



MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

**Material Data Sheet**

Material: Ultem® 30% Glass Reinforced | Polyetherimide (PEI)

ULTEM® is an amorphous thermoplastic polyetherimide (PEI) material which combines exceptional mechanical, thermal, and electrical properties. The addition of glass fiber reinforcement to this basic ULTEM®, coupled with Ensinger's proprietary extrusion technique, provides the ULTEM® with both greater tensile strength and rigidity while at the same time improving dimensional stability. ULTEM® is typically used in medical, electronic/electrical, microwave, automotive, and aircraft applications.

Mechanical Properties	ASTM Test Method	Value	Units
Density	D792		lbs/in <sup>3</sup>
Specific Gravity	D792	1.51	g/cc
Water Absorption @ 24 hours, 73°F	D570	0.19	%
@ Saturation, 73°F	D570		%
Tensile Strength, 73°F	D638	17,500	psi
Tensile Modulus	D639	900,000	psi
Elongation ( at break), 73°F	D638	3	%
Flexural Strength, 73°F	D790	25,000	psi
Flexural Modulus of Elasticity, 73°F	D790	750,000	psi
Compressive Strength	D695	30,700	psi
Izod Impact Strength, 73°F	D256	1.1	ft-lb/in of notch
Rockwell Hardness, 73°F	D785	M - 110	M or R Scale
Shure Hardness			D Scale
Wear Factor Against Steel, 40 psi, 50 fpm	D3702		in. <sup>3</sup> -min/ft.lbs.hr
Static Coefficient of Friction	D3702		
Dynamic Coefficient of Friction, 40 pcs, 50 fpm	D3702		
<b>Thermal Properties</b>			
Heat Deflection Temperature @ 66 psi	D648	414	°F
@ 264 psi	D648	410	°F
Coefficient of Linear Thermal Expansion	D696	1.1 X 10 <sup>-5</sup>	in/in./°F
Continuous Servicing Temperature, Intermittent			°F
Long Term	UL746B		°F
Specific Heat			BTU/lb -°F
Thermal Conductivity		1.56	
Melting Point	D2133		°F
Flammability	UL94	V-0	(mm)
<b>Electrical Properties</b>			
Dielectric Strength, In Oil	D149	630	Volts/mil
In Air		770	
Dielectric Constant, 1 kHz, 50% RH (73°F)	D150	3.7	
Dissipation Factor, 1 kHz, 50% RH (73°F)	D150	0.0015	
Volume Resistivity, 1/16"	D257	3.0 x 10 <sup>16</sup>	ohm-cm

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\*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufactures, converters and other published sources. However, they should not be used for specification or design purposes. The above information is provided by Ensinger-Hyde.