



Rapid Coat
POWDER COATINGS

Architectural Powder Coatings

for the world's

BETTER BUILDINGS





Products

Rapid Coat is one of only a few companies in the world that produce both thermosetting and thermoplastic powder coatings. These powders are designed for multiple applications and are used across many different industries.

THERMOSET POWDER COATINGS

Epoxy Polyester Powders

Pure Polyester Powders

- Industrial Grade Powders
- Architectural Grade

Polyurethane Powders

- Anti-Graffiti Powders
- Architectural Powders
- Wood Effect Powders (Sublimation Process)

Pure Epoxy Powders

- Zinc Primer Powders
- Powders for coating on valves
- Powder for electrical insulation on busbars.

LDPE powders

- For coating on steel wire fabricated articles
- For automotive carpet backing
- For Textile Adhesives

High Adhesion polymer Alloy

- For welded wire mesh fences
- For inner plastic lining of fire extinguishers
- For waterproofing of concrete
- For coating on valves, pipes and fittings

Company Profile

Rapid Coat Powder Coatings are manufactured by Rapid Engineering Co. Pvt. Ltd.

Founded in 1974 in New Delhi, India, Rapid Engineering Co. Pvt. Ltd. has grown into a leading manufacturer of

- Thermosetting Epoxy / Polyester Powder Coatings
- Thermoplastic Powder Coatings
- Plastic Masterbatches
- Adhesive Powders

The company started operations in 1974 and has been producing powder coatings since the past 32+ years.

Rapid's two manufacturing plants are located in Sahibabad, Uttar Pradesh & Noida, Uttar Pradesh. Total manufacturing space exceeds 300,000 square feet. Rapid also operates sales offices cum warehouses in New Delhi, Mumbai, Pune and Bangalore. Rapid's products are exported to more than 40 countries and is recognized as a "Star Export House" by the Government of India. Since 2001, the company is ISO certified and is currently compliant with ISO 9001: 2015 certification.

Certifications

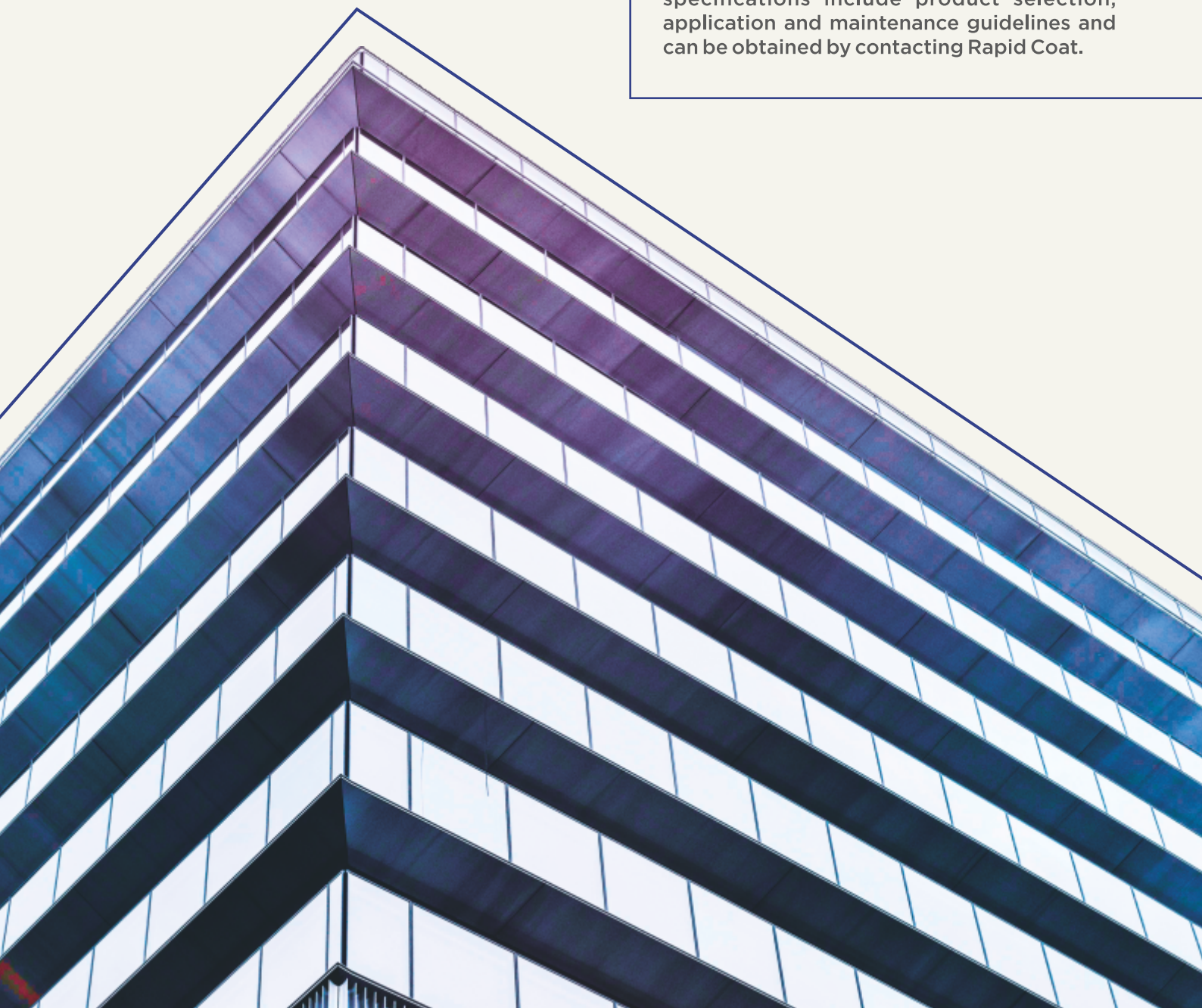


ABOUT R-SERIES ARCHITECTURAL POWDER COATINGS

Rapid Coat's R-Series of architectural powder coatings has been specifically designed to provide a long lasting, outdoor durable coating. Harsh UV light, high temperature and humidity combine to have a damaging effect on the coating. R-Series powders are designed to withstand such demanding conditions. The powders undergo exhaustive in-house and third party testing for colour stability, gloss retention and adhesion to the substrate under both laboratory and harsh climatic conditions (Florida, USA). The R-Series is primarily developed for coating on aluminum extrusions, windows, doors, and facades. The same powders can be coated on mild steel and galvanized steel substrates for both indoor and outdoor uses. Other applications include garden furniture, fences, gates, awnings, lamp posts and public utility projects.

R-Series: Product Details

The R-Series offers three types of powders allowing the architect to choose the most suitable powder based on budget, application and durability requirements. All three types can be formulated to meet custom requirements that vary in colour, gloss, texture and metallic effect. With the R-Series, Rapid Coat offers a limited period guarantee when used in accordance with the guidelines specified by the company. These specifications include product selection, application and maintenance guidelines and can be obtained by contacting Rapid Coat.



Series **R-5** Powder Coatings

DESCRIPTION

R-5 powders are based on standard durable polyester technology for architectural applications.

PERFORMANCE

1 year: Gloss retention >30%. Delta E twice the permissible limit as specified in Qualicoat Class 1.

RECOMMENDED END USE

Common outdoor areas. Products that have a service life of up to 10 years.

