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

TECHNICAL DATA SHEET RP-204

HEAT RESISTANT 900°C

PRODUCT DESCRIPTION

Heat Resistant Aluminium Paint – 900°C is a single-component, metallic aluminium pigmented, ultra-high temperature resistant coating formulated with specially modified silicone resin technology. The coating is designed to provide exceptional protection against oxidation, corrosion, thermal shock, and weathering on metal surfaces exposed to extremely high operating temperatures.

The aluminium pigments create a reflective barrier that reduces heat absorption while the silicone binder system maintains coating integrity under prolonged thermal exposure. The coating is suitable for industrial equipment operating under severe temperature conditions where conventional coatings fail.

This air-drying coating provides long-term protection and durability for steel structures, process equipment, furnaces, exhaust systems, and power generation equipment exposed to temperatures up to 900°C.

PRODUCT FEATURES

- Single-component, ready-to-use coating.
- Heat resistant up to 900°C.
- Excellent resistance to oxidation and scaling.
- Superior corrosion protection at elevated temperatures.
- Metallic aluminium finish with high heat reflectivity.
- Excellent thermal shock resistance.
- Withstands repeated heating and cooling cycles.
- Fast air-drying properties.
- Excellent adhesion to properly prepared substrates.
- Suitable for industrial, power plant, refinery, and process industries.
- Good weathering resistance under atmospheric conditions.
- Easy application by brush, roller, conventional spray, or airless spray.

RECOMMENDED USES

Recommended for the protection of metal surfaces exposed to extreme temperatures and corrosive industrial environments.

Industrial Applications

- Chimneys and stacks
- Flue gas ducts
- Exhaust pipelines
- Furnace exteriors
- Kilns and dryers
- Incinerators
- Reactor vessels

Power Generation

- Steam pipelines
- Turbine casings
- Heat recovery systems
- Boiler exteriors
- Power plant equipment

Petrochemical & Refinery Equipment

- Process piping
- High-temperature vessels
- Thermal oxidizers
- Refinery stacks

Automotive & Engineering Applications

- Exhaust manifolds
- Silencers and mufflers
- Turbocharger housings
- High-temperature engine components

Steel & Cement Industries

- Hot rolling mill equipment
- Cement kiln exteriors
- Process ducting
- Structural steel exposed to heat

TECHNICAL DATA

Property	Value
Product Type	Silicone Aluminium Heat Resistant Coating
Colour	Aluminium (silver), Black, Blue, Red
Finish	Metallic Semi-Gloss
Components	Single Pack
Volume Solids	45 ± 5%
Specific Gravity	1.00 – 1.20
Coverage	10 – 15 m ² /Litre per coat
Recommended DFT	20 ± 5 Microns per coat
Recommended WFT	40 – 50 Microns per coat
Flash Point	Above 30°C
VOC Content	As per applicable standards
Shelf Life	12 Months

FILM PROPERTIES

Drying Characteristics

Property	Time
Touch Dry	60 Minutes
Hard Dry	24 Hours
Recoat Interval	Minimum 12 Hours
Full Cure	7 Days
Heat Cure	Achieved during service exposure

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.

UV Resistance

Excellent.

CHEMICAL RESISTANCE

Medium	Performance
Water	Excellent
3% Hydrochloric Acid (HCl)	Excellent
3% Sodium Hydroxide (NaOH)	Excellent
Industrial Atmospheres	Excellent
Petroleum Vapours	Excellent
Mild Solvents	Excellent

TEMPERATURE RESISTANCE

Exposure Condition	Temperature
Continuous Service Temperature	Up to 900°C
Intermittent Exposure	Up to 950°C
Thermal Shock Resistance	Excellent
Oxidation Resistance	Excellent

The coating is specifically designed to withstand prolonged exposure to extreme temperatures while maintaining adhesion and protective properties.

SURFACE PREPARATION

Proper surface preparation is critical 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 coatings
- Surface contaminants

Degreasing

Remove oil and grease using:

- Solvent cleaning
- Emulsion degreasing
- Approved industrial degreasers

Steel Surface Preparation

- Abrasive blast cleaning to Sa 2½ (ISO 8501-1) is recommended.
- Surface profile: 40–75 microns.
- Remove all loose rust, scale, and oxidation.

Priming

For temperatures approaching 900°C, use only compatible high-temperature inorganic zinc silicate or silicone-based primers where specified.

Conventional epoxy, polyurethane, alkyd, or chlorinated rubber primers are not recommended for ultra-high-temperature service.

APPLICATION PROCEDURE

Mixing

The coating is supplied as a single-pack material.

- Stir thoroughly before use until a homogeneous consistency is obtained.
- Maintain intermittent stirring during application.

Application Methods

Suitable for application by:

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

Thinning

Use only the recommended High Temperature Silicone Thinner.

Application Method	Thinner Addition
Brush / Roller	Up to 5%
Air Spray	10–15%
Airless Spray	Up to 5%

Do not over-thin the coating, as this may adversely affect film build and performance.

FILM THICKNESS

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

Apply multiple thin coats rather than one heavy coat for optimum heat resistance.

CURING

Air Drying

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

Accelerated Curing

The coating may be force dried at 120°C for approximately 1 hour after adequate flash-off.

Heat Curing

Maximum coating performance is achieved through gradual heating during commissioning and service operation. This allows complete curing of the silicone resin system.

STORAGE

Store in accordance with 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 supplied upon request.

HEALTH & SAFETY

- Use only in well-ventilated areas.
- Avoid inhalation of spray mist and solvent vapours.
- Wear suitable PPE including gloves, safety goggles, protective clothing, and respiratory protection.
- Avoid contact with skin and eyes.
- Wash thoroughly after handling.
- Keep away from sources of ignition.
- 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 obtain medical assistance if symptoms persist.

Refer to the Safety Data Sheet (SDS) before use.

QUALITY ASSURANCE

Manufactured under stringent quality control procedures to ensure consistent product quality, reliability, and long-term protection in severe high-temperature industrial environments.



Mfg by **RUDRA ENTERPRISE**

Website: www.rudrapaint.com

E Mail:- rudrapaint@yahoo.com

THE FUTURE OF SURFACE PROTECTION

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