

DATASHEET

FLUOROSINT 500

Reinforced with a proprietary synthetic mica, this material exhibits, in addition to its inherent outstanding chemical and hydrolysis resistance, very good mechanical and tribological properties. Fluorosint 500 has 9 times greater resistance to deformation under load than unfilled PTFE. Its coefficient of linear thermal expansion approaches the expansion rate of aluminium and is ¼ that of virgin PTFE, often eliminating fit and clearance problems. It is considerably harder than virgin PTFE, has better wear characteristics and maintains low frictional properties. Fluorosint 500 enhanced PTFE offers an ideal combination of stability and wear resistance for sealing applications where tight dimensional control is required.

Applications

- Labyrinth Seals & Shrouds
- Transmission & Power Steering Seal Rings

Availability

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

Typical Properties

General Properties	Method	Unit	Test Result
Physical Properties			
Colour	-	-	Mottled Tan
Density	ISO 1183-1	g/cm ²	2.32
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	
- At saturation in water of 23°C	-	%	1.5 – 2.5
Thermal Properties			
Melting Temperature (DSC, 10°C/min)	ISO 11357 – 1/-3	°C	327
Glass Transition Temperature (DSC, 10°C/min)	ISO 11357 – 1/-2	°C	
Thermal Conductivity at 23°C	-	W/(K.m)	0.77
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)	55x10 ⁻⁶
- Average value above 150°C	-	W/(K.m)	85x10 ⁻⁶
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	130
Max Allowable Service Temperature in Air:			

- Continuously: for 5,000 to 20,000h	-	°C	260
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	7
- Tensile Strain at Yield	ISO 527-1/-2	%	5
- Tensile Strain at Break	ISO 527-1/-2	%	15
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	1750
Flexural Test:			
- Flexural Strength	ISO 178	MPa	13
- Flexural Modulus of Elasticity	ISO 178	MPa	
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	12/19/25
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m ²	8
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m ²	4.5
Rockwell Hardness	ISO 2039-2	-	55
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.2-0.3
Wear Rate	ISO 7148-2(15)	Um/km	12
Electrical Properties			
Electric Strength	EC 60243-1	kV/mm	11
Volume Resistivity	IEC 60093	Ohm.cm	>10E 13
Surface Resistivity	IEC 60093	Ohm	>10E 13
Relative Permittivity – at 1MHz	IEC 60250	-	2.85
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	0.008