



HDPE

Alternative Designations

High Density Polyethylene

Key Features

Lightweight • Strong • Ductile, Chemical resistant • Environmental friendly

Description

This material is light in weight with high strength. It is resistant to chemicals and heat, impermeable and has good electrical insulation. It is highly ductile and is impact resistant. This material works well in both hot and cold temperatures. It is ideal for use in heavy construction, plumbing, agriculture and medical products.

Mechanical Properties

| | |
|---------------------|-----------------|
| Tensile modulus | 1000 MPa |
| Tensile strength | 25 MPa |
| Elongation at break | 9% |
| Flexural strength | 36.68 MPa |
| Flexural modulus | 0.97 – 1.38 GPa |
| Hardness (Shore D) | 64 |

Thermal Properties

| | |
|--|-------|
| Melting temperature (20°C/min) | 126°C |
| Heat deflection temperature (1.80 MPa) | 80°C |
| Heat deflection temperature (0.45 MPa) | 76°C |
| Softening temperature | 124°C |

Physical Properties

| | |
|---------|-------------------------|
| Density | 0.947 g/cm ³ |
|---------|-------------------------|

Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit Materialdatacenter.com for further information on this material.