DuPont™ Zytel®

nylon resin

Zytel® 153HSL NC010

Zytel® 153HSL NC010 is a heat stabilized, lubricated polyamide 612 resin that is suitable for molding and extrusion.

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)	53 (7.7)
Nominal Strain at Break	ISO 527	%	30	>50
Yield Strain	ISO 527	%	4.4	19
Tensile Modulus	ISO 527	MPa (kpsi)	2400 (348)	1600 (232)
Flexural Modulus	ISO 178	MPa (kpsi)	2100 (304)	1450 (210)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m^2		
-30°C (-22°F)			5	4
23°C (73°F)			4	7
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2		
-30°C (-22°F)			NB	NB
23°C (73°F)			NB	NB
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)	

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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Property	Test Method	Units	Value	
			DAM	50%RH
Thermal				
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)			1.2 (0.66)	
55 - 160°C (130 - 320°F)			1.7 (0.9)	
Electrical				
Surface Resistivity	IEC 60093	ohm	1E12	1E12
Relative Permittivity	IEC 60250			
1E2 Hz			3.6	5.3
1E6 Hz			3.2	3.4
Volume Resistivity	IEC 60093	ohm m	1E13	1E11
Dissipation Factor	IEC 60250	E-4		
1E2 Hz				1000
1E6 Hz				400
Electric Strength	IEC 60243-1	kV/mm (V/mil)		
2.0mm			22.6 (575)	21.7 (551)
CTI	IEC 60112	V	600	
Flammability				
Flammability Classification	UL94			
3.0mm			HB	
Oxygen Index	ISO 4589-1/-2	%	27	
Glow Wire Ignition Temperature	IEC 60695-2-13	°C		
0.86mm			675	
3.0mm			700	

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Property	Test Method	Units	Value	
			DAM	50%RH
Temperature Index				
RTI, Electrical	UL 746B	°C		
1.5mm			105	
3.0mm			105	
Other				
Density	ISO 1183	kg/m^3 (g/cm^3)	1060 (1.06)	
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			1.3	
Saturation, immersed			3	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			1.4	
Parallel, 2.0mm			1.3	
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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