

DATASHEET

OIL FILLED NYLON

This internally lubricated cast nylon 6 is self-lubricating in the real meaning of the word. Oil filled nylon, especially developed for unlubricated, highly loaded and slow-moving parts applications, yields a considerable enlargement of the application opportunities compared to standard cast nylons. It offers reduced coefficient of friction, considerably increasing the pressure-velocity capabilities, and a vastly improved wear resistance.

Applications

- Sleeve & Slide Bearings
- Wear Pads
- Support & Guide Wheel
- Conveyor Rollers & Tension Rollers
- Pulleys & Pulley Linings
- Buffer Blocks

Availability

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

Typical Properties

General Properties	Method	Unit	Test Result
Physical Properties			
Colour	-	-	Green
Density	ISO 1183-1	g/cm ²	1.135
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.66
- At saturation in water of 23°C	-	%	6.3
Thermal Properties			
Melting Temperature (DSC, 10°C/min)	ISO 11357 – 1/-3	°C	215
Glass Transition Temperature (DSC, 10°C/min)	ISO 11357 – 1/-2	°C	-
Thermal Conductivity at 23°C	-	W/(K.m)	0.28
Coefficient of Linear Thermal Expansion:			
- Average value between 23 and 100°C	-	W/(K.m)	80x10 ⁻⁶
- Average value between 23 and 150°C	-	W/(K.m)	90x10 ⁻⁶
- Average value above 150°C	-	W/(K.m)	-
Temperature of Deflection Under Load:			
- Method A: 1.8 MPa	ISO 75-1/-2	°C	75
Max Allowable Service Temperature in Air:			

- Continuously: for 5,000 to 20,000h	-	°C	90
Minimum Service Temperature	-	°C	-20
Flammability:			
- According to UL94 (3/6mm thickness)	-	-	HB
Mechanical Properties			
Tension Test:			
- Tensile Strength	ISO 527-1/-2	MPa	73
- Tensile Strain at Yield	ISO 527-1/-2	%	5
- Tensile Strain at Break	ISO 527-1/-2	%	25
- Tensile Modulus of Elasticity	ISO 527-1/-2	MPa	3000
Flexural Test:			
- Flexural Strength	ISO 178	MPa	107
- Flexural Modulus of Elasticity	ISO 178	MPa	3000
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	31/58/85
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m ²	50
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m ²	4
Rockwell Hardness	ISO 2039-2	-	82
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.2-0.35
Wear Rate	ISO 7148-2(15)	Um/km	4.5
Electrical Properties			
Electric Strength	EC 60243-1	kV/mm	22
Volume Resistivity	IEC 60093	Ohm.cm	>10E 14
Surface Resistivity	IEC 60093	Ohm	>10E 13
Relative Permittivity – at 1MHz	IEC 60250	-	3.10
Dielectric Dissipation Factor – at 1 MHz	IEC 60250	-	0.016