Nilit Polynil® P50FI Internally Lubricated Nylon 66

Categories: Polymer; Thermoplastic; Nylon; Nylon 66; Nylon 66, Unreinforced

Material Notes:

Description: Polynil P50 FI is an internally lubricated NYLON 66 with excellent flow characteristics and high elongation. It is widely used throughout many industries for applications that have long, thin flow lengths, like cable ties, connectors or industrial components.

Key characteristics:

- Excellent flow
- High elongation
- Good mould release
- High toughness
- Good thermal performance
- UL 94 V2 listed at 0.75 mm

Information provided by NILIT.

Vendors: No vendors are listed for this material. Please click here if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in³	ASTM D792
Water Absorption	1.5 %	1.5 %	24h in H_2O; sim. ISO 62
Water Absorption at Saturation	8.5 %	8.5 %	sim. ISO 62
Loss On Ignition	28 %	28 %	ASTM D2863
Viscosity Measurement	50	50	relative viscosity (formic acid); ASTM D789
Linear Mold Shrinkage, Flow	0.013 cm/cm	0.013 in/in	Nilit

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	81.01 MPa	11750 psi	ASTM D638
Elongation at Break	49 %	49 %	ASTM D638
Elongation at Yield	6.0 %	6.0 %	ASTM D638
Tensile Modulus	2.83 GPa	410 ksi	ASTM D638
Flexural Strength	122 MPa	17700 psi	ASTM D790
	30.0 MPa @Temperature 90.0 °C	4350 psi @Temperature 194 °F	ASTM D790
Flexural Modulus	2.85 GPa	413 ksi	ASTM D790
	0.800 GPa @Temperature 90.0 °C	116 ksi @Temperature 194 °F	ASTM D790
Izod Impact, Notched (ISO)	5.46 kJ/m²	2.60 ft-lb/in²	ASTM D256
	4.41 kJ/m² @Temperature -30.0 °C	2.10 ft-lb/in² @Temperature -22.0 °F	ASTM D256
Charpy Impact Unnotched	NB	NB	ISO 179
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179
Charpy Impact, Notched	0.600 J/cm²	2.86 ft-lb/in²	ISO 179
	0.400 J/cm² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	ISO 179

Electrical Properties	Metric	English	Comments
Dielectric Strength	18.0 kV/mm @Thickness 2.00 mm	457 kV/in @Thickness 0.0787 in	ASTM D149
Comparative Tracking Index	>= 600 V	>= 600 V	UL 746

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	225 °C	437 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	85.0 °C	185 °F	ASTM D648
Vicat Softening Point	240 °C	464 °F	49 N; ASTM D1525
	255 °C	491 °F	9.8 N; ASTM D1525
Flammability, UL94	V-2 @Thickness 0.800 mm	V-2 @Thickness 0.0315 in	
	V-2 @Thickness 1.60 mm	V-2 @Thickness 0.0630 in	

Descriptive Properties		
Heat Resistance - Ball Test	OK	at 125°C, IEC 309
	OK	at 165°C, IEC 309

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your

calculations to minimize rounding error. We also ask that you refer to MatWeb's terms of use regarding this information. Click here to view all the property values for this datasheet as they were originally entered into MatWeb.