

# Plascoat® NG10

## Polyethylene Coating Powder

11/2018

### General description

Plascoat NG10 is a polyethylene powder supplied for fluidised bed coating of metal articles. The resulting coatings have a smooth and attractive finish with good edge protection and excellent covering power. It differs from standard Plascoat LDPE in that it flows more easily. This property has been especially useful when a semi-automatic coating process is in use.

Plascoat NG10 is ideal as a general coating material, being particularly suitable for domestic wirework applications.

### Typical uses

Coating all kinds of wirework: Refrigerator shelves and baskets, racks, shelving, display stands, etc

### Typical properties of the powder

Coverage (100% efficiency)	3.1 m <sup>2</sup> /kg at 350 microns
Particle Size	less than 300 microns
Bulk Density (at rest)	0.36 g/cm <sup>3</sup>
Fluidising Characteristics	Excellent
Packaging	20 kg sacks

### Handling and storage

Stored in a clean dry area at 10-30°C and out of sunlight, the material should not deteriorate. However, in the interest of good housekeeping, old stocks should be used first.

Common to all coating powders, there may be the likelihood of agglomerate formation during transportation and storage. The coating powder can be sieved to break up the agglomerates and therefore return the powder to its original condition; this does not affect the quality of the powder. The accumulation of powder particles is a physical phenomenon and may occur as a result of compaction or when cold powder, below 10°C, is brought into direct contact with warm humid air. In this latter situation the powder, still sealed, should be given time to warm up to the ambient temperature before use.

### Health and safety

Plascoat NG10 is supplied as a finely divided powder. While there are no known health hazards associated with NG10, normal handling precautions for dealing with fine organic powders should be taken - i.e. excessive dust generation and inhaling of the powder should be avoided. Facilities may be required for removing excess dust from the working area during the coating of certain difficult items.

As with all polymeric powders, the material can ignite if brought into contact with a high temperature source or ignition - particularly in the fluidised condition.

Reference should be made to the respective Plascoat GHS Safety Data Sheet, available on request.

**Guide to typical coating conditions**

Recommended Pre-treatment:

For mild steel, ensure metal is clean by thorough degreasing and removal of mill scale.

Batch Operation:

Metal preheat temperature 300°C - 400°C, depending on metal thickness. Dip for 3-5 seconds. A post-heat cycle at 200°C may be required to develop fully the surface finish on thin items.

Automatic Coating Plant:

Pre-heat oven 360 - 400°C for 2 to 4 minutes  
 Dip 3 - 5 secs  
 Post-heat oven 180 - 220°C for 2 to 4 minutes  
 Water Quench Optional

The process temperatures used should only be the minimum to achieve an acceptable surface finish. Overheating may cause the coating to discolour later in storage or in service.

Thicknesses outside the recommended range may be detrimental to the properties of the coating.

**Typical properties of the material**

Specific Gravity*		0.92 g/cm <sup>3</sup>
Tensile Strength	ISO 527	10 MPa
Elongation at Break	ISO 527	250%
Brittleness Temperature	ASTM D-746	-15°C
Hardness	Shore A	95
	Shore D	41
Vicat Softening Point	ISO 306	80°C
Melting Point		107 °C
Flammability	UL94 3.2mm moulding	Unrated (See also Properties of Coating)
Dielectric Strength**	IEC 243 VDE 0303	25 kV/mm at 350 microns

\*These values may vary from colour to colour

\*\*Values based on results of tests on similar products.

**Typical properties of the coating**

The following data applies to a 350 microns coating applied under standard conditions onto 3mm thick steel. The pre-treatment consisted of degreasing and grit blasting.

Recommended Coating Thickness		300-1200 microns on flat plate 800-1200 microns on wire
Appearance		Smooth/Glossy
Gloss	ISO 2813	55
Impact Strength	Gardner (drop weight) ISO 6272 Direct 23°C	2.0 Joules
Abrasion	Taber ASTM D4060/84 H18, 500g load, 1000 cycles	80 mg weight loss
Chemical Resistance*	- Dilute Acids 60°C - Dilute Alkali 60°C - Salts (except peroxides) 60°C	Fair Fair Fair Not recommended



- Solvents 23°C

Safe Working Temperature	(Continuous in air)	60°C max
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*\*Further technical advice may be obtained from Plascoat concerning the effects of particular chemicals or mixtures.*

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