

DuPont™ Zytel®

nylon resin

Zytel® 151L NC010

Zytel® 151L NC010 is a lubricated polyamide 612 resin that is suitable for molding.

Property	Test Method	Units	Value	
			DAM	50%RH
Identification				
Resin Identification	ISO 1043		PA612	
Part Marking Code	ISO 11469		>PA612<	
Mechanical				
Yield Stress	ISO 527	MPa (kpsi)	62 (9)	54 (7.8)
Nominal Strain at Break	ISO 527	%	17	>50
Yield Strain	ISO 527	%	4.5	18
Tensile Modulus	ISO 527	MPa (kpsi)	2400 (348)	1700 (246.5)
Flexural Modulus	ISO 178	MPa (kpsi)	2100 (304)	1440 (208)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²		
-30°C (-22°F)			3.5	3
23°C (73°F)			3.5	4
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²		
-30°C (-22°F)			NB	40
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.

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			DAM	50%RH
Thermal				
Deflection Temperature	ISO 75f	°C (°F)		
0.45MPa			135 (275)	
1.80MPa			62 (144)	
Melting Temperature	ISO 11357-1/-3	°C (°F)		
10°C/min			218 (424)	
CLTE, Normal				
	ISO 11359-1/-2	E-4/C (E-4/F)		
-40 - 23°C (-40 - 73°F)			0.9 (0.5)	
23 - 55°C (73 - 130°F)			1.2 (0.66)	
55 - 160°C (130 - 320°F)			1.8 (1.0)	
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)		
-40 - 23°C (-40 - 73°F)			0.9 (0.5)	
23 - 55°C (73 - 130°F)			1.1 (0.61)	
55 - 160°C (130 - 320°F)			1.6 (0.9)	
Vicat Softening Temperature	ISO 306	°C (°F)		
50N			181 (358)	
Electrical				
Surface Resistivity	IEC 60093	ohm	1E12	
Relative Permittivity	IEC 60250			
1E2 Hz		3.6	5.1	
1E6 Hz		3.2	4	
Volume Resistivity	IEC 60093	ohm m	1E13	1E11
Dissipation Factor	IEC 60250	E-4		
1E2 Hz			135	700
1E6 Hz			160	400
Electric Strength	IEC 60243-1	kV/mm (V/mil)		
2.0mm			21.9 (555)	21.2 (538)
CTI	IEC 60112	V	600	
CTI	UL 746A	V		
3.0mm			>600	

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Property	Test Method	Units	Value	
			DAM	50%RH
Flammability				
Flammability Classification	IEC 60695-11-10			
0.86mm			V-2	
1.5mm			V-2	
3.0mm			V-2	
Flammability Classification	UL94			
0.86mm			V-2	
1.5mm			V-2	
3.0mm			V-2	
Oxygen Index	ISO 4589-1/-2	%	27	
High Amperage Arc Ignition Resistance	UL 746A	arcs		
0.86mm			>200	
1.5mm			>200	
3.0mm			>200	
High Voltage Arc Tracking Rate	UL 746A	mm/min (in/min)	>10 (>0.4)	
Hot Wire Ignition	UL 746A	s		
0.86mm			7	
1.5mm			7	
3.0mm			20	
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.86mm			105	
1.47mm			105	
3.0mm			105	
RTI, Impact	UL 746B	°C		
0.86mm			65	
1.47mm			65	
3.0mm			65	
RTI, Strength	UL 746B	°C		
0.86mm			65	
1.47mm			65	
3.0mm			65	

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Other				
Density	ISO 1183	kg/m ³ (g/cm ³)	1060 (1.06)	
Hardness, Rockwell Scale R	ISO 2039/2		114	
Water Absorption Equilibrium 50%RH	ISO 62, Similar to	%	1.3	
Saturation, immersed			3	
Molding Shrinkage Normal, 2.0mm	ISO 294-4	%	1.4	
Parallel, 2.0mm			1.3	
Mold Shrinkage				
Flow, 3.2mm (0.126in)		%	1.1	
Transverse, 3.2mm (0.126in)			1.1	
Processing				
Melt Temperature Range		°C (°F)	230-290 (445-550)	
Melt Temperature Optimum		°C (°F)	250 (480)	
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		%	<0.15	

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