Polymer Add (Thailand) Co.,Ltd.
Office - 106, Chalaremprakiat, Lor 9, Soi 22, Yak 5, Nongbon, Prawet, Bangkok, Thailand 10250
Factory - 188/3, Moo 8, Tambon Bangpu Mai, Amphoe Muang Samut Prakan, Samutprakan, Thailand 10280
Mobile - Thai : 0804531391, English: 0839415475, **E-mail –** contact@polymeradd.co.th

TECHNICAL DATA SHEET

Micronised LDPE Resin (MFI 1.8-2.2)

(Cryogenically Ground Polyethylene Powder – Standard & Flow-Enhanced Grades)

Product Description

Micronised LDPE Resin Powder is a fine, free-flowing polyethylene powder produced through cryogenic grinding and precision classification. It is designed for applications requiring enhanced dispersion, controlled particle size, improved surface finish, and compatibility with polyolefin systems.

LDPE resin currently used: *Petlin LD C150Y*
Other LDPE resins with different melt flow indices (MFI) can be used upon customer request.

Available Grades

1. Standard Grade (Pure LDPE Powder)

- No additives
- Pure micronised LDPE
- Suitable for applications requiring unmodified polymer chemistry

2. Flow-Enhanced Grade (with Fumed Silica)

A specially conditioned grade containing **0.25–1.0% fumed silica** to improve:

- Flowability
- Resistance to blocking and clumping
- Hopper/silo discharge
- Storage stability
- Handling during conveying

This grade is recommended for customers requiring smoother powder flow characteristics similar to reactor-formed polyethylene micro-powders. Food-contact compliant flow modifiers can be supplied upon request.

Typical Technical Properties

Property	Typical Value	Test Method
Polymer Type	Low Density Polyethylene (LDPE)	—
Base Resin MFI (190°C/2.16 kg)	1.8–2.2 g/10 min	ASTM D1238
Particle Size – D50	9-10 µm	Laser Diffraction

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Particle Size – D90	30-35 µm	Laser Diffraction
Particle Size – D97	50–55 µm	Laser Diffraction
Particle Size – D99	70-80 µm	Laser Diffraction
Appearance	White micronised powder	Visual
Moisture	< 0.1%	ASTM D6980
Bulk Density	0.30–0.45 g/cm^3	ASTM D1895

Note: Particle size may vary depending on resin grade and milling settings. Custom PSD available.

Product Features

- Fine particle size for enhanced dispersion
- Increased surface area for improved interaction with pigments & additives
- Uniform flow characteristics (Flow-Enhanced grade)
- Controlled melting behaviour for thermoplastic applications
- Non-toxic, chemically inert polyethylene

APPLICATIONS

Micronised LDPE Resin Powder is recommended for applications that benefit from fine polyolefin particles with controlled melting behaviour.

1. Powder Coatings (Polyolefin-Compatible Systems)

- Anti-corrosion coatings
- Industrial metal coatings
- Protective top layers

Micronised LDPE enhances melt flow, levelling, scratch resistance, and impact performance.

2. Masterbatch & Additive Concentrates

- Pigment masterbatch
- Processing-aid concentrates
- Slip / antiblock additive carriers

Fine LDPE improves pigment wetting and dispersion uniformity.

3. Hot-Melt Adhesives & Sealants

- LDPE/EVA adhesive blends
- Pressure-sensitive formulations

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Provides controlled melt viscosity and cohesive strength.

4. Rubber & Elastomer Modification

- TPE, TPV and rubber compound modifiers
- Binder component for elastomer powders

Improves processability and internal lubrication.

5. Specialty Film & Sheet Extrusion Blends

- Performance modification of LLDPE/LDPE blends
- Melt strength and processing stabilisation

6. Inks, Paints & Coating Additives

- Matte finishing agent
- Slip, scratch & abrasion-resistance additive

Micronised LDPE is widely used in ink systems where polymer softness and controlled melt behaviour enhance surface durability.

7. Rotational Moulding – Fine Powder Grades

Applicable for micro-roto moulding or thin-wall moulding applications requiring smoother melt flow and rapid consolidation.

Packaging

- 10 kg / 20 kg PE-lined bags
- 25 kg laminated bags
- 500–1000 kg FIBC bags
- Custom packaging available

Storage Guidelines

- Keep in cool, dry environment
- Avoid heat, sparks, and open flames

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- Prevent dust cloud formation
- Use anti-static precautions during handling

DISCLAIMER

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