

# TECAPEI™ GF30 Nat (Sabic Ultem®2300 Series) - Stock Shapes (rods, plates, tubes)

## Chemical Designation

PEI (Polyetherimide)

## Colour

brown-beige

## Density

1.51 g/cm<sup>3</sup>

## Fillers

30% glass fibres

## 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	test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	800,000 psi	ASTM D 638	
Tensile strength at break	@ 73 °F	18,000 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	800,000 psi	ASTM D 790	
Compression strength	10% strain	26,000 psi	ASTM D 695	
Compression strength	1% strain	3,700 psi	ASTM D 695	
Compression strength	5% strain	18,000 psi	ASTM D 695	
Compression modulus	@ 73 °F	390,000 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	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 <sup>-5</sup> in/in/°F	ASTM D 696	5) (5) Injection molded data
Thermal conductivity		1.56 BTU-in/hr-ft <sup>2</sup> -°F	ASTM D 2214	6) (6) injection molded data
Electrical properties	condition	value	test method	comment
volume resistance	1/16"	3.0*10 <sup>16</sup> 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	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)
Flammability	6 mm	pass	FAR 25.853	4) (4) 6 mm test specimen

→ Resin specification:  
ASTM D5205-10 PEI0110G30A96299, 159 Mpa, 224 Mpa, 208oC  
Shapes specification:  
ASTM D7293-06 S-PEI0213

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