PRODUCT WARRANTY

5 years

Indoor Use

15 years.

Series **R-10** Powder Coatings

**Qualicoat
Class 1**

DESCRIPTION

R-10 powders are based on extended durable polyester technology for the exterior environment, giving excellent durability, weather resistance and colour retention for architectural applications.

PERFORMANCE

1 year Florida test, equivalent to AAMA 2603

RECOMMENDED END USE

High rise buildings. Buildings in industrial and harsh marine environments.

PRODUCT WARRANTY

10 years

Series **R-25** Powder Coatings

**Qualicoat
Class 2**

DESCRIPTION

R-25 powders are based on Super Durable polyester technology for the exterior environment, giving excellent durability, weather resistance and colour retention architectural applications.

PERFORMANCE

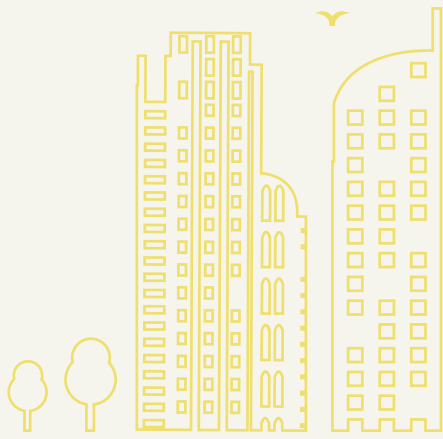
3 Years Florida test, equivalent to AAMA 2604

RECOMMENDED END USE

Buildings in extreme outdoor conditions with high levels of pollution. Very prestigious buildings such as airports, concert halls, hotels and high rise commercial towers.

PRODUCT WARRANTY

25 years



Application Guidelines

The aesthetics and durability of the coating is integrally dependent upon the application process. Each step and process contributes to making a coating system. This combined coating system must resist weathering and degradation.



PRE- TREATMENT

The correct choice of chemicals and process plays a major role in the final quality of the coating system. The substrate to be coated must undergo pre-treatment such that the metal is devoid of any dirt, grease and rust and is adequately etched to enable a uniform film buildup of the powder with a strong adhesion to the metal.

CURING OF POWDERS

The time and temperature of curing should be exactly as specified as this process controls the degree of cross-linking of the resin in the powder. This in turn provides adhesion and durability to the coating.

FABRICATION & INSULATION

For products to be used in harsh / marine environments, it is recommended that matching be done prior to powder coating. Doing so allows for all sided coverage of the substrate thereby limiting ingress of moisture and dirt.

MAINTENANCE CLEANING

Regular clearing is essential to maintain the appearance of the coating over an extended period of time.

R-SERIES POWDER COATINGS IS ENVIRONMENTALLY FRIENDLY

Unlike other coatings, powder coatings provide an environmentally sustainable solution because there are no VOC's, solvents and toxic heavy metals. Since almost 100% of the powders can be either recycled or reprocessed, there is practically no waste generation. The one coat technology results in the lowest energy consumed per square foot coated.

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Rapid Coat
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Insulation

Powder Coatings



Insulation Grade

Powder Coatings

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UL
File No. E514058

Overview

Our Insulation coating has UL94, V-0 test approval from Underwriters Laboratories (UL LLC), USA.

This product is designed to achieve the Insulation properties & provide a continuous, tough, moisture and chemical resistant coating to a variety of substrates.



Mechanism of Thermal Emissivity

A perfect black body has emissivity value of **1.0. emissivity** value as per colour see below table:

Colour Name	Emissivity
Black	0.96
Blue	0.94
Green	0.92
Red	0.91
Yellow	0.9

So we recommend to use black colour for Insulation.

Testing Standard

Standard: ASTM D149-97

Results of our product at different coating thickness

Product	Substrate	Dry Film Thickness in um	Dielectric Strength (kv/mm)	Break Down Voltage (kv)
Insulcoat IS 632	Aluminium	200-300	57.1	16
Insulcoat IS 632	Aluminium	500-550	34.8	18
Insulcoat IS 632	Aluminium	700-750	26.8	19.6
Insulcoat IS 632	Aluminium	950-1050	20.9	21.4
Insulcoat IS 632	Aluminium	1100-1200	19	22.8

Application Areas

There are bright scope of Rapid insulation powder coatings in the following segments:-

1. Aluminium & Copper Bus-Bar.



2. Slot Coating for insulation



We also offer coating powders which are Non-Hazardous, TGIC Free, ROHS & REACH Compliance.

Insulation Grade Powder Coatings

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Types of insulation powder coating available.

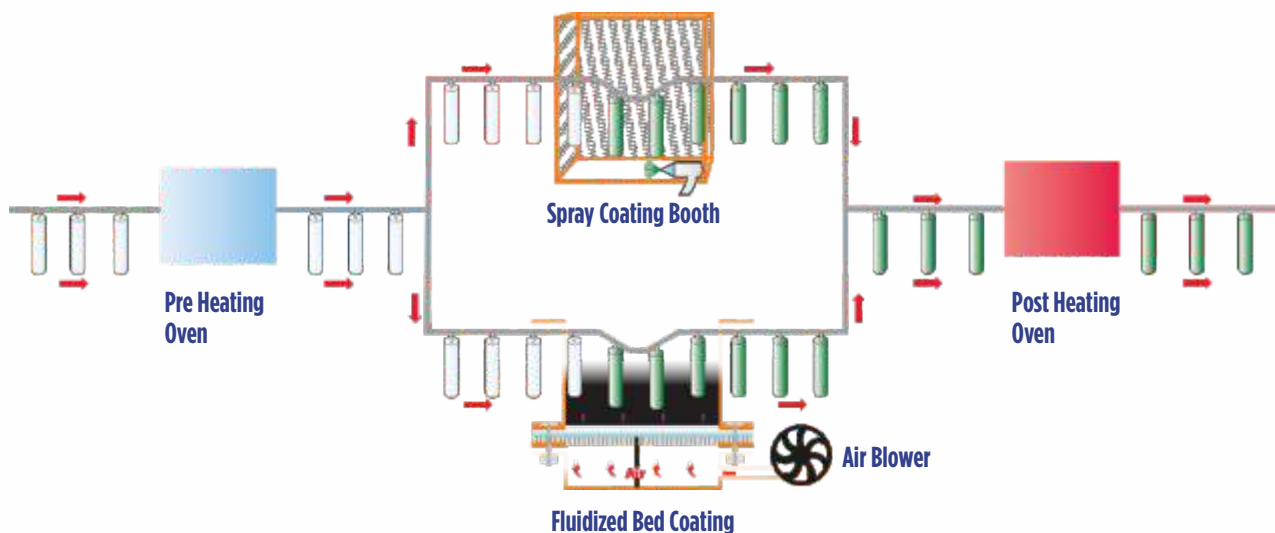
Rapid Coat have four different types of insulation grade powder coatings based upon curing condition & application process.

Type	Coating Process	Curing Pre-Heat	Curing Post-Heat	Minimum Coating Thickness (um)
Insulcoat SC NC	Spray coating by electrostatic gun	200°C EMT	180°C/10 Min. EMT	250-300
Insulcoat DC NC	Dip coating by fluidized bed	200°C EMT	180°C/10 Min. EMT	250-300
Insulcoat SC FC	Spray coating by electrostatic gun	220°C EMT	Self cure at room temperature	250-300
Insulcoat DC FC	Dip coating by fluidized bed	220°C EMT	Self cure at room temperature	250-300

Insulation systems are classified by the temperature rating.

