Quadrant EPP Nylon 101

Polyamide 66

Quadrant Engineering Plastic Products

Message:

Nylon 101 is an extruded form of polyamide, offering rigidity, strength, wear resistance, and heat resistance to 210°F. It is commonly used in both structural and general-purpose bearing and wear applications. This material is available in natural and black. The natural material is compliant with FDA, USDA, NST, and 3A-Dairy regulations.

General Information					
Features	Good Strength				
	Good Wear Resistance				
	Hydrocarbon Resistant				
	Machinable				
	Medium Heat Resistance				
	Medium Rigidity				
Uses	Bearings				
	Structural Parts				
Agong / Datings	EDA Unanacified Dating				
Agency Ratings	FDA Unspecified Rating				
	USDA Unspecified Approval				
Appearance	Black				
	Natural Color				
Processing Method	Extrusion				
Physical	Nominal Value	Unit	Test Method		
Specific Gravity	1.15	g/cm³	ASTM D792		
Water Absorption			ASTM D570		
24 hr	0.30	%			
Saturation	7.0	%			
Hardness	Nominal Value	Unit	Test Method		
Rockwell Hardness			ASTM D785		
M-Scale	85				
R-Scale	115				
Durometer Hardness (Shore D)	80		ASTM D2240		
Mechanical	Nominal Value	Unit	Test Method		
Tensile Modulus	2930	MPa	ASTM D638		
Tensile Strength (Ultimate)	82.7	MPa	ASTM D638		
Tensile Elongation (Break)	50	%	ASTM D638		
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Compressive Modulus2900MPaASTM D695Compressive Strength (10% Strain)86.2MPaASTM D695Shear Strength68.9MPaASTM D732Coefficient of Friction (vs, Steel - Static)0.25Internal MethodWear Factor16010^-8 mm³/N·mASTM D3702ImpactNominal ValueUnitTest MethodNotched Izod Impact32J/mASTM D256AThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)93.3°CASTM D648Maximum Use Temperature - Long Term, Air99°CSTM D484Limiting Pressure Velocity 10.0946MPa·m/sInternal MethodPeak Crystallization Temperature (DSC)260°CASTM D3418CITE - Flow 2 (-40 to 149°C)99.F-5cm/cm/°CASTM F433ThermalNominal ValueUnitTest MethodCherticalNominal ValueUnitTest MethodCater Flow 2 (-40 to 149°C)9.F-5cm/cm/°CASTM F433CherticalNominal ValueUnitTest MethodSurface Resistivity 3> 1.0E+13ohmsInternal MethodDelectric Strength 416KV/mmASTM D49				
Compressive Strength (10% Strain)862MPaASTM D695Shear Strength68.9MPaASTM D732Coefficient of Friction (xs. Steel - Static)0.25Internal MethodWaer Factor16010^4 8 mn³/N mASTM D5702ImpactNominal ValueUnitTest MethodNotched Izod Impact32J/mASTM D56AThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8) MPa, Jonannaled)93.3"CMaximum Use Temperature Under Load (1.8) Mr (1.4)99.3"CInititing Pressure Velocity0.9046MPa m/sInternal MethodDeflection Temperature Under Load (1.8) Mr (1.4)99.5cn/cm/"CASTM D548CLE - Flow ² (-40 to 149°C)260"CASTM D431Dieder Graduetity0.915cn/cm/"CASTM P433Dieder Graduetity0.925w/m/KASTM P433Diederic Strength ⁴ 0.60w/mASTM D149Dieder Graduetity3.60ASTM D150Dispation Factor (1 MHz)0.20w/mASTM D150Dispation Factor (1 MHz)0.020w/mASTM D150RamabilityNominal ValueUnitTest MethodNormal ValueUnitTest MethodDispation Factor (1 MHz)0.20w/mASTM D150RamabilityNominal ValueUnitTest MethodNormal ValueUnitTest MethodNormal ValueDispation Factor (1 MHz)0.20w	Flexural Strength (Yield)	103	MPa	ASTM D790
