



ULTEM 1010

Alternative Designations

Polyetherimide (PEI)

Key Features

High heat resistance • Resistant to chemicals • Biocompatible • Excellent tensile strength

Description

ULTEM 1010 is a type of polyetherimide (PEI) resin. It is known for its high strength and stability at high temperatures. It also has a very low coefficient of thermal expansion, making it ideal for applications where dimensional stability is important. It can be used in both injection molding and extrusion processes. It is available in transparent, opaque, and glass-filled grade. It has broad application in custom tools for metal or plastic parts fabrication, medical tools, and temperature-resistant dies.

Mechanical Properties

Tensile modulus	2200 – 2770 MPa
Tensile strength	48 – 81 MPa
Elongation at break	2 – 3.3%
Flexural strength	77 – 144 MPa
Flexural modulus	2.23 – 2.82 GPa
Hardness (Shore D)	140

Thermal Properties

Melting temperature (20°C/min)	340°C
Heat deflection temperature (1.80 MPa)	213°C
Heat deflection temperature (0.45 MPa)	216°C
Softening temperature	214°C

Physical Properties

Density	1.27 g/cm ³
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Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit [Materialdatacenter.com](https://www.materialdatacenter.com) for further information on this material.