The following table summarizes the different insulation systems available.

Insulation Class	Maximum Ambient Temperature	Maximum Temperature Rise Permissible	Maximum Total Temperature permissible
Class A	40°C	65°C	105°C
Class B	40°C	90°C	130°C
Class F	40°C	115°C	155°C



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Rapid's outdoor durable Powder Coatings are Class 1 & Class 2 certified by Qualicoat, Switzerland. Rapid's fire-resistant powder coatings are V0 rated by Underwriters Laboratories (UL LLC), USA. Rapid utilises cutting-edge instruments like DSC, FTIR, TGA, XRF, Spectrophotometer and QUV to develop innovative and sustainable solutions for customers.

In 2019, Rapid commenced cryogenic pulverisation to produce fine powders of difficult to grind polymers such as LDPE, HDPE, EVA & TPU for metal coatings and as adhesives in leather and textiles.



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Powder Coatings For Gas Cylinder

In the process of manufacturing LPG cylinders, final surface finishing is also very important except selecting high-quality materials. Rapid is offering special powder coatings for Gas Cylinder application.

Pure Polyester Powder Coatings

Powder Coating is the process of applying a protective layer of powder coating to Gas Cylinders. This coating provides several advantages over liquid paint like:

1. Corrosion Resistance
2. UV Resistance
3. Uniform Coating
4. Environmentally Friendly
5. Cost-Effective
6. All RAL Shades Available

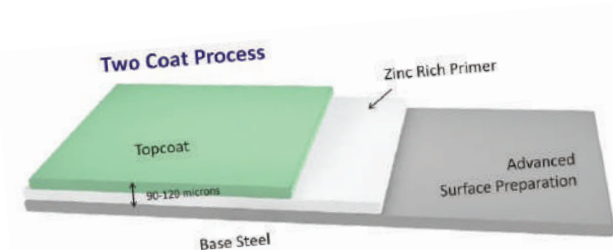
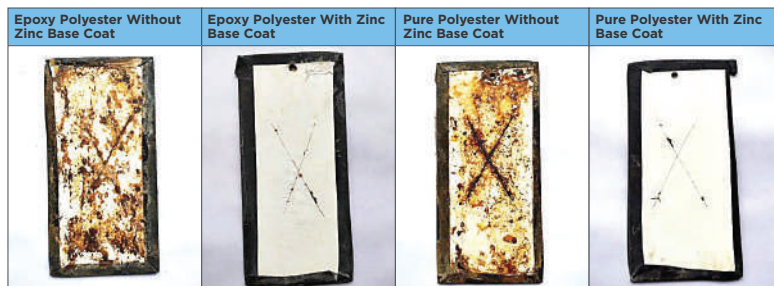


Zinc Rich Epoxy Primer

It is a specially formulated Zinc rich epoxy primer that is intended to be used as a base coat to provide excellent corrosion resistance. The base coat is designed to adhere very well with a polyester powder coatings top coat to provide the mechanical, aesthetic and UV protection required for the article. In doing so, the coated article exhibits both outdoor durability as well as corrosion resistance

Benefits: -

1. Exceptional Corrosion Resistance
2. Good Edge Coverage
3. Good Adhesion with Top Coat
4. Prevent Flash Rust



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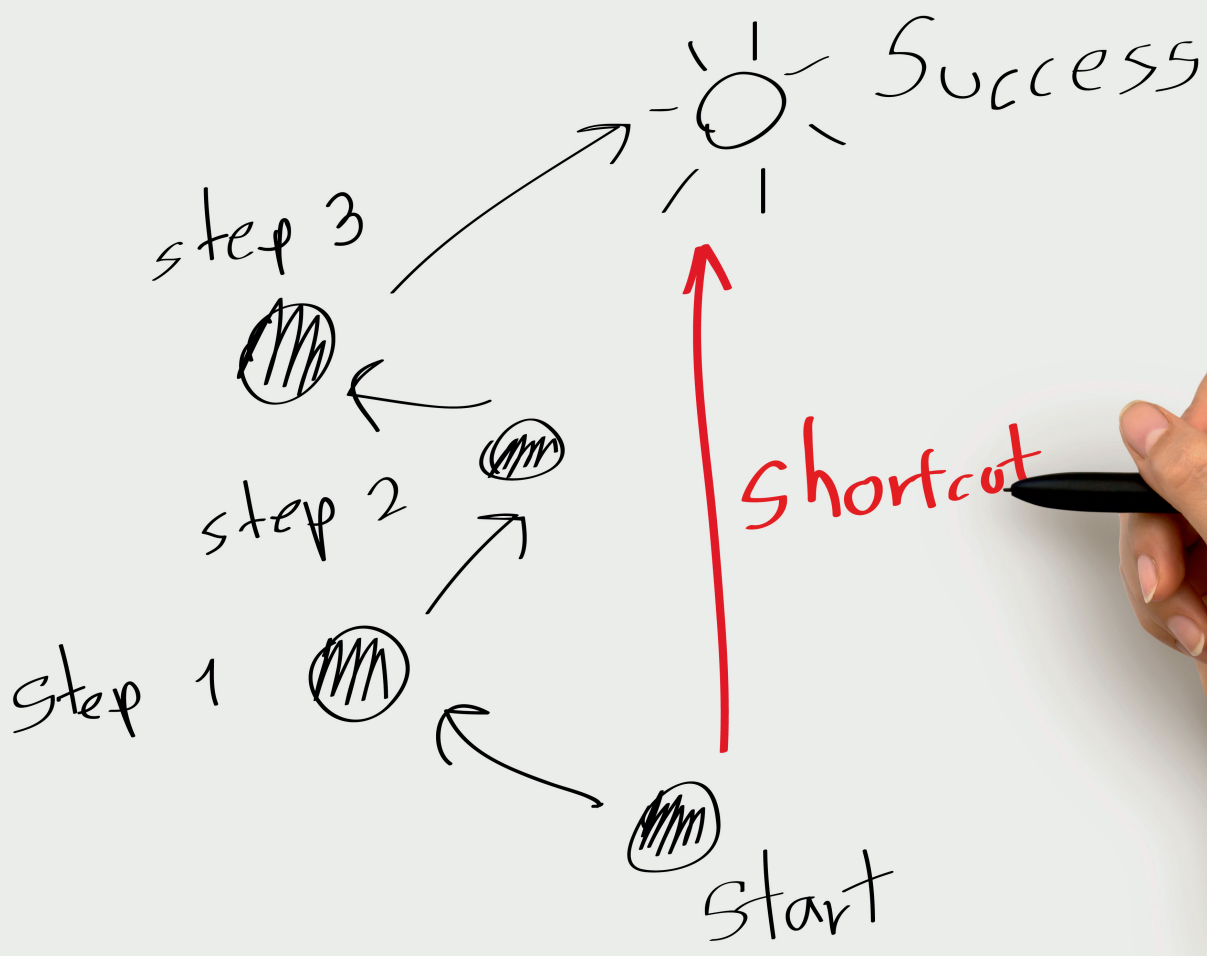
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Rapid Coat
POWDER COATINGS

WHITE BOARD/ANTI-GRAFFITI POWDER COATINGS



Overview

White Boards have been use around for years and offer great ways to share information to a group, erase and start over again and again.

