

Technical Data: Polyethylene Terephthalate (PET)

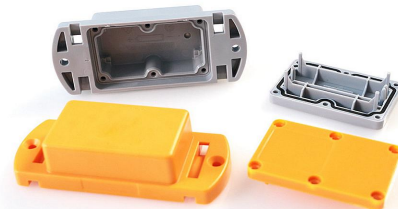
Product Description

Define and Grades

The different grades of injection-molded LLDPE (Linear Low-Density Polyethylene) vary in their molecular structure, which affects properties like density, melt flow rate, and mechanical strength. These differences make them suitable for various applications, from packaging films to industrial liners and geomembranes.

Neway commonly uses various grades of injection-molded PET for manufacturing needs, including:

- PETE - Polyethylene Terephthalate
- PETG - Glycol-Modified Polyethylene Terephthalate
- PCTG - Copolyester PETG
- rPET - Recycled Polyethylene Terephthalate
- PET-P - PET with High Impact Resistance



Features and Applications

Grade	Features	Applications
PETE	High Temp Resistance	Hot-fill packaging, transparent bottles, chemicals
PETG	Impact Resistance, FDA	Protective packaging, displays, food packaging
PCTG	High Impact, Chem Resistance	Electronics enclosures, chemicals, optics
rPET	Sustainability, Strength	Sustainable packaging, reusable bottles, goods
PET-P	Low Friction, Wear Resist.	Bearings, gears, high-precision components

Physical and Mechanical

Property	Density	Tensile Strength	Tensile Elongation	Flexural Modulus	Flexural Strength	Izod Impact Strength	Heat Deflection Temp.	Shrinkage	Hardness
Units	(g/cm ³)	(Mpa)	(%)	(MPa)	(MPa)	(J/m)	(°C)	(%)	(HRB)
PETE	1.38	50	200	2.5	70	15	100	1.5	75
PETG	1.41	60	150	3	80	20	120	2	80
PCTG	1.43	65	120	3.5	90	25	130	2.5	85
rPET	1.38	55	180	2.7	75	20	110	1.8	80
PET-P	1.44	60	140	3.2	85	22	125	2.2	82

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



PET Injection Molding

Polyethylene Terephthalate

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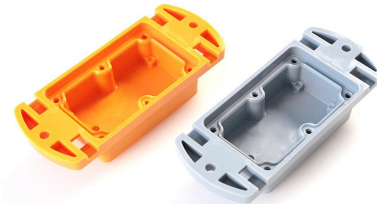
Benefits of Material Grades

PETE (Polyethylene Terephthalate)

High Temperature Resistance: PETE exhibits good resistance to high temperatures, making it suitable for applications where exposure to heat is a concern. This property allows PETE to be used in hot-fill packaging for food and beverages.

Clarity and Transparency: PETE has excellent clarity and transparency, making it ideal for products where visibility is crucial. It is commonly used to produce transparent plastic bottles for water, juices, and carbonated beverages.

Chemical Resistance: PETE has moderate chemical resistance, making it suitable for packaging products such as household cleaners and personal care items.



PETG (Polyethylene Terephthalate Glycol)



Impact Resistance: PETG is known for its exceptional impact resistance. This property makes it an excellent choice for applications where the material may experience rough handling, such as protective packaging and display cases.

Ease of Fabrication: PETG can be easily thermoformed and fabricated, making it a preferred material for creating intricate shapes and designs. It's commonly used for point-of-purchase displays and signage.

FDA Compliance: PETG is FDA-compliant and safe for food contact. It's frequently used in the production of food packaging, including trays, clamshells, and lids.

PCTG (Polycyclohexylenedimethylene Terephthalate)

Chemical Resistance: PCTG exhibits good resistance to chemicals, including many solvents and cleaning agents. This makes it a reliable choice for industrial applications, such as chemical storage containers.

Clarity and Dimensional Stability: PCTG maintains excellent clarity and dimensional stability even after repeated exposure to various environmental conditions. It's often used for optical components and lenses.



rPET (Recycled Polyethylene Terephthalate)



Sustainability: rPET is an environmentally friendly option made from recycled PET material. It is commonly used in producing sustainable packaging, such as bottles and containers.

Strength and Durability: rPET retains the mechanical properties of PET, including its strength and durability. It's suitable for applications where performance is critical, such as reusable water bottles.

PET-P (Polyethylene Terephthalate with PTFE)

Low Friction Coefficient: PET-P incorporates PTFE (polytetrafluoroethylene), providing a low friction coefficient. This property is ideal for self-lubrication applications, such as bearings and bushings.

Excellent Wear Resistance: PET-P has exceptional wear resistance, making it suitable for high-wear applications like gears and sliding components in machinery.



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