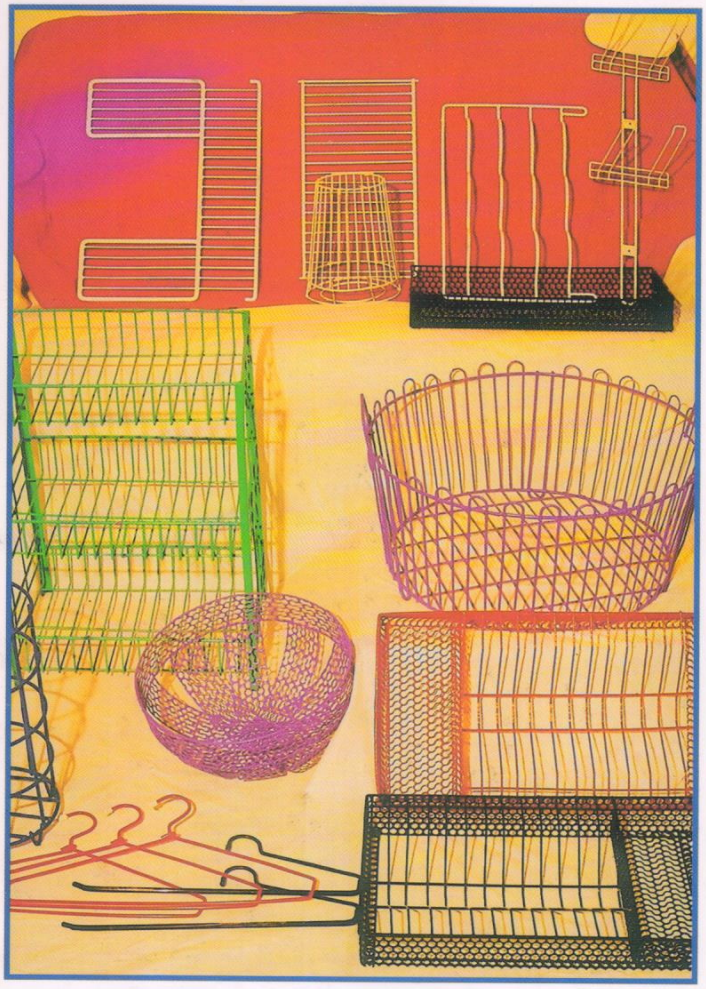
Rapid Coat
POWDER COATINGS

PLASTIC COATING POWDER

- ECONOMICAL
- HIGH GLOSS
- SMOOTH SURFACE
- GOOD DURABILITY & FLEXIBILITY
- GOOD ADHESION
- WEATHERING RESISTANCE
- ECO-FRIENDLY NO V.O.C'S
- WIDE SERVICE TEMPERATURE
- NO HARMFUL FUMES
- NON HAZARDOUS

WIDE RANGE OF COLOURS

COLOURING IS EXTRUSION COMPOUNDED AND HENCE CONSISTENT



FOOD GRADE PRIME POLYETHYLENE USED FOR MANUFACTURING

GOOD IMPACT STRENGTH

- PRIMERLESS COATING
- SINGLE COAT HIGH THICKNESS
- EASILY REPAIRABLE
- PHOSPHATING NOT ESSENTIAL
- EASE & SIMPLICITY OF COATING
- CORROSION PROTECTION
- CUSTOM COLOURS OFFERED
- ENHANCES PRODUCT APPEARANCE AND FEEL

THERMOPLASTIC COATING POWDERS

Thermoplastic coatings offer the ultimate protection of metal structures against corrosion, wear and tear and chemical attack. They outperform other coatings, especially in terms of extended lifetime duration, environmental impact and ability to protect metal from corrosion.

GRADES AVAILABLE

XCEL 1630

- Polyethylene based free flowing powder
- High gloss

Application: Wire fabricated articles like refrigerated shelves, scooters/ cycle baskets, kitchen racks/ baskets, hangers display racks, formed wire goods, wire baskets, shower caddies, dish drainers, planter baskets.

XCEL 2430

- Polyethylene based free flowing powder
- Semi Gloss Finish
- Ease of application

Application: High durable products like outdoor fencing, racks, cable trays and many more applications. Tougher than XCEL 1630 with better abrasion resistance.

HIGH ADHESION

- Excellent Adhesion, Corrosion, UV and Chemical Resistance
- Eliminates Primer Requirement

Application: Pipes, garden benches, fences, cable trays, fuel tanks, spring shockers, valves in chemical factories and many more applications.