Anti-Graffiti continue to be a major concern of municipal authorities and public service companies worldwide. In addition to graffiti, these coatings are also used on applications such as whiteboards / classroom instruction boards and furniture.

Introduction

Rapid Coat has developed a powder coating that offers a very economical cost per square foot when compared to high-end white boards. The Rapid product will give you a great product at a very economically applied cost.

White Board ANTI-GRAFFITI COAT is a special powder coating that provides excellent properties in resistance to abrasion damage and allowing rapid removal of graffiti by a recommended solvent wipe of 1-2 rubs. White Board ANTI-GRAFFITI COAT range is suitable for both exterior and interior exposure environments. It is designed to meet the requirements of application by electrostatic spraying or dip coating.

Application Areas

This product finds usage in two main applications:

1. Platform signage, train component, bus shelters, security lockers, telephone boxes, road signage.
2. Whiteboards and other metal based furniture for industry & school.



Advantages

- 1. Easily remove most form of graffiti & coloured writing
- 2. Possibility to clean several times without change in gloss & colour
- 3. Single coat system. No need for a top / clear / lacquer coat
- 4. High surface hardness. High abrasion resistance
- 5. Resistance to external weather conditions
- 6. Outstanding solvent & chemical resistance
- 7. Less waste and pollution to the environment compared to other coating systems

Pre-treatment

The overall quality of the coating system is largely dependent on the type and quality of the pre-treatment. The recommended types of pre-treatments for substrate are:

Substrate	Indoor applications	Outdoor applications
Aluminium	Cleaning/Degreasing	Chromate conversion
Mild Steel	Iron Phosphate	Zinc Phosphate

Powder Properties	Standard	
Specific Gravity	1.6±0.1	
Particle Size Distribution % Below 63µ	80-90	
Storage Stability	1 Year @ <25°C	

Properties of Film

Film Properties	Method	Observations
Salt Spray Test	ASTM-B-117	No change within 200 hours
100% Humidity at 30°C	ASTM-D-2247	1000 Hours
10% Acetic Acid		100 Hours
10% HCl		100 Hours
10% NH ₄ OH		100 Hours
QUV Accelerated Weathering	ASTM-G-154	
Test (QUV A-340)		500 hours
Packing		Double Polythene Bags and outer Side



ABOUT US

Rapid Engineering Co. Pvt. Ltd. started operations in **1974** and primarily produces thermoplastic and thermosetting powder coatings. The company has **two plants located in Sahibabad, Uttar Pradesh and Noida, Uttar Pradesh, India.**

In addition, the company has warehouses cum sales offices in **New Delhi, Mumbai, Pune & Bangalore.** The company is also exporting its products to 35+ countries worldwide. Rapid Engineering has been awarded the '**Recognized One Star Export House**' certificate by the Government of India in recognition of its exports track record.

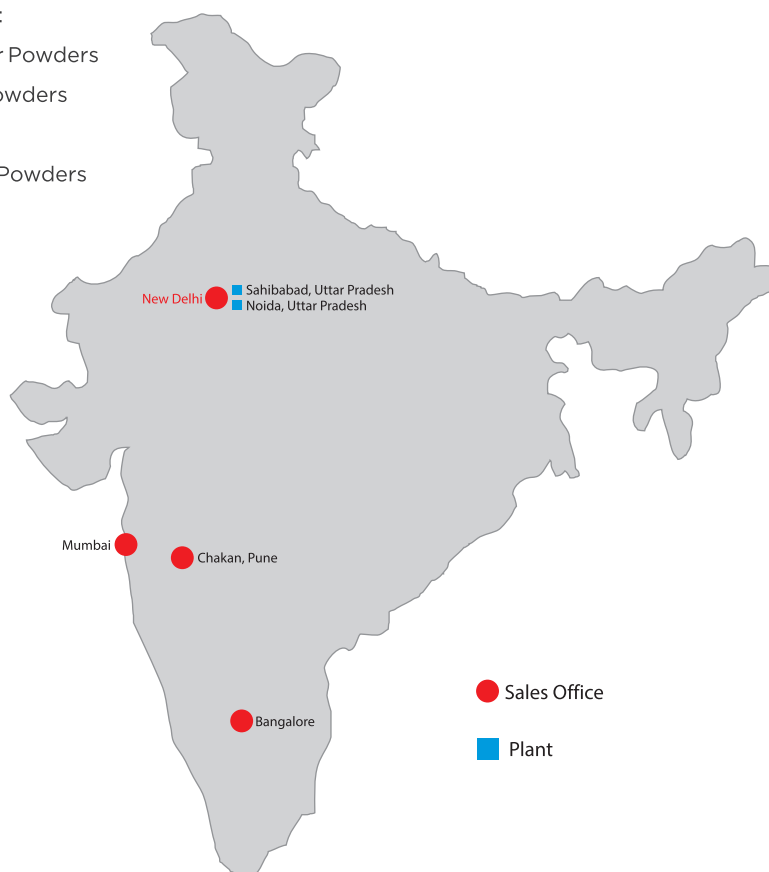
Since 2001 the company is ISO certified and is currently compliant with **ISO 9001:2015 Quality Certificate No. TUV99 100 16731 from TUV SUD Management Services GMBH.**

Rapid's Powders are **Qualicoat, Switzerland: Class 1 and Class 2 approved. Class 1 Approval No. P-1419: Class 2 Approval No. P-1504:**

In 2019, Rapid Polymers (A Division of Rapid Engineering Co. Pvt. Ltd.) was formed to manufacture plastic masterbatches and cryogenically pulverised plastic powders.

Rapid's range of products includes:

1. Thermosetting Epoxy / Polyester Powders
2. Thermoplastic Plastic Coating Powders
3. Plastic Masterbatches
4. Cryogenically Pulverised Plastic Powders



Rapid Coat
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International Sales

