

Murfieldt Murylat® Polyethylene Terephthalate

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET) , Polyethylene Terephthalate (PET), Unreinforced

Material Notes:

Thanks to its extremely low absorption of moisture and low expansion coefficient, Murylat® is ideally suited for the processing of precision parts. Murylat® has an extremely high hardness grade and can withstand extreme static stresses exceptionally well. Special Properties: • High creep strength – even at high temperatures • Very good dimensional stability • Low moisture absorption • Approved for use in the food industry (EU and FDA) (Natural) • Extremely good electric isolation properties Information provided by Murfieldt Kunststoffe GmbH & Co. KG.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Murfieldt-Murylat-Polyethylene-Terephthalate.php

Physical Properties	Metric	English	Comments
Density	1.39 g/cc	0.0502 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.25 %	0.25 %	50% RH
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Water Absorption at Saturation	0.50 %	0.50 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	96	96	ISO 2039-2
Hardness, Shore D	81	81	DIN 53505
Ball Indentation Hardness	170 MPa	24700 psi	ISO 2039-1
Tensile Strength, Yield	90.0 MPa	13100 psi	dry; ISO 527-1/-2
	90.0 MPa	13100 psi	50% RH; ISO 527-1/-2
Elongation at Break	15 %	15 %	dry; ISO 527-1/-2
	15 %	15 %	50% RH; ISO 527-1/-2
Creep Strength	26.0 MPa	3770 psi	stress leading to 1% elongation; dry; ISO 899-1
	26.0 MPa	3770 psi	stress leading to 1% elongation; 50% RH; ISO 899-1
Modulus of Elasticity	3.50 GPa	508 ksi	dry
	3.50 GPa	508 ksi	50% RH
Compressive Yield Strength	26.0 MPa	3770 psi	dry; ISO 604

Mechanical Properties	@Strain 1.00 % Metric	@Strain 1.00 % English	Comments
	51.0 MPa	7400 psi	dry; ISO 604
	@Strain 2.00 %	@Strain 2.00 %	
	103 MPa	14900 psi	dry; ISO 604
	@Strain 5.00 %	@Strain 5.00 %	
Charpy Impact Unnotched	5.00 J/cm ²	23.8 ft-lb/in ²	ISO 179-1/1eU
	>= 5.00 J/cm ²	>= 23.8 ft-lb/in ²	ISO 179
Charpy Impact, Notched	0.200 J/cm ²	0.952 ft-lb/in ²	ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.30	0.30	

Thermal Properties	Metric	English	Comments
CTE, linear	60.0 µm/m-°C	33.3 µin/in-°F	
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
	80.0 µm/m-°C	44.4 µin/in-°F	
	@Temperature 23.0 - 100 °C	@Temperature 73.4 - 212 °F	
Melting Point	245 °C	473 °F	ISO 11357-1
Maximum Service Temperature, Air	100 °C	212 °F	
	@Time 7.20e+7 sec	@Time 20000 hour	
	115 °C	239 °F	
	@Time 1.80e+7 sec	@Time 5000 hour	
	160 °C	320 °F	
	@Time <=86400 sec	@Time <=24.0 hour	
Minimum Service Temperature, Air	-20.0 °C	-4.00 °F	
Glass Transition Temp, Tg	70.0 °C	158 °F	ISO 11357-1
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	dry; IEC 60093
	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	50% RH; IEC 60093
Surface Resistance	>= 1.00e+13 ohm	>= 1.00e+13 ohm	dry; IEC 60093

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.2	3.2	dry; IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.2	3.2	50% RH; IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	3.4	3.4	dry; IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	3.4	3.4	50% RH; IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Loss Index	22.0 kV/mm	559 kV/in	dry; IEC 60243-1
	22.0 kV/mm	559 kV/in	50% RH; IEC 60243-1
Dielectric Loss Index	0.0010	0.0010	dry; IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0010	0.0010	50% RH; IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Loss Index	0.014	0.014	dry; IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.014	0.014	50% RH; 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	Natural/Black	

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