DATASHEET

DURATRON PEI

Duratron PEI is an amber translucent amorphous thermoplastic material, offering high strength and heat resistance. It performs continuously to 170°C, making it ideal for high strength / high heat applications. And also for applications requiring consistent dielectric properties over a wide frequency and temperature range.

Applications

- Structural Probes
- Manifolds
- Insulators
- Clamps

Availability

- Colour – Brown
- Type – Sheets, Rods & Tubes
- Regularly produced in a wide variety of thicknesses

Typical Properties

General Properties	Method	Unit	Test Result
Physical Properties			
Colour	-	-	Amber
Density	ISO 1183-1	g/cm2	1.27
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.19
- At saturation in water of 23°C	-	%	1.30
Thermal Properties			
Melting Temperature (DSC, 10°C/min)	ISO 11357 – 1/-3	°C	
Glass Transition Temperature (DSC, 10°C/min)	ISO 11357 – 1/-2	°C	215
Thermal Conductivity at 23°C	-	W/(K.m)	0.24
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	50x10 -6
- Average value between 23 and 150°C	-	W/(K.m)	50x10 -6
- Average value above 150°C	-	W/(K.m)	60x10 -6
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	195
Max Allowable Service Temperature in Air:			
- Continuously: for 5,000 to 20,000h	-	°C	170
Minimum Service Temperature	-	°C	-50

Flammability:			
- According to UL94 (3/6mm thickness)	-	-	V-0
Mechanical Properties			
Tension Test:			
- Tensile Strength	ISO 527-1/-2	MPa	129
- Tensile Strain at Yield	ISO 527-1/-2	%	7
- Tensile Strain at Break	ISO 527-1/-2	%	13
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	3500
Flexural Test:			
- Flexural Strength	ISO 178	MPa	167
- Flexural Modulus of Elasticity	ISO 178	MPa	167
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	31 / 61 / 137
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m2	No break
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m2	3.5
Rockwell Hardness	ISO 2039-2	-	115
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.3 – 0.4
Wear Rate	ISO 7148-2(15)	Um/km	1325
Electrical Properties			
Electric Strength	EC 60243-1	kV/mm	27
Volume Resistivity	IEC 60093	Ohm.cm	>10E 14
Surface Resistivity	IEC 60093	Ohm	>10E 13
Relative Permittivity – at 1MHz	IEC 60250	-	3.0
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	0.00