NOVA-P

Thermoplastic adhesive powder for metal coating
Thermoplastic adhesive powder for metal coating (Surface protection)

NOVA-P products are high performance metal coating powders, based on modified polyolefin with polarity groups. They have been specifically designed to provide a strong bonding, long lasting for metal in exterior applications on steel and aluminum. NOVA-P polymer powders are available in a variety of colours for fluidized bed, flame spray, and electrostatic spray powder coating processes. This coating powder has excellent adhesive strength to the metal substrate without any primer. The material also provides good abrasion and impact resistance.

NOVA-P fine powders offer a unique combination of properties:

- Very good chemical resistance
- Excellent adhesion to metal substrate
- Excellent resistance to corrosion
- Outstanding abrasion resistance
- Good impact resistance
- Aesthetic surface finish
- Warm-to-touch
- Good hygienic properties
Application of NOVA-P

NOVA-P has a variety of applications by varieties of coating process

- Automotive part
- Medical furniture
- Fence & Wirework
- Pipeline
- Construction items
Coating Process

_Nova-P_ coating powder is finely ground particle of adhesive polymer resin.

Coating processes are chosen depending on the physical and appearance requirements.

Metal coating process is simple. But proper choice of coating process for various type of workpiece determines the final properties to be required.

_Nova-P_ products consist of thermoplastic powders for metal coatings. They are coated mainly with fluidized bed and flame spray system.

Air is blown through a porous bed-plate and onto the powder, creating something known as a “Fluidized Bed”. The aerated powder behaves like a liquid. Then, the pre-heated metal object is dipped into the powder.

“Flame Spray” system can make the powder to reach extremely high temperature. So it is important to avoid degradation of the powder during coating process.

_Nova-P_ can be customized in particle size distributions and formulations to fulfil customer’s needs.
3 layer coating system for oil & gas line pipe – NOVA-PTM APR2511P

Product Description

NOVA-PTM APR2511P thermoplastic adhesive powder is used as a tie-layer in 3 layer steel pipe coating systems.

APR2511P offers optimal adhesion properties for multi-layer polyethylene coating systems. The product is supplied in powder form for application by spray or other special means.

NOVA-PTM APR2511P for Powder Application

The thermoplastic adhesive is applied to preheated steel pipe immediately following the application of a fusion bonded epoxy (FBE) powder coating. APR 2511P powder adhesive melts and bonds to the FBE basecoat, and then serves as a high performance bonding layer for the tough polyethylene(PE) powder top coat.

Specifications: CAN/CSA Z245.21; DIN 30670S; ISO 21809-1
3 layer coating system for oil & gas line pipe – NOVA-P™ APR2511P

Applications

- steel composite pipe
- oil & gas pipelines
- large & small diameter pipelines

General Application Steps

1. steel
2. fusion bonded epoxy
3. copolymer adhesive, APR2511P
4. polyethylene

This coating system consists of a fusion bonded epoxy layer, a polyolefin adhesive tie-layer and a tough powder based polyethylene top coat.
3 layer coating system for oil & gas line pipe – **NOVA-P™ APR2511P**

**Physical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Method</th>
<th>Unit</th>
<th>Test Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melt Index (190 °C / 2.16kg)</td>
<td>ISO 1133, ASTM D1238</td>
<td>g/10 min</td>
<td>5.0</td>
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<tr>
<td>Density</td>
<td>ISO 1183-3, ASTM D1505</td>
<td>g/cm³</td>
<td>0.930</td>
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<tr>
<td>Melting Point (DSC)</td>
<td>ISO 3146, ASTM D3418</td>
<td>℃</td>
<td>124</td>
</tr>
<tr>
<td>Vicat Softening Point</td>
<td>ASTM D1525</td>
<td>℃</td>
<td>102</td>
</tr>
<tr>
<td>Brittleness Temperature</td>
<td>ASTM D746</td>
<td>℃</td>
<td>&lt; -70</td>
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<tr>
<td>Tensile Strength</td>
<td>ASTM D638</td>
<td>Kg/cm²</td>
<td>250</td>
</tr>
<tr>
<td>Elongation</td>
<td>ASTM D638</td>
<td>%</td>
<td>&gt; 600</td>
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<tr>
<td>Particle Size (Sieve Test)</td>
<td>ASTM D1921</td>
<td>%</td>
<td>15.0 Max &gt; 300 μm</td>
</tr>
<tr>
<td>Adhesion Strength (to Steel Plate)</td>
<td>TWO H Method</td>
<td>Kg/2.5cm</td>
<td>&gt; 20</td>
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<tr>
<td>Powder shape</td>
<td>-</td>
<td>-</td>
<td>Solid Rounded Particle</td>
</tr>
</tbody>
</table>

The above data and results obtained are average values from laboratory testing and are not to be construed as specifications.