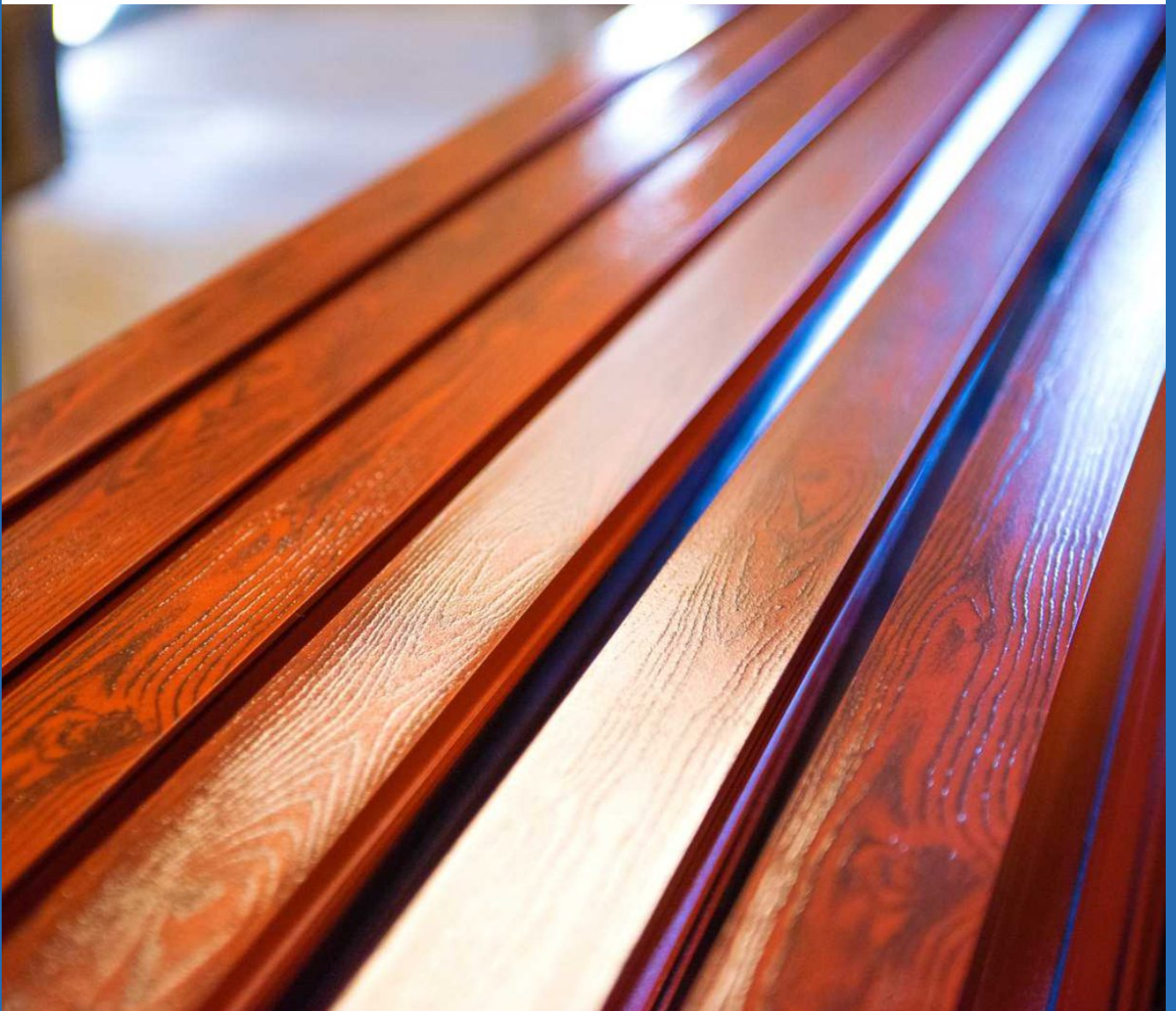
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POWDER COATINGS

WOOD FINISH POWDER COATINGS



Overview

The process involves the physical reaction between special inks and polyurethane powder coating. Under controlled conditions of heat and pressure, photographic images are absorbed directly into the powder coating.

Introduction

Rapid WOODCOAT is a special Polyurethane powder that provides excellent wood finish effects using sublimation process. The coating exhibits excellent outdoor durability and adhesion to both ferrous and Aluminium resulting in superior mechanical properties. The particle size distribution of Rapid WOODCOAT is designed to meet the requirements of application by electrostatic spraying process.

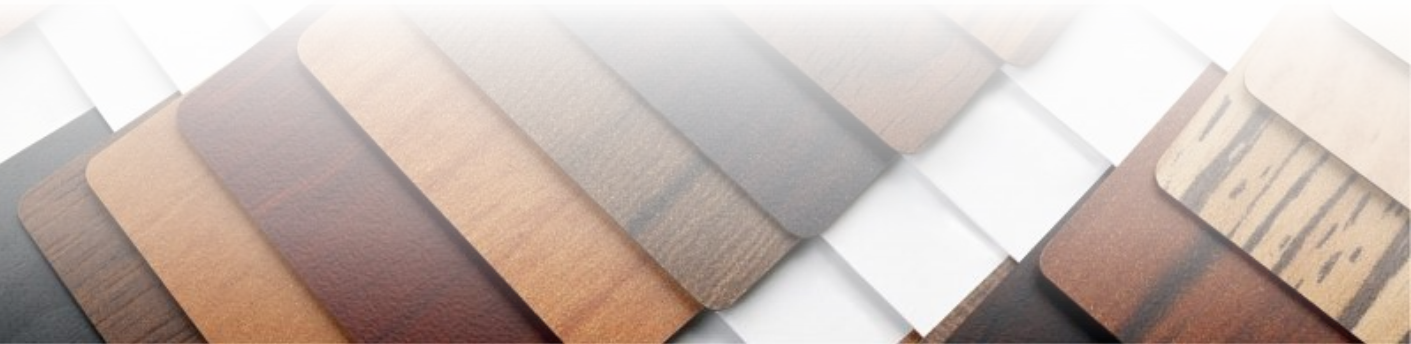
Process

The process is known as sublimation and comprises two stages:

First, polyurethane powder coating is applied to Aluminium or steel. This is similar to standard powder coating however in this case a slightly thicker coating is applied and the curing time is longer.

The second stage involves wrapping the powder coated Aluminium or steel in film with the photographic image printed onto it, such as wood grain or marble. When the Aluminium or steel is loaded it is transferred into an oven and the powder coated metal is heated to 200°C, at which point the sublimation inks are fully absorbed into the powder coating, transferring the photographic image to the Aluminium. The inks penetrate the full depth of the powder coating, creating a beautiful and durable finish.

Uncoated Aluminium Panel	Panel with Base Coat	Panel + Base Coat + Sublimation
		





Powder Properties Standard

Powder Properties	Standard
Specific Gravity	1.6±0.1
Particle Size Distribution % Below 63μ	80-90
Storage Stability	1 Year @ <25°C

Application of Powders

The surface area of the component must be clean and free from grease, rust and other contamination. Apply powder using either electrostatic spray guns. The powder will melt, flow and cure within 10-12 Minutes @200°C.

Test Condition

The results of mechanical & chemical tests given below were conducted under laboratory conditions and are given for guidance only. Actual product performance depends upon the circumstances under which the product is used. Tested substrate thickness 0.6mm. Recommended film thickness is 60-80 microns.

