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# LJ Polyethylene Powder Coating

## Product Description

The LJ polyethylene powder coating is a thermoplastic powder coating prepared with polyethylene resins, compatibilizers, thfunctional additives, pigments and fillers, etc., it shows excellent adhesion, corrosion resistance, chemical stability, electrical insulation and low temperature resistance.

## Application Field

It is applicable to the coating of various special chemical equipment, fire equipment, refrigeration equipment, food industry equipment, industrial pipelines, baskets, etc.

## Powder Properties

Non-volatile content: ≥99.5%

Dry fluidity: fluidization floating ≥20%

Specific gravity: 0.91-0.95 (varies by different colors)

Particle size distribution: ≤300um

Melt index: 5-50 g/10min (2.16kg, 190℃) [depending on the workpiece to be coated and the process].

Storage: Store in a ventilated and dry room below 35℃, and prevent from being close to the source of ignition. The storage period is two years from the manufacturing date. It shall be retested when it is expired, and it can still be used if it is qualified. In addition, it is recommended that the product shall be used on the first-in and first-out basis.

Packing: It is packed in composite paper bags, and the net weight per bag is 20 kg.

## Application

- Pre-treatment: It can be degreased via the high temperature method and the solvent method, or rust can be removed by the chemical method and sand blasting. After treatment, the surface of the substrate shall be neutral.
- Pre-heating temperature of workpiece to 250-350℃ [it can be adjusted according to the heat capacity (i.e. the metal thickness) of the workpiece].
- Fluidized bed dip coating for 4-8 seconds [it can be adjusted according to the metal thickness and the shape of the workpiece].
- Plasticization at 180-250℃ for 0-5 minutes [the post-heating plasticization process is beneficial to obtain a smooth coating].
- Cooling: Air cooling or natural cooling.

## Coating Performance

Sample panel prepared for the following test data.

2mm thick steel plate, degreasing and rust removal, and coating applied with thickness of 400um.

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|---|---|
| Color GB/T9761 | No visible difference (compared with the standard plate) |
| Appearance (visual inspection) | Smooth (slight orange peel is permissible) |
| Film thickness μm GB/T 13452.2 | 250~600 |
| Gloss % GB/T 9754, 60° | 10~80 (it is adjusted according to customer requirements) |
| Bending (with the film thickness of 200μm) GB/T 6742 | ≤2mm |
| Shore hardness (D) GB/T 2411 | 45~55 |
| Low temperature resistance Q/HJ 008-2008 | No cracking at -35℃ for 60h |
| Adhesion (10mm width 180° peeling) | ≧3 kg/10mm (it is judged to have qualified adhesion when the coating snaps and breaks) |
| Soaked in 5%HCl for 7d GB/T11547 | No change in coating appearance |
| Soaked in 5%NaOH for 7d GB/T11547 | No change in coating appearance |
| Soaked in 5%NaCl for 7d GB/T11547 | No change in coating appearance |

## Hygiene & Safety

This powder coating is a non-toxic product, but the inhaling of dust shall be avoided during use. It is recommended that operators shall wear appropriate dust masks and glasses. If possible, avoid long-term skin contact with powder coatings. We recommend installing an edge exhaust fan above the fluidized bed.

## Caution

- In order to obtain the best adhesion, it is recommended to carry out phosphating or chromizing treatment on the basis of degreasing and de-rusting of the substrate.
- Excessive heating will lead to aging and discoloration of the coating film. However, if the temperature is too low, it would cause the defects such as thin and rough coating film, etc. Therefore, the optimum heating temperature shall be determined through experiments according to the metal thickness and the coating facilities of the customer.
- Workpiece design: the sharp parts shall be ground, there shall be no gap in the welding, the metal thickness and the wire diameter in a workpiece shall be close.
- This product is not recommended to use in post-processing (re-deformed workpiece after coating) products.
- Like all polymer powders, especially in the flowing condition, the powder coating can be ignited or burned If contact with a high-temperature source.

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