

Schwartz Technical Plastics LAMIGAMIDÂ® 700 Ultra High Molecular Weight Polyethylene

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

Material Notes:

Application: wear liners, sliding plates
Information provided by Schwartz Technical Plastics GmbH

Order this product through the following link:

http://www.lookpolymers.com/polymer_Schwartz-Technical-Plastics-LAMIGAMID-700-Ultra-High-Molecular-Weight-Polyethylene.php

Physical Properties	Metric	English	Comments
Density	0.950 g/cc	0.0343 lb/inÂ³	ISO R 1183
Moisture Absorption at Equilibrium	0.00 %	0.00 %	DIN 53473
Water Absorption at Saturation	>= 0.10 % @Temperature 20.0 Â°C	>= 0.10 % @Temperature 68.0 Â°F	ISO R 62

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	57.0 MPa	8270 psi	Hc 30; ISO 2039; partially
Tensile Strength, Yield	39.0 MPa	5660 psi	ISO-DIS 527
Creep Strength	3.20 MPa	464 psi	1% elongation, 1000 h; DIN 53444
	5.00 MPa	725 psi	2% elongation, 1000 h; DIN 53444
Tensile Modulus	1.10 GPa	160 ksi	DIN 53457
Flexural Strength	40.0 MPa	5800 psi	DIN 54352
Flexural Modulus	0.790 GPa	115 ksi	DIN 53457
Compressive Strength	16.0 MPa	2320 psi	5% pressing; EN ISO 604
	25.0 MPa	3630 psi	10% pressing; EN ISO 604
	32.0 MPa	4640 psi	20% pressing; EN ISO 604
Izod Impact, Notched (ISO)	NB	NB	DIN 53453
Izod Impact Resistance	NB	NB	swinging hammer 0,1 DIN 51222; DIN 53453
Coefficient of Friction	0.020 - 0.080	0.020 - 0.080	With lubrication
Coefficient of Friction, Dynamic	0.29	0.29	no lube; Steel 2162, Rvst=2E-6m, p=0.05 Mpa, v=0.6 m/s, t=40Â°C
Tear Strength Test	4.5	4.5	ISO-DIS 527

Mechanical Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	200 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	111 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	DIN 53752
	@Temperature 20.0 - 100 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 212 $\text{Å}^\circ\text{F}$	
Specific Heat Capacity	2.30 J/g- $\text{Å}^\circ\text{C}$	0.550 BTU/lb- $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.330 W/m-K	2.29 BTU-in/hr-ft Å^2 - $\text{Å}^\circ\text{F}$	DIN 52612
Melting Point	136 $\text{Å}^\circ\text{C}$	277 $\text{Å}^\circ\text{F}$	ISO R 1218
Maximum Service Temperature, Air	80.0 $\text{Å}^\circ\text{C}$	176 $\text{Å}^\circ\text{F}$	Continuous
	120 $\text{Å}^\circ\text{C}$	248 $\text{Å}^\circ\text{F}$	Intermittent
Minimum Service Temperature, Air	-100 $\text{Å}^\circ\text{C}$	-148 $\text{Å}^\circ\text{F}$	Continuous

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 ohm-cm	1.00e+17 ohm-cm	DIN 53482
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	DIN 53482
Dielectric Constant	2.3	2.3	DIN 53483
Dielectric Strength	100 kV/mm	2540 kV/in	DIN 53481
Dielectric Loss Index	0.00010	0.00010	DIN 53483

Descriptive Properties	Value	Comments
Creepage/leakage Resistance	KA3c	DIN 53480

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