Properties of Film

Film Properties	Method	Observations
Impact Strength	ASTMD-2794-69	40 Kg-Cm @ 60μ
Pencil Hardness	ASTMD-3363	H
Adhesion	ASTMD-3359	GT-0
Gloss at 60° Head	ASTMD-523	Visually
Neutral Salt Fog Test	ASTMB-117	No change within 500 hours
External Appearance	VISUAL	Smooth & Texture
QUV Accelerated Weathering	ASTM-G-154	500 hours
Test (QUV A-340)		500 hours
Packing		Double Polythene Bags and outer side

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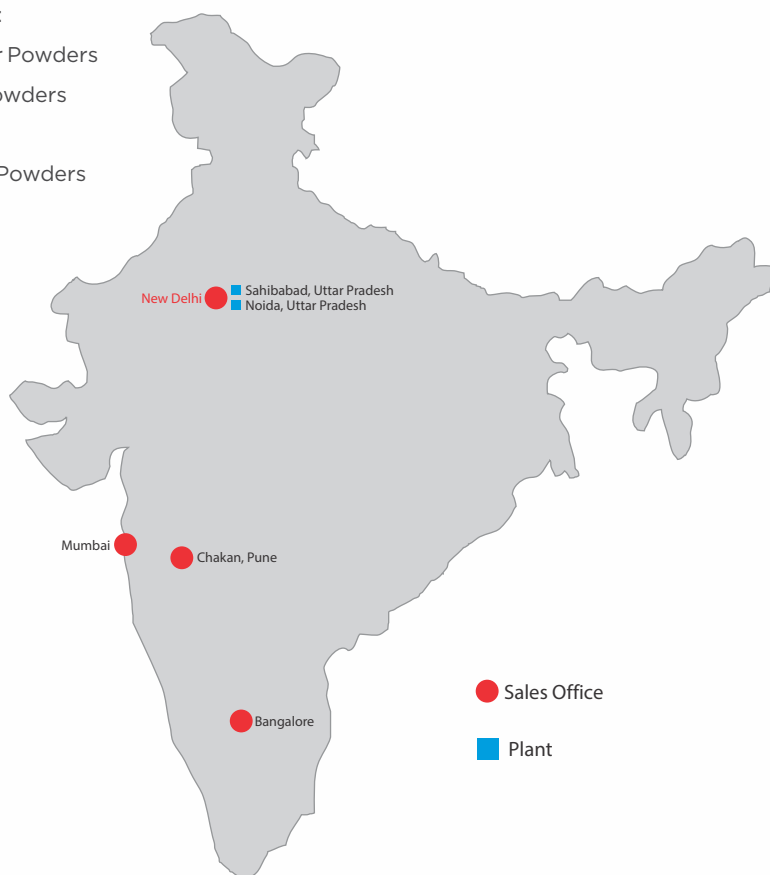
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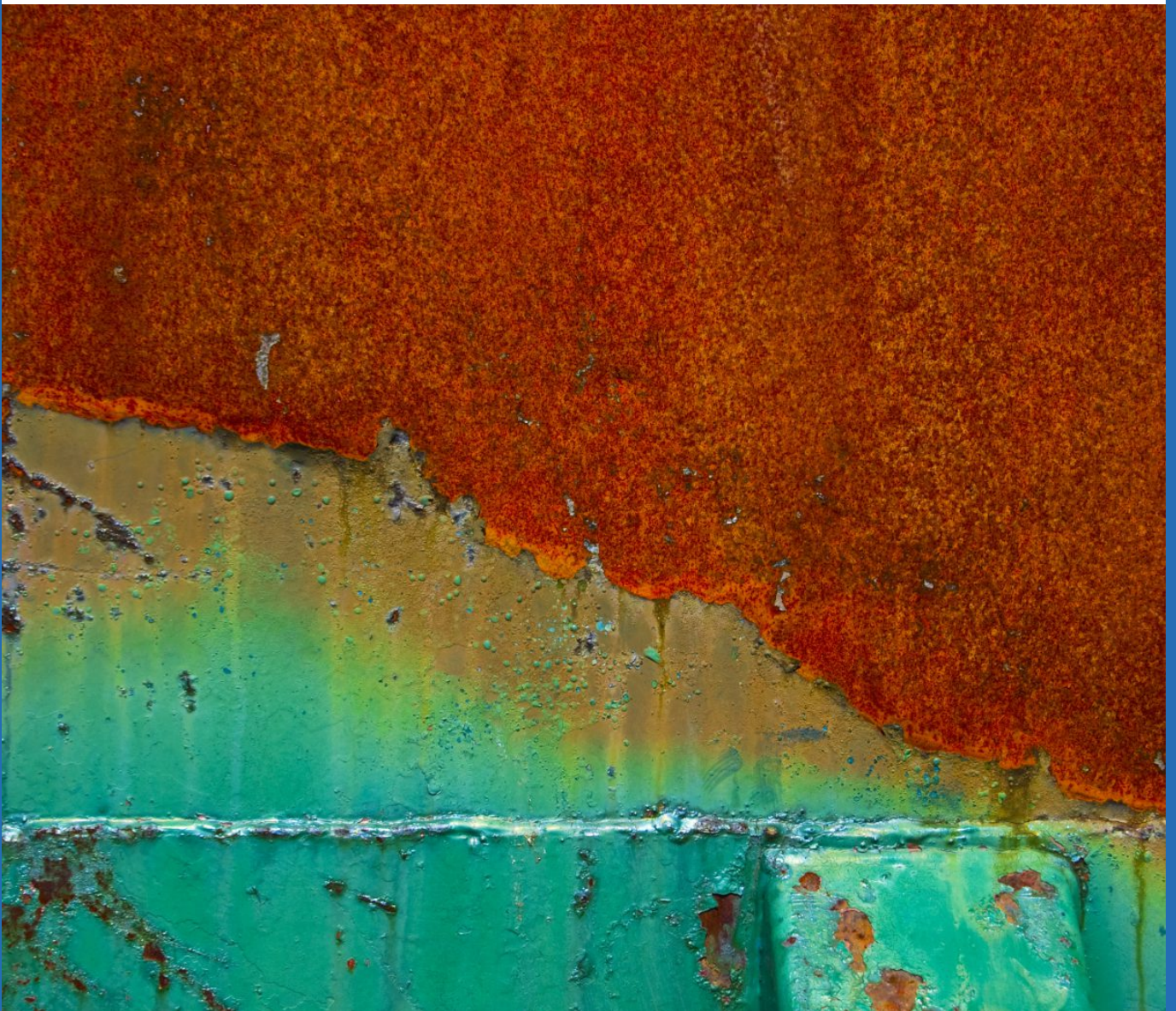
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Rapid Coat
POWDER COATINGS

ZINC RICH EPOXY PRIMER POWDER COATINGS



Overview

It is a specially formulated Zinc rich epoxy primer that is intended to be used as a base coat to provide excellent corrosion resistance. The base coat is designed to adhere very well with a polyester powder coatings top coat to provide the mechanical, aesthetic and UV protection required for the article. In doing so, the coated article exhibits both outdoor durability as well as corrosion resistance.

Applications

Fences & Stadium Seats, Transmission Towers, Farm Equipment & Machinery, Transformers, Chemical Handling Equipment, Auto Components & Wheels, Generator Canopies, Outdoor Furniture, Architectural Steel

Benefits

- Exceptional Corrosion Resistance
- Good Edge Coverage
- Good Adhesion with Top Coat
- Prevent Flash Rust

What is corrosion?

Corrosion is a dangerous and extremely costly problem. It is the gradual destruction of materials (usually metals) by chemical and/or electrochemical reaction with their environment.

