Silicone Thinner.

| Application Method    | Thinner Addition |
|-----------------------|------------------|
| <b>Brush / Roller</b> | Up to 5%         |
| <b>Air Spray</b>      | 10–15%           |
| <b>Airless Spray</b>  | Up to 5%         |

Do not over-thin the paint as excessive thinning may reduce coating performance and film build.

## FILM THICKNESS

- Recommended Wet Film Thickness (WFT): 40–50 Microns
- Recommended Dry Film Thickness (DFT): 20 ± 5 Microns per coat

For optimum heat resistance, apply multiple thin coats rather than one heavy coat.

## CURING

### Air Drying

- Touch Dry: 60 Minutes
- Hard Dry: 24 Hours

### Force Drying

The coating may be stove cured at 120°C for approximately 1 hour after adequate flash-off time.

## Heat Curing

For maximum heat resistance, gradual temperature ramp-up is recommended during initial service exposure to ensure complete curing of the silicone resin system.

## STORAGE

Store in accordance with applicable local and national regulations.

### Storage Conditions

- Store in a cool, dry, and well-ventilated area.
- Keep away from direct sunlight.
- Protect from heat, sparks, and open flames.
- Keep containers tightly closed when not in use.

### Shelf Life

12 months from the date of manufacture when stored in original unopened containers.

## PACKING

- 20 Litre Containers
- 200 Litre Drums

Other pack sizes may be available upon request.

## HEALTH & SAFETY

- Use only in well-ventilated areas.
- Avoid inhalation of spray mist and solvent vapours.
- Wear suitable personal protective equipment (PPE), including gloves, goggles, and respiratory protection.
- Avoid contact with skin and eyes.
- Wash thoroughly after handling.
- Keep away from ignition sources.
- Do not smoke during application.
- Keep out of reach of children.

### First Aid

**Skin Contact:** Wash immediately with soap and water.

**Eye Contact:** Flush thoroughly with clean water and seek medical attention.

**Inhalation:** Move the affected person to fresh air and seek medical advice if symptoms persist..

## QUALITY ASSURANCE

Manufactured under stringent quality control procedures to ensure consistent quality, durability, and reliable protection of metal surfaces exposed to extreme temperatures and corrosive industrial environments.



Mfg by **RUDRA ENTERPRISE**

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## THE FUTURE OF SURFACE PROTECTION

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