Shear Strength68.9MPaASTM D732Coefficient of Friction (vs. Steel - Static)0.5Internal MethodWear Factor16010^-8 mm ³ /N·mASTM D3702ImpactNominal ValueUnitTest MethodNotched Izod Impact32J/mASTM D256AThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (1.8 MPa, Unannealed)93.3"CASTM D648Maximu Use Temperature Under Load (1.8 MPa, Unannealed)99.4"CInternal MethodMaximu Use Temperature Cong Temm Ar99.4"CSTM D3418CLTE - Flow ² (-40 to 149°C)260"CASTM D3418CLTE - Flow ² (-40 to 149°C)99.5cm/cm/°CASTM E0311Surface Resistivity ³ > 10.E+13ohmsInternal MethodDielectric Constant (1 MHz)3.60ASTM D150Dispiation Factor (1 MHz)0.020ASTM D150FlammabilityNominal ValueUnitTest MethodDispiation Factor (1 MHz)0.20ASTM D150FlammabilityNominal ValueUnitTest MethodFlammabilityNominal ValueUnitTest MethodRamabilityNominal ValueUnitTest MethodFlammability0.020ASTM D150FlammabilityNominal ValueUnitTest MethodRamabilityNominal ValueUnitTest MethodFlammabilityNominal ValueUnitTest Method<	Compressive Modulus	2900	MPa	ASTM D695
NoteNetworkInternal MethodWear Factor160 $10^{-8} mm^3/N \cdot m$ ASTM D3702ImpactNominal ValueUnitTest MethodNotched Izod Impact32 J/m ASTM D256AThermalNominal ValueUnitTest MethodDeflection Temperature Under Load (18) MPa, Unannealed)93.3"CASTM D648Maximum Use Temperature - Long Term, Air99"CInternal MethodMaximum Use Temperature (DSC)260"CASTM D3418Deflection Temperature (DSC)260"CASTM D3418CLTE - Flow ² (40 to 149°C)99E-5cm/cm/"CASTM E831Deflection Strength ⁴ 0.25W/m/KASTM F433Deflection Strength ⁴ 16W/mASTM D149Dielectric Strength ⁴ 0.020"CASTM D150Dispation Factor (1 MHz)0.020UnitTest MethodDispation Factor (1 MHz)0.020UnitMethodImmabilityNominal ValueUnitTest MethodImmabilityV-2UnitStTM D150FarmabilityNominal ValueUnitTest MethodInternal MethodUnitTest MethodImmabilityNominal ValueUnitTest MethodImmabilityNominal ValueUnitTest MethodImmabilityNominal ValueUnitTest MethodImmabilityNominal ValueUnitTest MethodImmabilityNominal ValueUnitTest Method <t< td=""><td>Compressive Strength (10% Strain)</td><td>86.2</td><td>MPa</td><td>ASTM D695</td></t<>	Compressive Strength (10% Strain)	86.2	MPa	ASTM D695
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MPa, Unannealed)93.3°CASTM D648Maximum Use Temperature - Long Term, Air99°CLimiting Pressure Velocity 10.0946MPa·m/sInternal MethodPeak Crystallization Temperature (DSC)260°CASTM D3418CLTE - Flow 2 (-40 to 149°C)9.9E-5cm/cm/°CASTM E831Thermal Conductivity0.9E-5W/m/KASTM F433ElectricalNominal ValueUnitTest MethodSurface Resistivity 3> 1.0E+13ohmsInternal MethodDielectric Strength 416KV/mmASTM D150Disipation Factor (1 MHz)0.020VIASTM D150RamnabilityNominal ValueUnitTest MethodRamnabilityV-2VIVINominal ValueUnitTest MethodRamnabilityV-2VIVINCTV-2VIVI1.1.1 setsr factorVIVI2.68°FVIVIVI2.69°FVIVIVI3.SUSS S11.11VIVIVI	Thermal	Nominal Value	Unit	Test Method
