PROTOLABS
Manufacturing. Accelerated.

PEI ULTEM 2300 (30% glass-filled)

ULTEM is an amorphous thermoplastic polyetherimide (PEI) material that combines exceptional mechanical, thermal, and electrical properties. The addition of glass fiber reinforcement provides the material with greater tensile strength and rigidity while improving dimensional stability.

Applications

Common industries include the aircraft and aerospace, electrical, automotive, and medical industries. Typical applications consist of reusable medical devices, analytical instruments, electrical insulators, and semiconductor process components.

Key Product Benefits

- Excellent Strength and Stiffness
- Increased Tensile Strength, Rigidity and Dimensional Stability
- Heat and Flame Resistance
- High Dielectric Strength
- Machinability

Properties

Property	Test Method	Value
Density	ASTM D792	1.51 g/cm3
Modulus of Elasticity	ASTM D638	800,000-900,000 psi
Tensile Strength @ Yield	ASTM D638	17,000-20,000 psi
Elongation @ Break	ASTM D638	3%
Flexural Strength	ASTM D790	27,000-33,000 psi
Flexural Modulus	ASTM D790	850,000-950,000 psi
Compressive Strength @ 10% Strain	ASTM D695	30,700-32,000 psi
Izod Impact Strength	ASTM D256	1-1.1 ft-lb/in
Rockwell Hardness (M Scale)	ASTM D785	110-115
Rockwell Hardness (R Scale)	ASTM D785	127
Heat Deflection Temperature @ 66 psi	ASTM D648	414°F
Heat Deflection Temperature @ 264 psi	ASTM D648	409-410°F

Property (Continued)	Test Method (Continued)	Value (Continued)
Coefficient of Linear Thermal Expansion	ASTM D696/ASTM E831	1.1 x 10-5 in/in/°F
Thermal Conductivity	ASTM D2214	1.56-1.8 BTU-in/hr-ft2-°F
Continuous Service Temperature, Air		340°F
Dielectric Strength, In Air	ASTM D149	770 V/mil
Dissipation Factor @ 1 MHz	ASTM D150	0.0015-0.0020%
Dielectric Constant @ 1MHz	ASTM D150	3.7
Water Absorption @ 24 hours	ASTM D570	0.16-0.2%
Water Absorption @ Saturation	ASTM D570	0.90%
Flammability	UL 94	V-0