Application of Powders

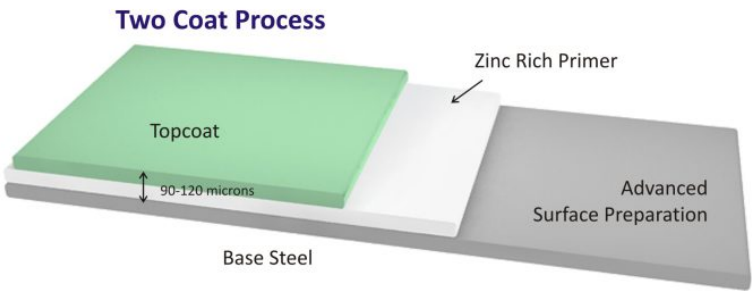
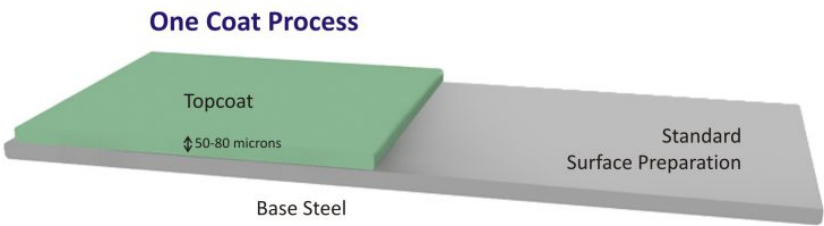
Base Coat		Top Coat	
Gun Voltage	60-80 kV	Gun Voltage	40-60 kV
Pre Gelling	180°C/3-4 Minutes	Curing Temp.	200°C/10-12 Minutes
Coating Thickness	40±10µ	Coating Thickness	60±10µ

Factors Affecting Corrosion

Nature of Metal	Nature of Corroding Environment
Purity of Metal	Temperature & Humidity
Physical State of Metal	Effect Of pH
Nature of Oxide Film	Presence of impurities in atmosphere
Relative Area of Cathode & Anode	Solubility of product of corrosion

As per BS EN ISO 12944-2, the atmospheric environments are classified into six atmospheric-corrosivity categories as shown below

Category (Low to High)	Areas
C1 Very Low	Heated buildings with clean atmospheres e.g. offices, shops, schools, hotels
C2 Low	Atmospheres with low level of pollution, where condensation may occur e.g. depots, sports halls.
C3 Medium	Urban & Industrial atmosphere with high humidity and some air pollution e.g. food processing plant, laundries, breweries, dairies.
C4 High	Industrial Area and coastal Area with moderate salinity.
C5-I Very High Industrial	Industrial area with almost permanent humidity, condensation and high pollution.
C5-M Marine	Coastal area with permanent condensation and high pollution with high salinity.



Testing panel images after 2000 hrs Salt Spray Test

Epoxy Polyester Without Zinc Base Coat	Epoxy Polyester With Zinc Base Coat	Pure Polyester Without Zinc Base Coat	Pure Polyester With Zinc Base Coat

This unique thermoset epoxy technology incorporates a well-known corrosion inhibitor that works by sacrificing itself to protect the metal substrate.

ABOUT US

Rapid Engineering Co. Pvt. Ltd. started operations in **1974** and primarily produces thermoplastic and thermosetting powder coatings. The company has **two plants located in Sahibabad, Uttar Pradesh and Noida, Uttar Pradesh, India.**

In addition, the company has warehouses cum sales offices in **New Delhi, Mumbai, Pune & Bangalore.** The company is also exporting its products to 35+ countries worldwide. Rapid Engineering has been awarded the '**Recognized One Star Export House**' certificate by the Government of India in recognition of its exports track record.

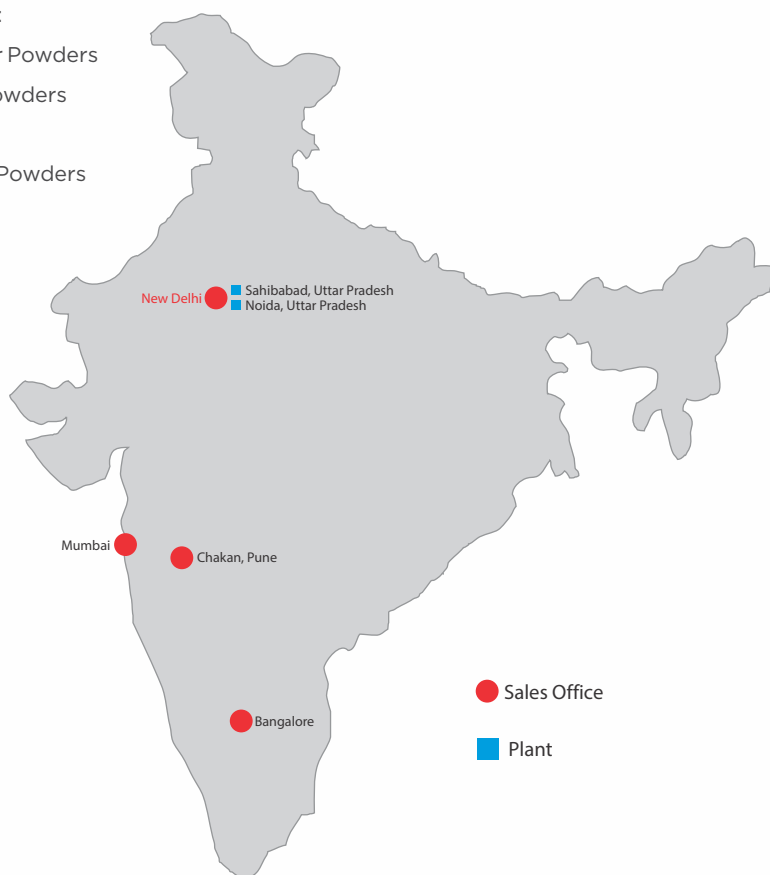
Since 2001 the company is ISO certified and is currently compliant with **ISO 9001:2015 Quality Certificate No. TUV99 100 16731 from TUV SUD Management Services GMBH.**

Rapid's Powders are **Qualicoat, Switzerland: Class 1 and Class 2 approved. Class 1 Approval No. P-1419: Class 2 Approval No. P-1504:**

In 2019, Rapid Polymers (A Division of Rapid Engineering Co. Pvt. Ltd.) was formed to manufacture plastic masterbatches and cryogenically pulverised plastic powders.

Rapid's range of products includes:

1. Thermosetting Epoxy / Polyester Powders
2. Thermoplastic Plastic Coating Powders
3. Plastic Masterbatches
4. Cryogenically Pulverised Plastic Powders



