

Murtfeldt Murinit® SP Polyphenylene Sulfide

Category : Polymer , Thermoplastic , Polyphenylene Sulfide (PPS)

Material Notes:

Thanks to the low fiber content and integrated solid lubricant, Murinit® SP offers an excellent combination of good slide and wear behavior, high strength, and dimensional stability – even at high temperatures. Special Properties: • High wear resistance • Good slide properties • Good resistance to chemicals and hydrolysis • Excellent creep and compressive strength • Good electrical isolation properties • Low thermal expansion coefficient • Approved for use in the food industry (EU and/or FDA) Information provided by Murtfeldt Kunststoffe GmbH & Co. KG.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Murtfeldt-Murinit-SP-Polyphenylene-Sulfide.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.050 % @Temperature 23.0 °C	0.050 % @Temperature 73.4 °F	50% RH
Water Absorption at Saturation	0.20 % @Temperature 23.0 °C	0.20 % @Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	82	82	ISO 2039-2
Ball Indentation Hardness	160 MPa	23200 psi	ISO 2039-1
Tensile Strength at Break	78.0 MPa	11300 psi	ISO 527-1/-2
Elongation at Break	3.5 %	3.5 %	ISO 527-1/-2
Modulus of Elasticity	4.00 GPa	580 ksi	
Compressive Yield Strength	33.0 MPa @Strain 1.00 %	4790 psi @Strain 1.00 %	dry; ISO 604
	65.0 MPa @Strain 2.00 %	9430 psi @Strain 2.00 %	dry; ISO 604
Charpy Impact Unnotched	2.50 J/cm ²	11.9 ft-lb/in ²	ISO 179-1/1eU
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.20	0.20	
Sand Slurry	0.10	0.10	µm/km

Thermal Properties	Metric	English	Comments
CTE, linear	50.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	27.8 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 23.0 - 60.0 $^{\circ}\text{C}$	@Temperature 73.4 - 140 $^{\circ}\text{F}$	
	60.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 23.0 - 100 $^{\circ}\text{C}$	@Temperature 73.4 - 212 $^{\circ}\text{F}$	
	100 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	55.6 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 150 $^{\circ}\text{C}$	@Temperature 302 $^{\circ}\text{F}$	
Melting Point	280 $^{\circ}\text{C}$	536 $^{\circ}\text{F}$	ISO 11357-1
Maximum Service Temperature, Air	200 $^{\circ}\text{C}$	392 $^{\circ}\text{F}$	
	@Time 1.80e+7 sec	@Time 5000 hour	
	260 $^{\circ}\text{C}$	500 $^{\circ}\text{F}$	
	@Time <=86400 sec	@Time <=24.0 hour	
Minimum Service Temperature, Air	-20.0 $^{\circ}\text{C}$	-4.00 $^{\circ}\text{F}$	
Glass Transition Temp, Tg	100 $^{\circ}\text{C}$	212 $^{\circ}\text{F}$	ISO 11357-1
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	$\geq 1.00\text{e}+14$ ohm-cm	$\geq 1.00\text{e}+14$ ohm-cm	IEC 60093
Surface Resistance	$\geq 1.00\text{e}+13$ ohm	$\geq 1.00\text{e}+13$ ohm	IEC 60093
Dielectric Constant	3.3	3.3	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	3.3	3.3	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	24.0 kV/mm	610 kV/in	IEC 60243-1
Dielectric Loss Index	0.0030	0.0030	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0030	0.0030	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Compliance Properties	Metric	English	Comments
European Food 1935/2004	Yes	Yes	
FDA	Yes	Yes	

Descriptive Properties	Value	Comments
Color	Dark Blue	

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