

Data Sheet: ULTEM 1010

Details

This material has the highest heat resistance, chemical resistance and tensile strength compared to other FDM thermoplastics. 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.

Key Features

High heat resistance • Resistant to chemicals.

Thermal Properties

Property	Value
Heat deflection [°C]	200
Glass transition temperature [°C]	216
Vicat softening temperature [°C]	215
Coefficient of thermal expansion [K-1 · 10-6]	50
Thermal conductivity [W/m · K]	0.21
Specific heat capacity [J/kg · K]	2000
Melting point [°C]	340

Mechanical Properties

Property	Value
Tensile strength [MPa]	105
Modulus of elasticity [GPa]	3.2
Flexural strength [MPa]	160

Flexural modulus [GPa]	3.3
Hardness	140
Impact strength [KJ/m ²]	5
Elongation at break [%]	60

Physical Properties

Property	Value
Density [g/cm ³]	1.27
Water Absorption [%]	1.3
Electrical Resistivity [ohm-cm]	1×10^{15}

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.