

DATASHEET

DURATRON T4301 PAI

The addition of PTFE and graphite provides higher wear resistance and lower coefficient of friction compared to the unfilled Duratron T4203 grade as well as a lower tendency to stick-slip. Duratron T4301 PAI offers excellent dimensional stability over a wide temperature range. It excels in severe wear applications such as non-lubricated bearings, seals, bearing cages and reciprocating compressor parts.

Applications

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

Availability

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

Typical Properties

General Properties	Method	Unit	Test Result
Physical Properties			
Colour	-	-	Natural/Black
Density	ISO 1183-1	g/cm ²	1.45
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.30
- At saturation in water of 23°C	-	%	3.8
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)	0.54
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	35x10 ⁻⁶
- Average value between 23 and 150°C	-	W/(K.m)	35x10 ⁻⁶
- Average value above 150°C	-	W/(K.m)	40x10 ⁻⁶
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	-20

Flammability:			
- According to UL94 (3/6mm thickness)	-	-	V-0
Mechanical Properties			
Tension Test:			
- Tensile Strength	ISO 527-1/-2	MPa	110
- Tensile Strain at Yield	ISO 527-1/-2	%	-
- Tensile Strain at Break	ISO 527-1/-2	%	5
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	5500
Flexural Test:			
- Flexural Strength	ISO 178	MPa	155
- Flexural Modulus of Elasticity	ISO 178	MPa	155
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	39 / 72 / 130
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m ²	45
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m ²	4
Rockwell Hardness	ISO 2039-2	-	-
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.25 – 0.4
Wear Rate	ISO 7148-2(15)	Um/km	1
Electrical Properties			
Electric Strength	EC 60243-1	kV/mm	-
Volume Resistivity	IEC 60093	Ohm.cm	> 10E 13
Surface Resistivity	IEC 60093	Ohm	> 10E 13
Relative Permittivity – at 1MHz	IEC 60250	-	5.40
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	0.042