

### Technical Data: High-Density Polyethylene (HDPE)

#### Product Description

#### ABS Define and Grades

High-Density Polyethylene (HDPE) is a thermoplastic polymer known for its high strength-to-density ratio. It's produced from petroleum and exhibits excellent resistance to chemicals, impact, and moisture, making it suitable for various applications, including packaging, pipes, and injection-molded products.

Neway Injection Molding HDPE Grades

- HDPE 5000S
- HDPE 6000F
- HDPE 7000F
- HDPE 8000F



#### Features and Applications

Grade	Features	Applications
HDPE 5000S	General-purpose, balanced properties	Packaging, containers, toys, pipes
HDPE 6000F	Enhanced flow, suited for complex molds	Thin-walled parts, automotive components
HDPE 7000F	High molecular weight, improved mechanical properties	Industrial parts, tanks, agricultural use
HDPE 8000F	High-performance, excellent stress crack resistance	Chemical containers, outdoor equipment

#### Physical and Mechanical

Property	Density	Tensile Strength	Tensile Elongation	Flexural Modulus	Flexural Strength	Izod Impact Strength	Heat Deflection Temp.	Shrinkage	Hardness
Units	(g/cm <sup>3</sup> )	(Mpa)	(%)	(MPa)	(MPa)	(J/m)	(°C)	(%)	(Rockwell R)
HDPE 5000S	0.956	30	600	1000	40	30	85	1.5	60
HDPE 6000F	0.949	27	700	1200	45	35	90	1.2	62
HDPE 7000F	0.954	32	500	1300	50	40	95	1	65
HDPE 8000F	0.95	33	300	1500	55	50	100	0.8	68

#### 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](http://www.newayprecision.com) | Contact Neway



# HDPE Injection Molding

High-Density Polyethylene

## NEWAY PRECISION WORKS

# NewayPrecision

[www.newayprecision.com](http://www.newayprecision.com)

### Benefits of Neway ABS Grades

#### HDPE 5000S

**Balanced Strength and Flexibility:** HDPE 5000S combines a commendable tensile strength of 30 MPa with a high elongation of 600%, rendering it suitable for manufacturing durable yet flexible products.

**Excellent Impact Resistance:** This grade's Izod impact strength of 30 J/m ensures resilience against impacts and shocks. It finds relevance in creating toys, household items, and industrial components that require impact resistance to withstand rough handling or accidental drops.



#### HDPE 6000F



**Enhanced Flow:** HDPE 6000F's improved melt flow characteristics make it a prime choice for manufacturing intricate components with complex geometries. Its versatility applies to applications like thin-walled parts, including intricate automotive components and electronic enclosures.

**Mechanical Strength:** With a tensile strength of 27 MPa and a flexural strength of 45 MPa, HDPE 6000F offers solid mechanical performance. It's an excellent fit for creating industrial components, agricultural equipment, and structural parts that demand a blend of strength and reliability.

#### HDPE 7000F

**High Molecular Weight:** With an elevated molecular weight, HDPE 7000F offers improved mechanical properties and durability. It finds application in crafting industrial components, tanks, and agricultural equipment that require enduring performance under demanding conditions.

**Enhanced Stiffness:** Boasting a flexural modulus of 1300 MPa, HDPE 7000F excels in applications that demand stiffness and structural integrity. It is ideal for creating items like furniture, automotive components, and machinery parts where robustness is essential.

**Moderate Tensile Elongation:** HDPE 7000F's tensile elongation of 500% balances flexibility and strength, making it suitable for products requiring a blend of both attributes. This property is advantageous for producing hoses, tubing, and flexible containers.



#### HDPE 8000F



**High-Performance Polymer:** HDPE 8000F stands out as a high-performance grade, primarily due to its excellent stress crack resistance. This property makes it an optimal choice for manufacturing chemical containers, outdoor equipment, and products exposed to challenging environments.

**Superior Impact Strength:** With an Izod impact strength of 50 J/m, HDPE 8000F ensures exceptional resilience against impacts and shocks. It finds relevance in creating challenging and durable items like tool cases, industrial bins, and protective equipment.

### 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](http://www.newayprecision.com) | Contact Neway