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Peak Crystallization Temperature (DSC)260°CASTM D3418CLTE - Flow ² (-40 to 149°C)9.9E-5cm/cm/°CASTM E831Thermal Conductivity0.25W/m/KASTM F433ElectricalNominal ValueUnitTest MethodSurface Resistivity ³ > 1.0E+13ohmsInternal MethodDielectric Strength ⁴ 16KV/mmASTM D149Dielectric Constant (1 MHz)3.60		99	°C	
CLTe - Flow 2 (-40 to 149°C)9.9E-5cm/cm/°CASTM E831Thermal Conductivity0.25W/m/KASTM F433ElectricalNominal ValueUnitTest MethodSurface Resistivity 3> 1.0E+13ohmsInternal MethodDielectric Strength 416KV/mmASTM D149Dielectric Constant (1 MHz)3.60-ASTM D150Dissipation Factor (1 MHz)0.020-ASTM D150Flame Rating (3.18 mm, Estimated Rating)V-2UnitTest MethodNOTE1.4:1 safety factorUnitUnit1.4:1 safety factor2.68°F3.E0S/ESD S11.11	Limiting Pressure Velocity ¹	0.0946	MPa·m/s	Internal Method
Thermal Conductivity0.25W/m/KASTM F433ElectricalNominal ValueUnitTest MethodSurface Resistivity 3> 1.0E+13ohmsInternal MethodDielectric Strength 416KV/mmASTM D149Dielectric Constant (1 MHz)3.60STM D150Dissipation Factor (1 MHz)0.020ASTM D150FlammabilityNominal ValueUnitTest MethodFlame Rating (3.18 mm, Estimated Rating)V-2UnitUL 94NOTE1.4:1 safety factorUL 942.68°FSSS3.EDS/ESD S11.11SSS	Peak Crystallization Temperature (DSC)	260	°C	ASTM D3418
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Surface Resistivity ³ > 1.0E+13 ohms Internal Method Dielectric Strength ⁴ 16 KV/mm ASTM D149 Dielectric Constant (1 MHz) 3.60 · C ASTM D150 Dissipation Factor (1 MHz) 0.020 · C ASTM D150 Flammability Nominal Value Unit Test Method Flame Rating (3.18 mm, Estimated Rating) V-2 · C V U 94 NOTE V- V-2 · C V-1 · C V-	Thermal Conductivity	0.25	W/m/K	ASTM F433
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Dissipation Factor (1 MHz)0.020ASTM D150FlammabilityNominal ValueUnitTest MethodFlame Rating (3.18 mm, Estimated Rating)V-2Ul 94NOTE	Dielectric Strength ⁴	16	kV/mm	ASTM D149
FlammabilityNominal ValueUnitTest MethodFlame Rating (3.18 mm, Estimated Rating)V-2UL 94NOTE1.4:1 safety factorUL 942.68°F505/ESD S11.11505/ESD S11.11	Dielectric Constant (1 MHz)	3.60		ASTM D150
Flame Rating (3.18 mm, Estimated Rating) V-2 UL 94 NOTE 1. 4:1 safety factor 2. 68°F 3. EOS/ESD S11.11	Dissipation Factor (1 MHz)	0.020		ASTM D150
NOTE 4:1 safety factor 2. 68°F 3. EOS/ESD S11.11	Flammability	Nominal Value	Unit	Test Method
1. 4:1 safety factor 2. 68°F 3. EOS/ESD S11.11	Flame Rating (3.18 mm, Estimated Rating)	V-2		UL 94
2. 68°F 3. EOS/ESD \$11.11	NOTE			
3. EOS/ESD \$11.11	1.	4:1 safety factor		
	2.	68°F		
4. Method A (Short-Time)	3.	EOS/ESD S11.11		
	4.	Method A (Short-Time)		

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