



# HDPE

## High-Density Polyethylene

### Description and Overview

Cost-effective HDPE is a thermoplastic known for its high strength-to-density ratio. HDPE is used in a variety of applications and industries where high tensile strength, low moisture absorption and chemical and corrosion resistance properties are required.

HDPE is easily machined, welded and thermoformed for easy fabrication. Its versatility and resistance to many environments and substances make it an outstanding material for a wide variety of applications.

### Applications and Uses

HDPE is one of the most utilized plastics in the United States, finding a home in endless applications including marine, packaging, industrial, plumbing, food and beverage and consumer industries.

HDPE is available in FDA, USDA, NSF and 3A-Dairy compliant grades.

- Marine cabinetry, boat walkways
- Outdoor and marine countertops
- Mechanical parts
- Tanks and tank liners
- Wear strips, wear parts
- Cutting boards
- Plastic lumber, outdoor cabinetry
- Packaging and food containers
- Orthotics, prosthetics



HDPE is available in FDA compliant & marine specialized sheets & rods.

Full sheet: 48" x 96" (0.06" through 2.0" thick)  
Rod: (0.5" through 3.0" diameter)

### Properties and Specifications

Property	HDPE
Density (lbs/in. <sup>3</sup>   lbs/ft. <sup>3</sup> )	0.0343   59.27
Water Absorption @ Saturation	<0.1%
Yield Tensile Strength (psi)	4,000
Flexural Modulus (psi)	175,000
Izod Impact (ft-lbs/in.)	3.5
Coefficient of Linear Thermal Expansion	6x10 <sup>-5</sup> ft-lbs/in.
Hardness, Shore D	65
Hardness, Rockwell	R65
Melting Temperature	260°F
Maximum Operating Temp.	180°F
Dielectric Strength (V/mil) 1/8"	450 - 500
Affixable Properties	Mech

Properties are typical.  
Chem is an abbreviation for chemically affixed with glues, chemicals, or adhesive.  
Mech is an abbreviation for mechanically affixed bonding.  
Field testing is recommended for any application.

