

TECAPEI IM natural

Chemical Designation

PEI (Polyetherimide)

Colour

amber transparent

Density

1.27 g/cm³

Main features

high dielectric strength
inherent flame resistance
low smoke emissions
easily machinable to tight tolerance
high thermal and mechanical capacity

Target Industries

Aircraft and Aerospace Interiors
automotive industry
electronics
medical technology
semiconductor technology
food engineering

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Modulus of elasticity (tensile test)	5.0 mm/min	3580	MPa	ASTM D 638	
Tensile strength	Type I, 5.0 mm/min	110	MPa	ASTM D 638	
Elongation at yield	Type I, 5.0 mm/min	7.0	%	ASTM D 638	
Elongation at break	Type I, 5.0 mm/min	60	%	ASTM D 638	
Flexural strength	2.6 mm/min 100 mm Span	165	MPa	ASTM D 790	
Modulus of elasticity (flexural test)	2.6 mm/min 100 mm Span	3510	MPa	ASTM D 790	
Notched impact strength (Izod)	@ 23°C	32	J/m	ASTM D 256	
Rockwell hardness	M-Scale	109		ASTM D 785	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Vicat softening point		218	°C	ASTM D 1525	
Deflection temperature	0.45 MPa, Unannealed, 6.40 mm	207	°C	ASTM D 648	
Deflection temperature	1.8 MPa, Unannealed, 6.40 mm	198	°C	ASTM D 648	
Thermal expansion (CLTE)	-20 to 150°C	5.6E-5 cm/cm/°C		ASTM E 831	
Thermal conductivity		0.22 W/m/K		ASTM C 177	
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Volume resistivity		1.0E+17	Ω*cm	ASTM D 257	
Dielectric strength	1.6mm in oil	28	kV/mm	ASTM D 149	
Dielectric strength	1.6mm in air	33	kV/mm	ASTM D 149	
Dissipation factor	2.45 GHz	2.5E-5		ASTM D 150	
Dissipation factor	1 kHz	1.3E-3		ASTM D 150	
Dielectric constant	1 kHz	3.15		ASTM D 150	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Molding shrinkage	Flow (3.2 mm)	0.50 to 0.70	%	-	1) (1) Internal Method (2) UL Ratings shown on the TDS might not cover the full range of thicknesses. For details see the UL Yellow Card.
Moisture absorption	Saturation, 23°C	1.3	%	ASTM D 570	
Moisture absorption	24 hr 23°C	.25	%	ASTM D 570	
Flammability (UL94)	>0.75mm	V-0		-	2) (3) UL Ratings shown on the TDS might not cover the full range of thicknesses. For details see the UL Yellow Card.
Flammability (UL94)	>0.40 mm	V-2		-	3) (4) ASTM D1238
Melt flow index (MFI)	337°C/6.6kg	18	g/10 min	-	4)

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.

Ensinger Precision Components
11 Danco Road
Putnam CT 06260 USA

Phone 860-928-7911
Fax 860-928-2229
Email: info@ensinger-pc.com

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