

QUADRANT EPP PRODUCT DATA SHEET

PEI 1000

May 1999

Polyetherimide (PEI)

An amorphous translucent material with a good combination of mechanical and electrical properties. PEI 1000 can operate continuously up to 170°C, has a high flammability rating and low levels of smoke emission during combustion. PEI 1000 is FDA compliant and has excellent microwave radiation resistance.

- Excellent hydrolysis resistance
- Excellent resistance to high energy radiation
- Good electrical insulating properties
- High mechanical strength / stiffness
- High flammability rating
- Very good dimensional stability
- Physiologically inert and FDA compliant
- Continuous temperature 170°C (max. 200°C)

Common applications: Electrical industry components; Process equipment components; Food processing and medical industry components.

Delivery Programme

Rod 1m long			
Diameter (mm):	5 (Min)		150 (Max)
Rod 3m long			
Diameter (mm):	5 (Min)		60 (Max)
Plate 500mm & 1m long			
Thickness (mm):	10 (Min)		50 (Max)
Width (mm):	625		
Plate 3m long			
Thickness (mm):	10 (Min)		25 (Max)
Width (mm):	625		

Distributor

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Technical Specification

Property	ISO Methods	Units	PEI 1000
Colour	-	-	Amber
Specific gravity	1183	g/cm ³	1.27
Water absorption			
Saturation in air (23°C / 50% RH)	-	%	0.75
Saturation in water (23°C)	-	%	1.35
Tensile strength* ¹	527	N/mm ²	105
Tensile modulus of elasticity* ¹	527	N/mm ²	3400
Elongation at break* ¹	527	%	10
Impact - Charpy* ¹	179/1eU	kJ/m ²	no break
Impact - Charpy notched* ¹	179/1eA	kJ/m ²	3.5
Hardness	Rockwell Shore D	- -	M114 -
Melt Point	-	°C	T _G = 215
Max allowable service temp in air			
for short periods	-	°C	200
continuously for 20000hrs	-	°C	170
Linear thermal expansion coefficient	-	K ⁻¹ x 10 ⁻⁵	4.5
Thermal Conductivity	-	W/(K.m)	0.22
Flammability* ² (3mm thickness)	-	-	V-0
Volume Resistivity* ¹	IEC93	Ohm.cm	10 ¹⁸
Dielectric Strength* ¹	IEC243	kV/mm	27
Outside applications - UV resistance	-	-	A
Acids - Strong (pH < 3)	-	-	A
Alkalis - Strong (pH > 11)	-	-	C
Chlorinated Hydrocarbons	-	-	C
Hot Water	-	-	A

'A' - Acceptable service; 'B' - Limited service; 'C' - Unacceptable.

*¹ Measured on dry test specimens (where applicable)

*² Tests completed by Quadrant EPP, using UL test methods

Not all material sizes shown within the delivery programme section of this data sheet are available as standard. Please contact Quadrant Engineering Plastic Products UK for further details.

The data shown are typical values and are not intended to represent specifications. Their aim is to guide the user toward a material choice.