

Murfieldt Murytal® H Acetal Homopolymer

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Homopolymer, Unreinforced

Material Notes:

In addition to the excellent properties of Murytal® C, Murytal® H is stronger and more rigid with a lower expansion coefficient. Special Properties: • High rigidity • Excellent ability to regain its form • Extremely good electric isolation properties • Practically no moisture absorption • Good resistance to chemicals (pH 4 – 9) • Approved for use in the food industry (EU and FDA) • Extremely good machinability Information provided by Murfieldt Kunststoffe GmbH & Co. KG.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Murfieldt-Murytal-H-Acetal-Homopolymer.php

Physical Properties	Metric	English	Comments
Density	1.43 g/cc	0.0517 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	0.20 % @Temperature 23.0 °C	0.20 % @Temperature 73.4 °F	50% RH
Water Absorption at Saturation	0.80 % @Temperature 23.0 °C	0.80 % @Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	dry; ISO 2039-2
Hardness, Shore D	83	83	DIN 53505
Ball Indentation Hardness	160 MPa	23200 psi	dry; ISO 2039-1
Tensile Strength, Yield	78.0 MPa	11300 psi	dry; ISO 527-1
	78.0 MPa	11300 psi	50% RH; ISO 527-1
Elongation at Break	50 %	50 %	dry; ISO 527-1
	50 %	50 %	50% RH; ISO 527-1
Creep Strength	15.0 MPa @Time 3.60e+6 sec	2180 psi @Time 1000 hour	stress leading to 1% elongation; dry; ISO 899-1
	15.0 MPa @Time 3.60e+6 sec	2180 psi @Time 1000 hour	stress leading to 1% elongation; 50% RH; ISO 899-1
Modulus of Elasticity	3.30 GPa	479 ksi	dry
	3.30 GPa	479 ksi	50% RH
	22.0 MPa	3190 psi	

Compressive Yield Strength Mechanical Properties	Metric @Strain 1.00 %	English @Strain 1.00 %	dry; ISO 604 Comments
	40.0 MPa @Strain 2.00 %	5800 psi @Strain 2.00 %	dry; ISO 604
	75.0 MPa @Strain 5.00 %	10900 psi @Strain 5.00 %	dry; ISO 604
Charpy Impact Unnotched	20.0 J/cm ²	95.2 ft-lb/in ²	dry; ISO 179-1/1eU
	>= 20.0 J/cm ²	>= 95.2 ft-lb/in ²	ISO 179
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	dry; ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.34	0.34	

Thermal Properties	Metric	English	Comments
CTE, linear	95.0 µm/m-°C @Temperature 23.0 - 60.0 °C	52.8 µin/in-°F @Temperature 73.4 - 140 °F	
	110 µm/m-°C @Temperature 23.0 - 100 °C	61.1 µin/in-°F @Temperature 73.4 - 212 °F	
Thermal Conductivity	0.310 W/m-K	2.15 BTU-in/hr-ft ² -°F	
Melting Point	180 °C	356 °F	ISO 11357-1
Maximum Service Temperature, Air	90.0 °C @Time 7.20e+7 sec	194 °F @Time 20000 hour	
	105 °C @Time 1.80e+7 sec	221 °F @Time 5000 hour	
	150 °C @Time <=86400 sec	302 °F @Time <=24.0 hour	
Minimum Service Temperature, Air	-50.0 °C	-58.0 °F	
Glass Transition Temp, Tg	-50.0 °C	-58.0 °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

Electrical Properties	$\geq 1.00e+14$ ohm-cm Metric	$\geq 1.00e+14$ ohm-cm English	50% RH; IEC 60093 Comments
Surface Resistance	$\geq 1.00e+13$ ohm	$\geq 1.00e+13$ ohm	dry; IEC 60093
	$\geq 1.00e+13$ ohm	$\geq 1.00e+13$ ohm	50% RH; IEC 60093
Dielectric Constant	3.8	3.8	dry; IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	3.8	3.8	50% RH; IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	3.8	3.8	dry; IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.8	3.8	50% RH; IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	20.0 kV/mm	508 kV/in	dry; IEC 60243-1
	20.0 kV/mm	508 kV/in	50% RH; IEC 60243-1
Dielectric Loss Index	0.0030	0.0030	dry; IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0030	0.0030	50% RH; IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0080	0.0080	dry; IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0080	0.0080	50% RH; IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Compliance Properties	Metric	English	Comments
FDA	Yes	Yes	

Descriptive Properties	Value	Comments
Color	Natural/Black	

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