

DATASHEET

DURATRON T4203 PAI

Duratron T4203 PAI polyamide-imide offers the most superior impact strength of all Duratron PAI grades, while also possessing the highest elongation of all Duratron grades. Due to its intrinsic high temperature resistance, dimensional stability, and exceptional machinability, Duratron T4203 PAI is often used for precision parts in high-tech equipment. Its ability to carry high loads over a broad temperature range also makes it ideal for structural components such as linkages and seal rings, and an excellent choice for wear applications involving impact loading and abrasive wear.

Applications

- High Temperature Electrical Connectors
- Bearing Cages
- Can Mandrel
- Chip Nests & Sockets

Availability

- Colour – Yellowish 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	1.41
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.35
- At saturation in water of 23°C	-	%	4.4
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	280
Thermal Conductivity at 23°C	-	W/(K.m)	0.26
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	40
- Average value between 23 and 150°C	-	W/(K.m)	40
- Average value above 150°C	-	W/(K.m)	50
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	280
Max Allowable Service Temperature in Air:			
- Continuously: for 5,000 to 20,000h	-	°C	250

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	150
- Tensile Strain at Yield	ISO 527-1/-2	%	9
- Tensile Strain at Break	ISO 527-1/-2	%	20
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	4200
Flexural Test:			
- Flexural Strength	ISO 178	MPa	178
- Flexural Modulus of Elasticity	ISO 178	MPa	-
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	34/67/135
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m ²	No break
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m ²	15
Rockwell Hardness	ISO 2039-2	-	-
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.35-0.6
Wear Rate	ISO 7148-2(15)	Um/km	5
Electrical Properties			
Electric Strength	EC 60243-1	kV/mm	24
Volume Resistivity	IEC 60093	Ohm.cm	10E 13
Surface Resistivity	IEC 60093	Ohm	10E 15
Relative Permittivity – at 1MHz	IEC 60250	-	3.9
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	0.031