TECHNICAL SPECIFICATIONS

PARTICULARS	STANDARDS	Unit	XCEL 1630	XCEL 2430	High Adhesion
Particle Size		µ	<300	<300	<300
Theoretical Coverage @ 500 µm		m^2/Kg	2.17	2.15	2.15
Bulk Density (at rest)		gm/cc	0.40	0.39	0.39
Fluidizing Characteristics		Visual	Excellent	Excellent	Excellent
Specific Gravity	ASTM D1505	g/cm3	0.918	0.924	0.926
Recommended Coating Thickness		µ	300-1000 microns on flat plate 650-1000 microns on wire		
Gloss	ASTM D523 @ 60°	%	60-80	20-40	20-80
Impact Strength Gardner (drop weight) ISO 6272 Direct 23°C		J	27	27	27
Safe Working Temperature		°C	55 (max)	60 (max)	60 (max)
External Weathering	ASTM G155	Hours	Customizable for UV resistance		> 2000
Tensile Strength	ASTM D638/ ISO 527	kg/cm^2	90	90	90
Vicat Softening Point	ASTM D1525/ ISO 306	°C	84	95	95
Melting Point	ASTM D1238	°C	108-110	120-122	116-118
Environmental Stress Cracking	ASTM D1693	Hours	>100	>100	> 1000
Dielectric Strength	IEC 243 VDE 0303	kV/mm at 370µ	40	40	40
Adhesion	Cross Hatch Test 2mm sq. ASTM-D-3359	GT - 0	Poor	Poor	Excellent
Abrasion	Taber ASTM D4060/84 H18, 500g load, 1000 cycles	mg wt.loss	56	56	56
Chemical Resistance	Dilute Acids 23°C	°C	Fair	Fair	Good
	Dilute Alkali 23°C	°C	Fair	Fair	Good
	Salts (except peroxides) 23°C	°C	Fair	Fair	Good
	Solvents 23°C	°C	Poor	Poor	Poor
Salt Spray Resistance	ISO 7253 ASTM B117 DIN 50021 After 1000 hrs				
	Mild Steel - Undercut / Aluminium - Undercut	Rust creep / Loss of Adhesion	Poor	Poor	< 3mm creeping
	Mild Steel - Without cut / Aluminium - Without cut	Loss of Adhesion	Poor	Poor	No Loss

DIP/ FLUIDISED BED/ ELECTROSTATIC COATING METHOD

FABRICATION

Steel wires of the required diameter & length are cut and bent to the desired shape and then spot welded to fabricate the required shape of the article. Jigs should be carefully designed to achieve good accuracy, repeatability and desired production rates.

The prefabricated article is de-greased, de-rusted, de-scaled, passivated and cleaned. Thin "wire loops" should be attached at suitable locations, for ease of handling the article, so as not to mar the product appearance. These are later snipped off after the entire operation is over.

PREHEATING

The bare article is then heated in the oven at 250 - 300°C (480- 570° F) for 5- 10 minutes. The heating time and temperature depends on the mass of the article and the loading of the oven. This has to be practically ascertained to provide the desired production rates and coating thickness. For electrostatic coating lower temperatures may be used.

COATING

The heated article is dipped in a tray containing the powder and the powder splashed on it, or dipped in a fluidized bed of the powder for 2- 5 seconds. The powder will stick to the hot article. Once the article is coated, care should be taken to ensure it does not rub or come into contact with any surface, to prevent damage to the coating. At this stage, a rough powdery, but uniform coating on the article is obtained. The excess un-melted powder is shaken off with a slight jerky motion or light tapping. The coating thickness increases with the duration of dipping in the powder medium. In electrostatic coating, pre heating will give higher build- up.

FUSION SINTERING

To smoothen out and provide a glossy surface, the article is re-heated in the oven for 2 - 3 minutes. This causes the powder to melt, sinter and flow out. Excessive heating may cause the coating to dis-colour or sag. The article should be carefully taken out of the oven, without coating coming into contact with any other surface and allowed to cool in a clean dust free atmosphere. Sometimes water quenching is also resorted to, for wire products.

INSPECTION & POST FINISHING

The thin "wire loops", attached earlier for handling the article, are carefully snipped off at the base so as not to mar the appearance. The article is inspected for pin holes or blemishes. These can be filled or repaired with a little powder with a small soldering iron or hot air gun.

EXTRUSION COMPOUNDED COLORS

All the colors are hot melt compounded in high Performance extruders. This ensures a uniform dispersion of pigments and additives in the resin. This enhances the UV stability of the polymer. It also prevents color variation from product to product, pigment migration and pigment wipe off.

FUNDAMENTAL NOTES

The coating thickness increases with:

- Increase in temperature of the article
- The thickness of the wire
- The duration of dipping in the powder.

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.**

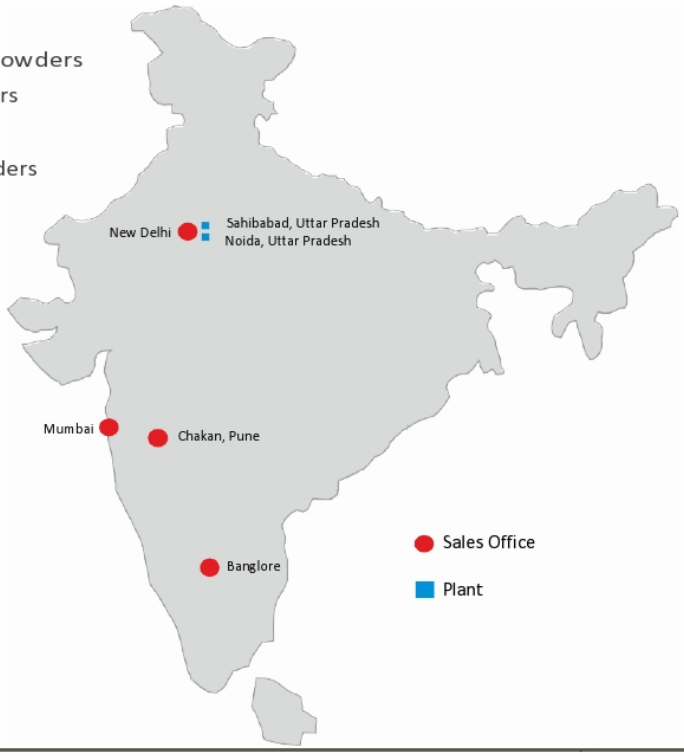
In addition, the company has warehouses cum sales offices in **New Delhi, Mumbai, Pune & Bangalore.** The company is also exporting its products to 35+ countries worldwide. Rapid Engineering has been awarded the **'Recognized One Star Export House'** certificate by the Government of India in recognition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

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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