

Murtfeldt Murytal® C Acetal Copolymer

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

Material Notes:

Thanks to their extremely low absorption of moisture, Murytal® materials are ideally suited for use as electronic isolation components. A fine crystalline structure and high yield strength mean that Murytal® C has a high ability to regain its original form. 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 – 13) • Approved for use in the food industry (EU and FDA) • Extremely good machinability • Hydrolysis resistant to 80°C Information provided by Murtfeldt Kunststoffe GmbH & Co. KG.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Murtfeldt-Murytal-C-Acetal-Copolymer.php

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 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	84	84	dry; ISO 2039-2
Hardness, Shore D	81	81	DIN 53505
Ball Indentation Hardness	140 MPa	20300 psi	dry; ISO 2039-1
Tensile Strength, Yield	66.0 MPa	9570 psi	dry; ISO 527-1
	66.0 MPa	9570 psi	50% RH; ISO 527-1
Elongation at Break	50 %	50 %	dry; ISO 527-1
	50 %	50 %	50% RH; ISO 527-1
Creep Strength	13.0 MPa @Time 3.60e+6 sec	1890 psi @Time 1000 hour	stress leading to 1% elongation; dry; ISO 899-1
	13.0 MPa @Time 3.60e+6 sec	1890 psi @Time 1000 hour	stress leading to 1% elongation; 50% RH; ISO 899-1
Modulus of Elasticity	2.80 GPa	406 ksi	dry
	2.80 GPa	406 ksi	50% RH

Mechanical Properties	Metric	English	Comments
Tensile Strength	@Strain 1.00 %	@Strain 1.00 %	
	35.0 MPa	5080 psi	dry; ISO 604
Tensile Strength	@Strain 2.00 %	@Strain 2.00 %	
	67.0 MPa	9720 psi	dry; ISO 604
Tensile Strength	@Strain 5.00 %	@Strain 5.00 %	
	15.0 J/cm ²	71.4 ft-lb/in ²	dry; ISO 179-1/1eU
Charpy Impact Unnotched	>= 15.0 J/cm ²	>= 71.4 ft-lb/in ²	ISO 179
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	dry; ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.30	0.30	
Sand Slurry	8.9	8.9	µm/km

Thermal Properties	Metric	English	Comments
CTE, linear	110 µm/m-°C	61.1 µin/in-°F	
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
CTE, linear	125 µm/m-°C	69.4 µin/in-°F	
	@Temperature 23.0 - 100 °C	@Temperature 73.4 - 212 °F	
Thermal Conductivity	0.310 W/m-K	2.15 BTU-in/hr-ft ² -°F	
Melting Point	165 °C	329 °F	ISO 11357-1
Maximum Service Temperature, Air	100 °C	212 °F	
	@Time 7.20e+7 sec	@Time 20000 hour	
Maximum Service Temperature, Air	115 °C	239 °F	
	@Time 1.80e+7 sec	@Time 5000 hour	
Maximum Service Temperature, Air	140 °C	284 °F	
	@Time <=86400 sec	@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
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Electrical Properties	Metric	English	Comments
	$\geq 1.00 \times 10^{14}$ ohm-cm	$\geq 1.00 \times 10^{14}$ ohm-cm	50% RH; IEC 60093
Surface Resistance	$\geq 1.00 \times 10^{13}$ ohm	$\geq 1.00 \times 10^{13}$ ohm	dry; IEC 60093
	$\geq 1.00 \times 10^{13}$ ohm	$\geq 1.00 \times 10^{13}$ 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
European Food 1935/2004	Yes	Yes	
FDA	Yes	Yes	

Descriptive Properties	Value	Comments
Color	Natural/Black	

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