

Murtfeldt Murylon® 6 Cast Nylon 6

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Cast

Material Notes:

Murylon® 6 CAST has extremely low levels of residual stress thanks to the casting procedure used to produce it. This material is therefore ideally suited to extensively processed components. Special Properties:• Good impact resistance• Low cold flow characteristics• Optimized wear properties• Low residual stress• Flexible production of large-volume products possible• Good fatigue strength
Information provided by Murtfeldt Kunststoffe GmbH & Co. KG.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Murtfeldt-Murylon-6-Cast-Nylon-6.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in ³	ISO 1183-1
Moisture Absorption at Equilibrium	2.2 % @Temperature 23.0 °C	2.2 % @Temperature 73.4 °F	50% RH
Water Absorption at Saturation	6.5 % @Temperature 23.0 °C	6.5 % @Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	dry; ISO 2039-2
Hardness, Shore D	77	77	DIN 53505
Ball Indentation Hardness	165 MPa	23900 psi	dry; ISO 2039-1
Tensile Strength, Yield	55.0 MPa	7980 psi	50% RH; ISO 527-1
	86.0 MPa	12500 psi	dry; ISO 527-1
Elongation at Break	25 %	25 %	dry; ISO 527-1
	>= 50 %	>= 50 %	50% RH; ISO 527-1
Creep Strength	10.0 MPa @Time 3.60e+6 sec	1450 psi @Time 1000 hour	stress leading to 1% elongation; 50% RH; ISO 899-1
	22.0 MPa @Time 3.60e+6 sec	3190 psi @Time 1000 hour	stress leading to 1% elongation; dry; ISO 899-1
Modulus of Elasticity	1.75 GPa	254 ksi	50% RH
	3.60 GPa	522 ksi	dry
	26.0 MPa	3770 psi	

Compressive Yield Strength Mechanical Properties	Metric @Strain 1.00 %	English @Strain 1.00 %	dry; ISO 604 Comments
	51.0 MPa @Strain 2.00 %	7400 psi @Strain 2.00 %	dry; ISO 604
	92.0 MPa @Strain 5.00 %	13300 psi @Strain 5.00 %	dry; ISO 604
Charpy Impact Unnotched	NB	NB	dry; ISO 179-1/1eU
	NB	NB	ISO 179
Charpy Impact, Notched	0.350 J/cm ²	1.67 ft-lb/in ²	dry; ISO 179-1/1eA
Coefficient of Friction, Dynamic	0.30	0.30	
Sand Slurry	0.12	0.12	µm/km

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 µm/m-°C @Temperature 23.0 - 60.0 °C	44.4 µin/in-°F @Temperature 73.4 - 140 °F	
	90.0 µm/m-°C @Temperature 23.0 - 100 °C	50.0 µin/in-°F @Temperature 73.4 - 212 °F	
Thermal Conductivity	0.290 W/m-K	2.01 BTU-in/hr-ft ² -°F	
Melting Point	215 °C	419 °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	
	170 °C @Time <=86400 sec	338 °F @Time <=24.0 hour	
Minimum Service Temperature, Air	-30.0 °C	-22.0 °F	
Glass Transition Temp, Tg	50.0 °C	122 °F	ISO 11357-1
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments

Electrical Resistivity Electrical Properties	$\geq 1.00\text{e}+12$ ohm-cm Metric	$\geq 1.00\text{e}+12$ ohm-cm English	50% RH; IEC 60093 Comments
	$\geq 1.00\text{e}+14$ ohm-cm	$\geq 1.00\text{e}+14$ ohm-cm	dry; IEC 60093
Surface Resistance	$\geq 1.00\text{e}+12$ ohm	$\geq 1.00\text{e}+12$ ohm	50% RH; IEC 60093
	$\geq 1.00\text{e}+13$ ohm	$\geq 1.00\text{e}+13$ ohm	dry; IEC 60093
Dielectric Constant	3.2	3.2	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	dry; IEC 60250
	3.6	3.6	
	@Frequency 100 Hz	@Frequency 100 Hz	dry; IEC 60250
	3.7	3.7	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	50% RH; IEC 60250
	6.6	6.6	
	@Frequency 100 Hz	@Frequency 100 Hz	50% RH; IEC 60250
Dielectric Strength	17.0 kV/mm	432 kV/in	50% RH; IEC 60243-1
	25.0 kV/mm	635 kV/in	dry; IEC 60243-1
Dielectric Loss Index	0.012	0.012	
	@Frequency 100 Hz	@Frequency 100 Hz	dry; IEC 60250
	0.016	0.016	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	dry; IEC 60250
	0.050	0.050	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	50% RH; IEC 60250
	0.14	0.14	
	@Frequency 100 Hz	@Frequency 100 Hz	50% RH; IEC 60250

Compliance Properties	Metric	English	Comments
FDA	Yes	Yes	

Descriptive Properties	Value	Comments
Color	Natural/Black	

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