HDPE

HDPE (CNC) is a lightweight and strong thermoplastic, suitable for outdoor applciations. Commonly used for prototypes before Injection Molding.

Mechanical properties

Ultimate tensile strength	22.1 - 31 MPa
Yield strength	26.2 - 31 MPa
Young's modulus (modulus of elasticity)	1.07 - 1.09 GPa
Elongation at break	500 - 700 %
Hardness	7.9 - 9.9 HV

Physical properties

UV resistance	Moderate

Thermal properties

Maximum service temperature	113 - 129 °C
Thermal expansion coefficent	106 -198 10^-6/ºC
Thermal conductivity	0.461 - 0.502 W/(m·°C)

Electrical properties

ESD Safety	No

Common applications

Piping	
Packaging	

HDPE CNC Machining Applications & Parts

HDPE is a versatile, cost-effective thermoplastic known for its high strength-to-density ratio, chemical resistance, and low moisture absorption, which we machine into durable parts for industrial and

consumer use.

Typical Parts We Machine from HDPE:

- **Fluid Handling:** Chemical Tanks, Pipe Fittings, Valves, Flow Meters
- **Industrial Equipment:** Cutting Boards, Work Surfaces, Gaskets, Spacers
- **Consumer & Outdoor:** Prototype Components, Food Handling Parts, Custom Containers

Our Machining Advantage:

Our machining process is optimized to prevent warping and produce clean, stress-free cuts in HDPE, ensuring parts have excellent dimensional stability for sealing and structural applications.

Get an Instant Quote for your custom HDPE parts today.