DuPont™ Zytel®

nylon resin

Zytel® 103HSL NC010

Zytel® 103HSL NC010 is a heat stabilized, lubricated polyamide 66 resin for injection molding.

Property	Test Method	Units	Value	
			DAM	50%RH
Identification				
Resin Identification	ISO 1043		PA66	
Part Marking Code	ISO 11469		>PA66<	
Mechanical				
Yield Stress	ISO 527	MPa (kpsi)	85 (12.3)	55 (8.0)
Strain at Break	ISO 527	%		
50mm/min			40	>100
Nominal Strain at Break	ISO 527	%	20	>100
Yield Strain	ISO 527	%	4.5	25
Tensile Modulus	ISO 527	MPa (kpsi)	3100 (450)	1400 (200)
Tensile Creep Modulus	ISO 899	MPa (kpsi)		
1h				1190 (170)
1000h				540 (80)
Flexural Modulus	ISO 178	MPa (kpsi)	2800 (410)	1200 (174)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m^2		
-30°C (-22°F)			4.5	3.5
23°C (73°F)			5.5	12
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2		
-30°C (-22°F)			400	NB
23°C (73°F)			NB	NB

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
Test temperatures are 23°C unless otherwise stated.

050630/050630

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			DAM	50%RH
Thermal				
Deflection Temperature	ISO 75f	°C (°F)		
0.45MPa			200 (392)	
1.80MPa			70 (158)	
Melting Temperature	ISO 11357-1/-3	°C (°F)		
10°C/min			262 (504)	
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)		
23 - 55°C (73 - 130°F)			1.1 (0.61)	
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)		
23 - 55°C (73 - 130°F)			1.0 (0.55)	
Vicat Softening Temperature	ISO 306	°C (°F)		
50N			238 (460)	
Electrical				
Surface Resistivity	IEC 60093	ohm	1E12	1E12
Relative Permittivity	IEC 60250			
1E2 Hz			3.8	12.8
1E6 Hz			3.5	4
Volume Resistivity	IEC 60093	ohm m	1E13	
Dissipation Factor	IEC 60250	E-4		
1E2 Hz			75	5800
1E6 Hz			165	700
Electric Strength	IEC 60243-1	kV/mm (V/mil)		
1.0mm			31 (786)	28 (710)
CTI	IEC 60112	V	600	
CTI	UL 746A	V		
3.0mm			600	

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Flammability				
Flammability Classification	UL94			
0.71mm			V-2	
Oxygen Index	ISO 4589-1/-2	%	28	
Glow Wire Flammability Index	IEC 60695-2-12	°C		
0.71mm			850	
1.5mm			960	
3.0mm			960	
Glow Wire Ignition Temperature	IEC 60695-2-13	°C		
0.71mm			725	
1.5mm			725	
3.0mm			725	
High Amperage Arc Ignition Resistance	UL 746A	arcs		
0.75mm			200	
1.5mm			>200	
3.0mm			>200	
Hot Wire Ignition	UL 746A	s		
0.75mm			9	
1.5mm			11	
3.0mm			24	
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.71mm			140	
RTI, Impact	UL 746B	°C		
0.71mm			95	
1.5mm			110	
RTI, Strength	UL 746B	°C		
0.71mm			115	
1.5mm			125	

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Property	Test Method	Units	Value	
			DAM	50%RH
Other				
Density	ISO 1183	kg/m^3 (g/cm^3)	1140 (1.14)	
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			2.6	
Saturation, immersed			8.5	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			1.3	
Parallel, 2.0mm			1.3	
Mold Shrinkage		%		
Flow, 3.2mm (0.126in)			1.5	
Processing				
Melt Temperature Range		°C (°F)	280-300 (535-570)	
Melt Temperature Optimum		°C (°F)	290 (555)	
Mold Temperature Range		°C (°F)	50-90 (120-190)	
Mold Temperature Optimum		°C (°F)	70 (160)	
Drying Time, Dehumidified Dryer		h	2-4	
Drying Temperature		°C (°F)	80 (175)	
Processing Moisture Content		%	<0.20	

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