Zytel®

nylon resin

Zytel® 71G33L NC010

Glass Reinforced Nylon Resin

Zytel® 71G33L NC010 is a 33% glass reinforced, impact modified PA 66 resin.

Property	Test Method	Units	Value	
			DAM	50%RH
Mechanical				
Tensile Strength	ASTM D 638	MPa (kpsi)	152 (22.0)	110 (16.0)
Stress at Break	ISO 527-1/-2	MPa (kpsi)	150 (21.8)	100 (14.5)
Elongation at Break	ASTM D 638	%	3	4
Strain at Break	ISO 527-1/-2	%	3	4
Tensile Modulus	ISO 527-1/-2	MPa (kpsi)	9300 (1350)	6700 (972)
Shear Strength	ASTM D 732	MPa (kpsi)	72 (10.5)	
Poisson's Ratio			0.41	
Flexural Modulus	ASTM D 790	MPa (kpsi)	6900 (1000)	5520 (800)
Flexural Modulus	ISO 178	MPa (kpsi)	7800 (1130)	5600 (812)
Flexural Strength	ASTM D 790	MPa (kpsi)	228 (33.0)	
Deformation Under Load	ASTM D 621	%		
50C (122F), 13.8MPa (2000psi)			1.3	
Izod Impact	ASTM D 256	J/m (ft lb/in)	128 (2.4)	128 (2.4)
Notched Izod Impact	ISO 180/1A	kJ/m2		
-40C (-40F)			10	
-30C (-22F)			11	
23C (73F)			12	
Notched Charpy Impact	ISO 179/1eA	kJ/m2		
-30C (-22F)			9	
23C (73F)			11	
Unnotched Charpy Impact	ISO 179/1eU	kJ/m2		
-30C (-22F)			70	
23C (73F)			60	

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
Mechanical properties measured at 23°C (73°F) unless otherwise stated.

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Property	Test Method	Units	Value	
			DAM	50%RH
Thermal				
Heat Deflection Temperature	ASTM D 648	°C (°F)		
0.45MPa (66psi)			260 (500)	
1.8MPa (264psi)			246 (475)	
Deflection Temperature	ISO 75-1/-2	°C (°F)		
0.45MPa			260 (500)	
1.80MPa			244 (471)	
CLTE, Parallel	ASTM E 831	E-4/C (E-4/F)		
-40 - 23C (-40 - 73F)			0.23 (0.13)	
23 - 55C (73 - 130F)			0.15 (0.08)	
55 - 160C (130 - 320F)			0.12 (0.07)	
CLTE, Normal	ASTM E 831	E-4/C (E-4/F)		
-40 - 23C (-40 - 73F)			0.82 (0.46)	
23 - 55C (73 - 130F)			1.05 (0.58)	
55 - 160C (130 - 320F)			1.62 (0.90)	
Melting Point	ASTM D 3418	°C (°F)	262 (504)	
Melting Temperature	ISO 3146C	°C (°F)	263 (505)	
Electrical				
Volume Resistivity	ASTM D 257	ohm cm	1 E14	1 E9
Dielectric Strength, Short Time	ASTM D 149	kV/mm (V/mil)	24.8 (630)	
Dielectric Strength, Step by Step	ASTM D 149	kV/mm (V/mil)	20 (510)	
Dielectric Constant	ASTM D 150			
1E3 Hz			4.2	
1E6 Hz			3.4	
Dissipation Factor	ASTM D 150			
1E3 Hz			0.02	
1E6 Hz			0.02	
Arc Resistance	ASTM D 495	s	135	
CTI	UL 746A	V	>600	
Flammability				
Flammability Classification	UL94			
0.71mm			HB	
1.5mm			HB	
3.0mm			HB	
Limited Oxygen Index	ISO 4589	%	23	
High Amperage Arc Ignition Resistance	UL 746A	arcs	>200	
High Voltage Arc Tracking Rate	UL 746A	mm/min (in/min)	51.5 (2.03)	
Hot Wire Ignition	UL 746A	s	8	
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.71mm			65	
1.5mm			65	
3.0mm			65	

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			DAM	50%RH
Temperature Index				
RTI, Mechanical with Impact	UL 746B	°C		
0.71mm			65	
1.5mm			65	
3.0mm			65	
RTI, Mechanical without Impact	UL 746B	°C		
0.71mm			110	
1.5mm			110	
3.0mm			110	
Other				
Specific Gravity	ASTM D 792		1.35	
Density	ISO 1183	kg/m3 (g/cm3)	1340 (1.34)	
Hardness, Rockwell	ASTM D 785			
Scale M			96	90
Scale R			122	118
Taber Abrasion	ASTM D 1044	mg		
CS-17 Wheel, 1kg, 1000 cycles				36
Water Absorption	ASTM D 570	%		
Immersion 24h			0.5	
Saturation			4.6	
Mold Shrinkage		%		
Flow, 3.2mm (0.126in)			0.3	
Processing				
Melt Temperature Range		°C (°F)	290-305 (550-580)	
Mold Temperature Range		°C (°F)	65-120 (150-250)	
Processing Moisture Content		%	<0.20	

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