

DATASHEET

NYLON 6 PLA

Unmodified nylon 6 grade exhibiting characteristics which come very close to those of Nylon 66 SA. It combines high strength, stiffness, and hardness with good creep and wear resistance, heat aging properties and machinability.

Applications

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

Availability

- Colour – Natural & Black
- 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	1.15
Water Absorption:			
- After 24h immersion in water of 23°C	ISO 62	mg	0.65
- At saturation in water of 23°C	-	%	6.5
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)	0.29
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	80
Max Allowable Service Temperature in Air:			
- Continuously: for 5,000 to 20,000h	-	°C	90
Minimum Service Temperature	-	°C	-30

Flammability:			
- According to UL94 (3/6mm thickness)	-	-	HB
Mechanical Properties			
Tension Test:			
- Tensile Strength	ISO 527-1/-2	MPa	88
- 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	3600
Flexural Test:			
- Flexural Strength	ISO 178	MPa	121
- Flexural Modulus of Elasticity	ISO 178	MPa	3280
Compression Test:			
- Compressive Stress @ 1/2/5% Nominal Strain	ISO 604	MPa	34/64/93
Charpy Impact Strength - Unnotched	ISO 179-1-1eU	kJ/m ²	No break
Charpy Impact Strength - Notched	ISO 179-1-1eU	kJ/m ²	3
Rockwell Hardness	ISO 2039-2	-	88
Dynamic Coefficient of Friction	ISO 7148-2(15)	-	0.4-0.6
Wear Rate	ISO 7148-2(15)	Um/km	12
Electrical Properties			
Electric Strength	EC 60243-1	kV/mm	25
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	-	0.016