

# DuPont™ Zytel®

nylon resin

## Zytel® 77G33HS1L NC010

Zytel® 77G33HS1L NC010 is a 33% glass fiber reinforced, heat stabilized polyamide 612 resin for injection molding.

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Identification</b>				
Resin Identification	ISO 1043		PA612-GF33	
Part Marking Code	ISO 11469		>PA612-GF33<	
<b>Mechanical</b>				
Stress at Break	ISO 527	MPa (kpsi)	168 (24.4)	140 (20.3)
Strain at Break	ISO 527	%	3	3.2
Tensile Modulus	ISO 527	MPa (kpsi)	9500 (1380)	7900 (1145)
Flexural Modulus	ISO 178	MPa (kpsi)	8200 (1190)	7000 (1015)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup>		
-40°C (-40°F)			12	10
-30°C (-22°F)			11	10
23°C (73°F)			13	12
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m <sup>2</sup>		
-30°C (-22°F)			60	65
23°C (73°F)			80	90

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
<b>Thermal</b>				
Deflection Temperature	ISO 75f	°C (°F)		
0.45MPa			216 (421)	
1.80MPa			200 (392)	
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)			0.83 (0.46)	
23 - 55°C (73 - 130°F)			1.13 (0.63)	
55 - 160°C (130 - 320°F)			1.58 (0.88)	
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)		
-40 - 23°C (-40 - 73°F)			0.26 (0.14)	
23 - 55°C (73 - 130°F)			0.17 (0.09)	
55 - 160°C (130 - 320°F)			0.16 (0.09)	
<b>Electrical</b>				
Volume Resistivity	IEC 60093	ohm m	1E13	
CTI	UL 746A	V		
3.0mm			>550	
<b>Flammability</b>				
Flammability Classification	IEC 60695-11-10			
0.75mm			HB	
Flammability Classification	UL94			
0.75mm			HB	
High Amperage Arc Ignition Resistance	UL 746A	arcs		
0.75mm			>150	
1.5mm			>150	
3.0mm			>150	
Hot Wire Ignition	UL 746A	s		
0.75mm			9	
1.5mm			12	
3.0mm			13	

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Property	Test Method	Units	Value	
			DAM	50%RH
<b>Temperature Index</b>				
RTI, Electrical 0.75mm	UL 746B	°C	65	
RTI, Impact 0.75mm	UL 746B	°C	65	
RTI, Strength 0.75mm	UL 746B	°C	65	
<b>Other</b>				
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1320 (1.32)	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			0.9	
Parallel, 2.0mm			0.3	
Mold Shrinkage		%		
Flow, 1.6mm (0.063in)			0.1	
Flow, 3.2mm (0.126in)			0.2	
Flow, 6.4mm (0.25in)			0.4	
Transverse, 1.6mm (0.063in)			0.9	
Transverse, 3.2mm (0.126in)			1.0	
Transverse, 6.4mm (0.25in)			1.1	
<b>Processing</b>				
Melt Temperature Range		°C (°F)	280-300 (535-570)	
Melt Temperature Optimum		°C (°F)	290 (555)	
Mold Temperature Range		°C (°F)	70-120 (160-250)	
Mold Temperature Optimum		°C (°F)	100 (210)	
Drying Time, Dehumidified Dryer		h	2-4	
Drying Temperature		°C (°F)	80 (175)	
Processing Moisture Content		%	<0.15	

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