

DATASHEET

DURATRON PI

Duratron PI is made from unfilled polyimide resin and provides maximum physical properties and best electrical and thermal insulation.

Applications

- Pump Components
- Valve Seats
- Bearings
- Rollers
- High Temperature Insulators

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	-	-	Brown
Density	ISO 1183-1	g/cm ²	1.38
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.73
- At saturation in water of 23°C	-	%	4.00
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	365
Thermal Conductivity at 23°C	-	W/(K.m)	0.22
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	40x10 ⁻⁶
- Average value between 23 and 150°C	-	W/(K.m)	42x10 ⁻⁶
- Average value above 150°C	-	W/(K.m)	52x10 ⁻⁶
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	355
Max Allowable Service Temperature in Air:			
- Continuously: for 5,000 to 20,000h	-	°C	240
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	115
- Tensile Strain at Yield	ISO 527-1/-2	%	
- Tensile Strain at Break	ISO 527-1/-2	%	4
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	3700
Flexural Test:			
- Flexural Strength	ISO 178	MPa	185
- Flexural Modulus of Elasticity	ISO 178	MPa	
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	35 / 69 / 145
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m ²	65
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m ²	4.5
Rockwell Hardness	ISO 2039-2	-	
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.3 – 0.5
Wear Rate	ISO 7148-2(15)	Um/km	12
Electrical Properties			
Electric Strength	EC 60243-1	kV/mm	28
Volume Resistivity	IEC 60093	Ohm.cm	>10E 14
Surface Resistivity	IEC 60093	Ohm	>10E 13
Relative Permittivity – at 1MHz	IEC 60250	-	3.20
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	0.005