

HDPE

HDPE is a high-density polyethylene that is lightweight, has low moisture absorption, is chemical and corrosion resistant, and has high strength.

Applications

HDPE is great for applications such as orthotic and prosthetic devices, chain guides, water storage, tanks, pipe systems, chemical containers, and food cutting boards.

Key Product Benefits

- Superior Tensile Strength
- Lightweight
- Chemical Resistance
- Low Moisture Absorption
- Machinability and Weldability

Properties

| Property | Test Method | Value |
|---|---------------------|-----------------------------------|
| Density | ASTM D792 | 0.955 g/cm ³ |
| Water Absorption | ASTM D570 | <0.10% |
| Shore Hardness (D Scale) | ASTM D2240 | 65-70 |
| Tensile Strength @ Yield | ASTM D638 | >4,000 psi |
| Tensile Modulus | ASTM D638 | 200,000-255,000 psi |
| Elongation @ Break | ASTM D638 | >400% |
| Elongation @ Yield | ASTM D638 | 9.8-12% |
| Flexural Modulus | ASTM D790 | 174,000-185,000 psi |
| Dynamic Coefficient of Friction | QTM 55007 | 0.20-0.29 |
| Coefficient of Linear Thermal Expansion | ASTM D696/ASTM E831 | 6-6.7 in/in/°F x 10 ⁻⁵ |
| Melting Point | ASTM D3418 | 260-268°F |
| Maximum Service Temperature, Air | | 180°F |
| Heat Deflection Temperature @ 264 psi | ASTM D648 | 165-176°F |
| Brittleness Temperature | ASTM D746 | <-105°F |
| Flammability | UL 94 | HB |
| Surface Resistivity | ASTM D257 | >10 ¹⁴ ohm |