Rapid Coat
POWDER COATINGS



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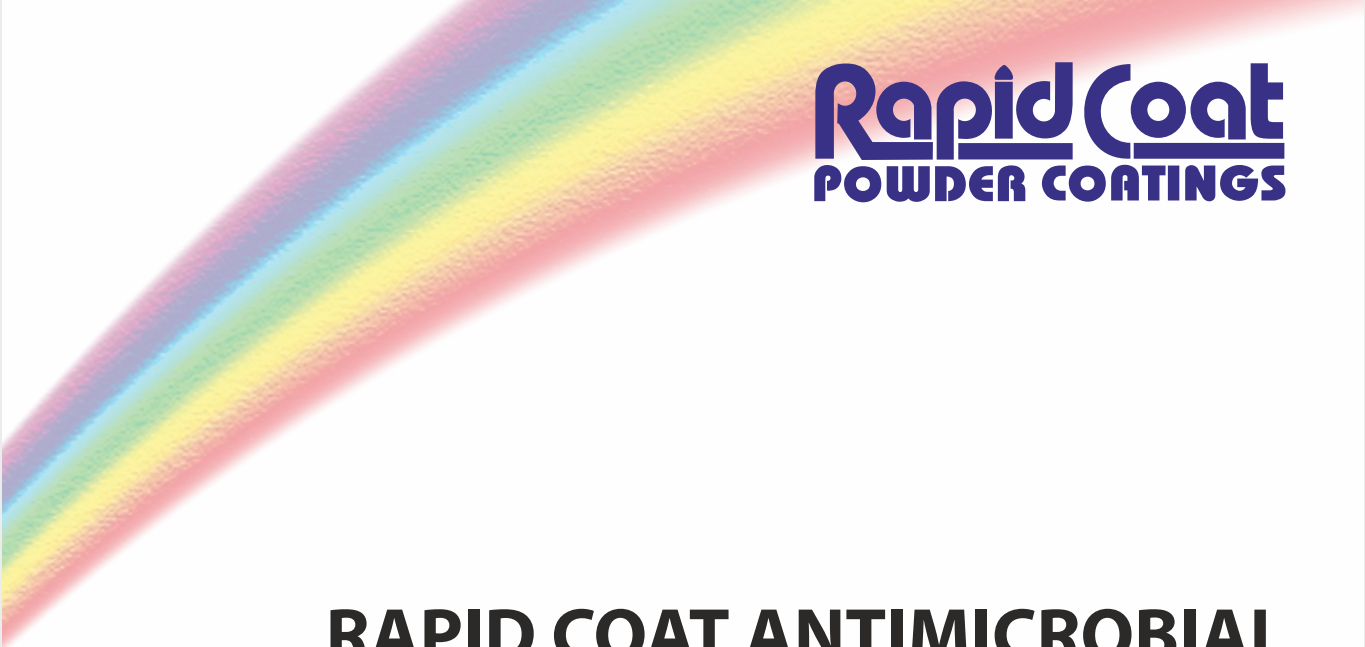
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Rapid Coat
POWDER COATINGS

RAPID COAT ANTIMICROBIAL POWDER COATINGS



ANTI-MICROBIAL POWDER COATING

Overview

Antibacterial properties are required for such applications where coated object comes in contact with number of people & in the field of food, medical care, sanitation equipment, etc. Anti-Microbial powder protects from infection and stops the growth of bacteria and fungi.



Testing Standard

- Standard: JIS Z2801
- Inoculating solution: Bacterial suspension initial
- Storing temperature: 35°C
- Storing humidity: > 90%
- Storing time: 24 hours

Mechanism of Silver Technology

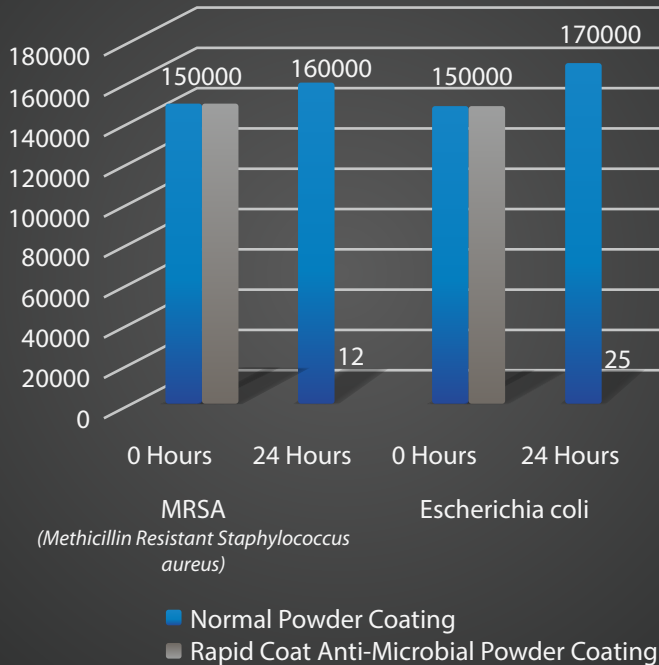
Silver ion inhibits the process of cell division by which the bacteria replicates. The action of silver additive is based on the slow and continuous leaching of super fine silver ions that interact with the metabolism of the microorganisms in various ways. Moisture in the air accelerates the property of ion exchange process by which silver is released at a continuous rate and maintain an antibacterial surface. In presence of moisture, the zeolite pumps out silver ions in exchange for sodium ions from the environment. As the environment becomes more humid, bacterial growth would be more, the zeolite discharges more silver ions thereby long term protection is ensured. Antimicrobial action of silver comes from the chemical properties of its ionized form Ag^+ . When bacteria comes in contact with antimicrobial coated surface, Ag^+ releases accordingly to the surface of the treated product to inhibit the bacterial growth.

Sample	Substrate	Number of Colonies		% Reduction	Results
		0 Hours	24 Hours		
No Coating	Polyethylene	110000	12000000	N/A	Fail
With Coating	Rapid Coat Anti-Bacterial Powder	110000	<10	>99.99991	Excellent



ANTI-MICROBIAL POWDER COATING

Anti-Microbial Coating Effectiveness



Graph Showing Effect of Rapid Coat Anti-Microbial Coating on Bacterial Colony with time

Application Areas

1. Domestic Appliances:

- Interiors of refrigerator
- Air blown humidifier (where humidity welcomes the growth of bacteria and fungi.)
- Washing machine
- Air conditioner etc.

2. Medical Care: Hospital and clinics are widely using antibacterial powder coated equipment & objects e.g.:

- Instrument Tray
- Sterilization Equipment
- Lighting Fixture
- Cabinet & Bed etc.

3. Sanitation:

- Bathroom Accessories
- Dishwasher and Shopping Cart etc.

4. Food Equipments:

- Mixing Bowl, Serving Tray
- Sinks, Cooler, Display Cases,
- Food Processing Equipments
- Storage Bins etc.

5. Steel Furniture Industry:

- Steel Shelving
- Storage Cabinets (used in shopping malls) etc.

6. General industry: Escalator, elevator, etc.

Types of bacteria tested

Listeria Monocytogenes, Escherichia Coli, Salmonella Enteritidis, Staphylococcus Aureus (Resistant Strain), Bacillus Subtilis, Pseudomonas Aeruginosa, Salmonella Typhimurium, Streptococcus Faecalis, Legionella Pneumophila, Vibrio Parahaemolyticus, Enterobacter Aerogenes.

Rapid Coat Anti-Bacterial powders are available in a full range of colour, gloss and finish.

Special finishes can be custom matched as per the user's requirements.



ABOUT US

Rapid Coat Powder Coatings is manufactured by Rapid Engineering Co. Pvt. Ltd. The company started operations in 1974 and has been producing powder coatings since the past 25+ years. Its primary operations are located on 2 acres of land in a prime industrial area on the outskirts of New Delhi, India with approximately 100,000 sq. ft. of built up space. It sells its products to customers through a wide network of distributors and company owned sales offices.

PRODUCTS:

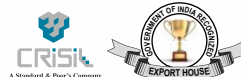
- Epoxy Polyester Powders for Powder Coatings: We are one of the largest manufacturers of this product in India with 9 production lines and a total manufacturing capacity of 7000 tons annually.
- Thermoplastic Powders for Plastic Coating: We are the leaders in India with a manufacturing capacity of 2500 tons annually.

CERTIFICATIONS:

- ISO 9001:2008 Quality Certificate No. TUV100 07 1477 from TUV SUD Management Service GMBH
- CRISIL Rated SE1B
- Government of India Recognized Export House Certificate



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