

TECAPEI™ GF30 CAL natural (Ultem® 2300 Series) - Thin Gauge (sheet, coil, strip)

Chemical Designation

PEI (Polyetherimide)

Colour

brown-beige

Density

1.51 g/cm³

Main features

- high thermal and mechanical capacity
- high dielectric strength
- excellent strength and stiffness
- excellent tensile strength
- easy to machine
- inherent flame resistance

Target Industries

- aircraft and aerospace technology
- electrical engineering
- automotive industry
- mechanical engineering

Mechanical properties	condition	value	unit	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	775,000	psi	ASTM D 638	
Tensile strength at break	@ 73 °F	19,000	psi	ASTM D 638	
Elongation at break (tensile test)	@ 73 °F	3	%	ASTM D 638	
Flexural strength	@ 73 °F	28,000	psi	ASTM D 638	
Modulus of elasticity (flexural test)	@ 73 °F	850,000	psi	ASTM D 790	
Compression strength	10% strain	25,500	psi	ASTM D 695	
Compression modulus	@ 73 °F	450,000	psi	ASTM D 695	
Impact strength (Izod)	@ 73 °F	1.1	ft-lbs/in	ASTM D 256	
Rockwell hardness	M Scale	110		ASTM D 785	
Shear strength	@ 73 °F, ASTM D732	14,500	psi	-	
Thermal properties	condition	value	unit	test method	comment
Deflection temperature	@ 66 psi, 1/4"	414	°F	ASTM D 648	1) (1) injection molded data
Deflection temperature	@264 psi, 1/4	409	°F	ASTM D 648	2) (2) Injection molded data
Service temperature	short term	392	°F	-	3) (3) Data obtained from public source
Service temperature	Long Term	356	°F	-	4) (4) Data obtained from public source
Thermal expansion (CLTE)		1.1*10 ⁻⁵	in/in/°F	ASTM D 696	5) (5) Injection molded data
Thermal conductivity		1.56	BTU-in/hr-ft ² -°F	ASTM D 2214	6) (6) injection molded data
Electrical properties	condition	value	unit	test method	comment
volume resistance	1/16	3.0*10 ¹⁶	Ω*cm	ASTM D 257	1) (1) injection molded data
Dielectric strength	In Oil	630	V/mil	ASTM D 149	2) (2) injection molded data
Dielectric strength	In Air	770	V/mil	ASTM D 149	3) (3) injection molded data
Dissipation factor	@ 1kHz, 50% RH, 73°F	0.0015	%	ASTM D 150	4) (4) injection molded data
Dielectric constant	@ 1kHz, 50% RH	3.7		ASTM D 150	5) (5) injection molded data
Other properties	condition	value	unit	test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.16	%	ASTM D 570	1) (1) injection molded data
Moisture absorption	@ saturation, 73 °F	0.90	%	ASTM D 570	2) (2) injection molded data
Flammability (UL94)		V0		-	3) (3) Injection molded data(0.25mm thick)

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at www.ensingerplastics.com.

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