DuPont™ Zytel®

nylon resin

Zytel® 70G13L NC010

Zytel® 70G13L NC010 is a 13% glass fiber reinforced polyamide 66 resin for injection molding.

Property	Test Method	Units	Value	
			DAM	50%RH
Identification				
Resin Identification	ISO 1043		PA66-GF13	
Part Marking Code	ISO 11469		>PA66-GF13<	
Mechanical				
Stress at Break	ISO 527	MPa (kpsi)	120 (17.4)	75 (10.9)
Strain at Break	ISO 527	%	3	13
Tensile Modulus	ISO 527	MPa (kpsi)	5500 (800)	3500 (508)
Flexural Modulus	ISO 178	MPa (kpsi)	4800 (700)	2900 (420)
Flexural Strength	ISO 178	MPa (kpsi)	190 (27.6)	100 (14.5)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m^2		
-40°C (-40°F)			4.5	4
-30°C (-22°F)			4.5	4
23°C (73°F)			5	6
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2		
-30°C (-22°F)			40	30
23°C (73°F)			40	70

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			258 (496)	
1.80MPa			238 (460)	
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)		
-40 - 23°C (-40 - 73°F)			0.77 (0.43)	
23 - 55°C (73 - 130°F)			0.96 (0.53)	
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)			0.42 (0.23)	
23 - 55°C (73 - 130°F)			0.40 (0.22)	
55 - 160°C (130 - 320°F)			0.27 (0.15)	
Electrical				
Relative Permittivity	IEC 60250			
1E2 Hz			3.9	
1E6 Hz			3.2	
Volume Resistivity	IEC 60093	ohm m	1E14	
Dissipation Factor	IEC 60250	E-4		
1E2 Hz			130	
1E6 Hz			150	
Electric Strength	IEC 60243-1	kV/mm (V/mil)		
2.0mm			25 (635)	
CTI	IEC 60112	V	>600	
CTI	UL 746A	V	>600	

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Property	Test Method	Units	Value	
			DAM	50%RH
Flammability				
Flammability Classification	IEC 60695-11-10			
0.71mm			HB	
Flammability Classification	UL94			
0.71mm			HB	
Oxygen Index	ISO 4589-1/-2	%	24	
Glow Wire Flammability Index	IEC 60695-2-12	°C		
0.75mm			650	
1.5mm			650	
3.0mm			800	
Glow Wire Ignition Temperature	IEC 60695-2-13	°C		
0.75mm			675	
High Amperage Arc Ignition Resistance	UL 746A	arcs		
0.71mm			>200	
High Voltage Arc Tracking Rate	UL 746A	mm/min (in/min)	32.2 (1.27)	
Hot Wire Ignition	UL 746A	s		
0.71mm			12	
1.5mm			7	
3.0mm			8	
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.71mm			125	
RTI, Impact	UL 746B	°C		
0.71mm			120	
RTI, Strength	UL 746B	°C		
0.71mm			125	

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Property	Test Method	Units	Value	
			DAM	50%RH
Other				
Density	ISO 1183	kg/m^3 (g/cm^3)	1230 (1.23)	
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			2.2	
Immersion 24h			1.7	
Saturation, immersed			7.6	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			1.2	
Parallel, 2.0mm			0.7	
Mold Shrinkage		%		
Flow, 1.6mm (0.063in)			0.6	
Flow, 3.2mm (0.126in)			0.7	
Flow, 6.4mm (0.25in)			0.9	
Transverse, 1.6mm (0.063in)			1.2	
Transverse, 3.2mm (0.126in)			1.4	
Transverse, 6.4mm (0.25in)			1.7	
Processing				
Melt Temperature Range		°C (°F)	285-305 (545-580)	
Melt Temperature Optimum		°C (°F)	295 (565)	
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		%	<0.20	

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