

Murtfeldt Original Material "S"® plus + LF Polyethylene, Low Friction

Category : Polymer , Thermoplastic , Polyethylene (PE) , HDPE , High Density Polyethylene (HDPE), UHMW PE Ultra High Molecular Weight

Material Notes:

This material has half the sliding friction coefficient of the Original Material "S"®. This enables an increased machine running speed at the same time as less abrasion and thus a lower maintenance requirement. Special Properties: • Constantly low sliding friction coefficient during operation • Energy saving of up to 50% • No stick/slip effect • Self-lubricating • Excellent acoustic insulation • No water absorption • Approved for use in the food industry (EU and FDA) Information provided by Murtfeldt Kunststoffe GmbH & Co. KG.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Murtfeldt-Original-Material-S-plus-LF-Polyethylene-Low-Friction.php

Physical Properties	Metric	English	Comments
Density	<= 0.930 g/cc	<= 0.0336 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	<= 0.010 %	<= 0.010 %	ISO 62
Water Absorption at Saturation	<= 0.010 %	<= 0.010 %	ISO 62
Molecular Weight	9.00e+6 g/mol	9.00e+6 g/mol	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	60	60	DIN 53505
Ball Indentation Hardness	38.0 MPa	5510 psi	
Tensile Strength at Break	25.0 MPa	3630 psi	ISO 527
Tensile Strength	20.0 MPa	2900 psi	ISO 527
Tensile Strength, Yield	>= 20.0 MPa	>= 2900 psi	ISO 527
Elongation at Break	275 %	275 %	ISO 527
Modulus of Elasticity	0.700 GPa	102 ksi	
Compressive Yield Strength	4.50 MPa	653 psi	ISO 604
	@Strain 1.00 %	@Strain 1.00 %	
	8.00 MPa	1160 psi	
	@Strain 2.00 %	@Strain 2.00 %	ISO 604
	14.0 MPa	2030 psi	ISO 604
@Strain 5.00 %	@Strain 5.00 %		
Charpy Impact, Notched	>= 12.0 J/cm ²	>= 57.1 ft-lb/in ²	ISO 179
Coefficient of Friction, Dynamic	0.060 - 0.10	0.060 - 0.10	

Mechanical Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	200 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	111 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 23.0 - 60.0 $^{\circ}\text{C}$	@Temperature 73.4 - 140 $^{\circ}\text{F}$	
Thermal Conductivity	0.400 W/m-K	2.78 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ISO 52612
Melting Point	130 - 135 $^{\circ}\text{C}$	266 - 275 $^{\circ}\text{F}$	ISO 3146
Maximum Service Temperature, Air	90.0 $^{\circ}\text{C}$	194 $^{\circ}\text{F}$	Short Term
	80.0 $^{\circ}\text{C}$	176 $^{\circ}\text{F}$	
	@Time 1.80e+7 sec	@Time 5000 hour	
Minimum Service Temperature, Air	-200 $^{\circ}\text{C}$	-328 $^{\circ}\text{F}$	
Glass Transition Temp, Tg	-120 $^{\circ}\text{C}$	-184 $^{\circ}\text{F}$	
Flammability, UL94	HB	HB	

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	2.1	2.1	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	3.0	3.0	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	≤ 45.0 kV/mm	≤ 1140 kV/in	IEC 60243
Dielectric Loss Index	0.00039	0.00039	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	

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

Descriptive Properties	Value	Comments
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Color Descriptive Properties	Cobalt Blue Value	Comments
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