PLASTIC COATING POWDER

WIDE RANGE OF COLOURS
COLOURING IS EXTRUSION COMPOUNDED AND HENCE CONSISTENT

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

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

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TECHNICAL SPECIFICATIONS

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

**XCEL 2430**
- Polyethylene based free flowing powder
- Semi Gloss Finish
- Ease of application

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

**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.

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

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

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>STANDARDS</th>
<th>Unit</th>
<th>XCEL 1630</th>
<th>XCEL 2430</th>
<th>High Adhesion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle Size</td>
<td></td>
<td>µ</td>
<td>&lt;300</td>
<td>&lt;300</td>
<td>&lt;300</td>
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<tr>
<td>Theoretical Coverage @ 500µm</td>
<td></td>
<td>m²/Kg</td>
<td>2.17</td>
<td>2.15</td>
<td>2.15</td>
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<tr>
<td>Bulk Density (at rest)</td>
<td></td>
<td>gm/cc</td>
<td>0.40</td>
<td>0.39</td>
<td>0.39</td>
</tr>
<tr>
<td>Fluidizing Characteristics</td>
<td>Visual</td>
<td></td>
<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>ASTM D1505</td>
<td>g/cm³</td>
<td>0.918</td>
<td>0.924</td>
<td>0.926</td>
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<tr>
<td>Recommended Coating Thickness</td>
<td></td>
<td>µ</td>
<td>300-1000 microns on flat plate 650-1000 microns on wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gloss</td>
<td>ASTM D523 @ 60°</td>
<td>%</td>
<td>60-80</td>
<td>20-40</td>
<td>20-80</td>
</tr>
<tr>
<td>Impact Strength Gardner</td>
<td>ISO 6272 Direct 23°C</td>
<td>J</td>
<td>27</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Safe Working Temperature</td>
<td></td>
<td>°C</td>
<td>55 (max)</td>
<td>60 (max)</td>
<td>60 (max)</td>
</tr>
<tr>
<td>External Weathering</td>
<td>ASTM G155</td>
<td>Hours</td>
<td>Customizable for UV resistance</td>
<td>&gt; 2000</td>
<td></td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D638/ ISO 527</td>
<td>kg/cm²</td>
<td>90</td>
<td>90</td>
<td>90</td>
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<tr>
<td>Vicat Softening Point</td>
<td>ASTM D1525/ ISO 306</td>
<td>°C</td>
<td>84</td>
<td>95</td>
<td>95</td>
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<tr>
<td>Melting Point</td>
<td>ASTM D1238</td>
<td>°C</td>
<td>108-110</td>
<td>120-122</td>
<td>116-118</td>
</tr>
<tr>
<td>Environmental Stress Cracking</td>
<td>ASTM D1693</td>
<td>Hours</td>
<td>&gt;100</td>
<td>&gt;100</td>
<td>&gt;1000</td>
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<tr>
<td>Dielectric Strength</td>
<td>IEC 243 VDE 0303</td>
<td>kV/mm at 370µ</td>
<td>40</td>
<td>40</td>
<td>40</td>
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<tr>
<td>Adhesion</td>
<td>Cross Hatch Test 2mm sq. ASTM-D-3359</td>
<td>GT - 0</td>
<td>Poor</td>
<td>Poor</td>
<td>Excellent</td>
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<tr>
<td>Abrasion</td>
<td>Taber ASTM D4060/84 H18, 500g load,</td>
<td>mg wt.loss</td>
<td>56</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td>1000 cycles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Resistance</td>
<td>Dilute Acids 23°C</td>
<td>°C</td>
<td>Fair</td>
<td>Fair</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Dilute Alkali 23°C</td>
<td>°C</td>
<td>Fair</td>
<td>Fair</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Salts (except peroxides) 23°C</td>
<td>°C</td>
<td>Fair</td>
<td>Fair</td>
<td>Good</td>
</tr>
<tr>
<td></td>
<td>Solvents 23°C</td>
<td>°C</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
</tr>
<tr>
<td>Salt Spray Resistance</td>
<td>ISO 7253 ASTM B117 DIN 50021</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>After 1000 hrs</td>
<td>Rust creep / Loss of Adhesion Poor</td>
<td>Poor</td>
<td>&lt; 3mm creeping</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mild Steel - Without cut /</td>
<td></td>
<td>Loss of Adhesion Poor</td>
<td>Poor</td>
<td>No Loss</td>
</tr>
</tbody>
</table>
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.
These three parameters have to be practically optimized by "trial and error" to achieve the desired maximum and minimum coating on the thicker and thinner wires of the coated article.
A coating thickness of 0.3 to 0.5 mm is normally considered sufficient. It is recommended that the oven should have a circulating fan inside it, to provide uniform temperature and better heat transfer.
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:**
- CRISIL Rated SE1B
- Government of India Recognized Export House Certificate

**Sales Office**
- Plant Office
- Distributors

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