DuPont™ Zytel®

nylon resin

Zytel® 70G33HS1L BK031

Zytel® 70G33HS1L BK031 is a 33% glass fiber reinforced, heat stabilized, black polyamide 66 resin for injection molding.

Property	Test Method	Units	Value	
			DAM	50%RH
Identification				
Resin Identification	ISO 1043		PA66-GF33	
Part Marking Code	ISO 11469		>PA66-GF33<	
Mechanical				
Stress at Break	ISO 527	MPa (kpsi)	200 (29.0)	140 (20.3)
Strain at Break	ISO 527	%	3	4
Tensile Modulus	ISO 527	MPa (kpsi)	10500 (1520)	8000 (1160)
Flexural Modulus	ISO 178	MPa (kpsi)	9300 (1350)	
Flexural Strength	ISO 178	MPa (kpsi)	280 (40.6)	195 (28.3)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m^2		
-40°C (-40°F)			10	
23°C (73°F)			13	13
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2	75	80
Thermal				
Deflection Temperature	ISO 75f	°C (°F)		
0.45MPa			261 (502)	
1.80MPa			252 (486)	
Melting Temperature	ISO 11357-1/-3	°C (°F)		
10°C/min			262 (504)	

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)			0.65 (0.36)	
23 - 55°C (73 - 130°F)			0.83 (0.46)	
55 - 160°C (130 - 320°F)			1.37 (0.76)	
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)		
-40 - 23°C (-40 - 73°F)			0.24 (0.13)	
23 - 55°C (73 - 130°F)			0.18 (0.10)	
55 - 160°C (130 - 320°F)			0.13 (0.07)	
Electrical				
CTI	UL 746A	V		
3.0mm			408	
Flammability				
Flammability Classification	UL94			
0.71mm			HB	
Glow Wire Flammability Index	IEC 60695-2-12	°C		
0.71mm			725	
1.5mm			700	
3.0mm			800	
Glow Wire Ignition Temperature	IEC 60695-2-13	°C		
0.71mm			750	
1.5mm			725	
3.0mm			825	
High Amperage Arc Ignition Resistance	UL 746A	arcs		
0.71mm			>200	
Hot Wire Ignition	UL 746A	s		
0.71mm			14	
1.5mm			10	
3.0mm			150	

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Property	Test Method	Units	Value	
			DAM	50%RH
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.71mm			140	
RTI, Impact	UL 746B	°C		
0.71mm			125	
RTI, Strength	UL 746B	°C		
0.71mm			140	
Other				
Density	ISO 1183	kg/m^3 (g/cm^3)	1390 (1.39)	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			1.1	
Parallel, 2.0mm			0.3	
Mold Shrinkage		%		
Flow, 1.6mm (0.063in)			0.2	
Flow, 3.2mm (0.126in)			0.3	
Flow, 6.4mm (0.25in)			0.5	
Transverse, 1.6mm (0.063in)			1.0	
Transverse, 3.2mm (0.126in)			1.0	
Transverse, 6.4mm (0.25in)			1.1	
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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