# LLDPE Injection Molding

Linear Low-Density Polyethylene

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## Technical Data: LLDPE (Linear Low-Density Polyethylene)

### Product Description

**Define and Grades**

What Is Linear low-density polyethylene (LLDPE)?
Linear low-density polyethylene (LLDPE) is a thermoplastic polymer with a linear structure known for its exceptional flexibility, toughness, and chemical resistance. It's commonly used in film and injection molding applications.
Neway utilizes various LLDPE grades for injection molding, including:
LLDPE 1010
LLDPE 2020
LLDPE 3030
LLDPE 4040
LLDPE 5050

### Features and Applications

| Grade | Features | Applications |
|---|---|---|
| LLDPE 1010 | Excellent flexibility and toughness | Packaging films, containers |
| LLDPE 2020 | High impact resistance and chemical stability | Trash bags, agricultural films |
| LLDPE 3030 | Good balance of strength and flexibility | Toys, squeeze bottles |
| LLDPE 4040 | Enhanced puncture resistance and sealing properties | Industrial liners, caps, lids |
| LLDPE 5050 | Exceptional tensile strength and tear resistance | Geomembranes, pond liners |

### Physical and Mechanical

| Property | Density | Tensile Strength | Tensile Elongation | Flexural Modulus | Flexural Strength | Izod Impact Strength | Heat Deflection Temp. | Shrinkage | Hardness |
|---|---|---|---|---|---|---|---|---|---|
| Units | (g/cm³) | (Mpa) | (%) | (MPa) | (MPa) | (J/m) | (℃) | (%) | (Shore D) |
| LLDPE 1010 | 0.918 | 15 | 800 | 220 | 20 | 50 | 40 | 1.5 | 50 |
| LLDPE 2020 | 0.924 | 18.5 | 800 | 310 | 24 | 70 | 45 | 1.2 | 55 |
| LLDPE 3030 | 0.926 | 22 | 800 | 420 | 28 | 90 | 50 | 1 | 60 |
| LLDPE 4040 | 0.928 | 27 | 800 | 550 | 35 | 120 | 55 | 0.8 | 65 |
| LLDPE 5050 | 0.932 | 30 | 800 | 650 | 40 | 150 | 60 | 0.7 | 70 |

### Note

The above data are reference material science data. This data reference is not binding and is not considered as authoritative test data. If your material requirements are extremely precise, please contact our material engineers.Tel | +86 18926788217 | Web | www.newayprecision.com | Contact Neway

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## Benefits of Material Grades

### LLDPE 1010

High Elongation: LLDPE 1010 offers excellent tensile elongation, making it suitable for flexible applications, such as packaging films and stretch wraps.

Low Density: Its low-density results in lightweight products, reducing material costs and making it ideal for thin-walled containers.

Impact Resistance: LLDPE 1010 exhibits good impact resistance, making it suitable for impact-resistant products like trash can liners and toys.

### LLDPE 2020

Improved Strength: LLDPE 2020 provides increased tensile strength, making it suitable for applications that require higher structural integrity, such as industrial bags.

Versatile Molding: Its improved flexural modulus allows versatile molding options, including injection and blow molding.

Chemical Resistance: LLDPE 2020 exhibits resistance to chemicals, making it suitable for applications like chemical containers and agricultural films.

### LLDPE 3030

Enhanced Flexural Modulus: LLDPE 3030 has a higher flexural modulus, making it ideal for products that need improved rigidity, such as automotive components and pipe fittings.
Toughness: It maintains good toughness while offering increased stiffness, making it suitable for impact-resistant packaging and industrial components.

UV Resistance: LLDPE 3030 may have UV stabilizers, making it suitable for outdoor applications like agricultural films and geomembranes.

### LLDPE 4040

High Strength: LLDPE 4040 provides high tensile strength, making it suitable for load-bearing applications like pallets and crates.

Low Shrinkage: It exhibits low shrinkage during molding, ensuring dimensional stability in intricate parts.

Thermal Resistance: LLDPE 4040 offers good heat deflection properties, making it appropriate for applications that experience elevated temperatures, such as hot-fill packaging.

### LLDPE 5050

Exceptional Toughness: LLDPE 5050 is known for its exceptional toughness, making it ideal for applications where impact resistance is critical, like playground equipment.

Chemical Resistance: It resists chemicals and moisture, making it suitable for water tanks and chemical containers.

UV Stability: LLDPE 5050 may be UV-stabilized, ensuring durability in outdoor products like marine components and furniture.

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