

DuPont™ Zytel® HTN

high performance polyamide resin

Zytel® HTN51G35HSL NC010

Zytel® HTN51G35HSL NC010 is a 35% glass reinforced, heat stabilized, lubricated high performance polyamide resin. It is also a PPA resin.

Property	Test Method	Units	Value	
			DAM	50%RH
Identification				
Part Marking Code	ISO 11469		>PA6T/XT-GF35<	
Part Marking Code	SAE J1344		>PPA-GF35<	
Mechanical				
Stress at Break	ISO 527	MPa (kpsi)	220 (31.9)	210 (30.5)
Strain at Break	ISO 527	%	2.4	2.2
Tensile Modulus	ISO 527	MPa (kpsi)	12000 (1740)	12000 (1740)
Shear Strength	ASTM D 732	MPa (kpsi)	99 (14.4)	98 (14.2)
Flexural Modulus	ISO 178	MPa (kpsi)	10500 (1523)	10500 (1522)
Compressive Strength	ISO 604	MPa (kpsi)	265 (38)	
Notched Izod Impact Strength	ISO 180/1A	kJ/m ²		
-40°C (-40°F)			11	
23°C (73°F)			11	11

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.

During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE.

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			DAM	50%RH
Mechanical				
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²		11
-40°C (-40°F)			11	
23°C (73°F)			12	
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²		55
-30°C (-22°F)			60	
23°C (73°F)			70	
Thermal				
Deflection Temperature	ISO 75-1/-2	°C (°F)		
0.45MPa			284 (543)	
1.80MPa			264 (507)	
Melting Temperature	ISO 11357-1/-3	°C (°F)		
10°C/min, First Heat			300 (572)	
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)		
-40 - 23°C (-40 - 73°F)			0.18 (0.10)	
23 - 55°C (73 - 130°F)			0.18 (0.10)	
55 - 125°C (131 - 257°F)			0.16 (0.09)	
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)		
-40 - 23°C (-40 - 73°F)			0.55 (0.31)	
23 - 55°C (73 - 130°F)			0.55 (0.31)	
55 - 125°C (131 - 257°F)			0.65 (0.36)	
Glass Transition Temperature	DMA	°C (°F)	140 (284)	90 (194)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft ² F)	0.31 (2.2)	
Specific Heat	ASTM C 351	J/kg K (Btu/lb F)		
130 - 270°C (266 - 518°F)			2920 (0.7)	

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Electrical				
Surface Resistivity	IEC 60093	ohm	1E14	
Volume Resistivity	IEC 60093	ohm m	>1E13	1E13
Electric Strength	IEC 60243-1	kV/mm (V/mil)		
1.0mm			36 (914)	
Relative Permittivity	IEC 60250			
1E6 Hz			4	
Dissipation Factor	IEC 60250	E-4		
1E6 Hz			120	
CTI	IEC 60112	V	600	600
Flammability				
Flammability Classification	UL94			
0.85mm			HB	
Oxygen Index	ISO 4589-1/-2	%	25	
Glow Wire Flammability Index	IEC 60695-2-12	°C		
0.85mm			650	
1.5mm			725	
3.0mm			960	
Glow Wire Ignition Temperature	IEC 60695-2-13	°C		
0.85mm			675	
1.5mm			750	
3.0mm			800	

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			DAM	50%RH
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.85mm			150	
1.5mm			150	
3.0mm	UL 746B	°C	150	
RTI, Impact				
0.85mm			125	
1.5mm			125	
3.0mm	UL 746B	°C	130	
RTI, Strength				
0.85mm			130	
1.5mm			140	
3.0mm			150	
Other				
Density	ISO 1183	kg/m ³ (g/cm ³)	1470 (1.47)	
Coefficient of Friction	ASTM D 1894			
Self, dynamic				
Self, static				
Steel, dynamic				
Steel, static	ASTM D 1044	mg		
Taber Abrasion				
CS-17 Wheel, 1kg, 1000 cycles				
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH, 2.0mm				
Immersion 24h, 2.0mm				
Saturation, immersed, 2.0mm				
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm				
Parallel, 2.0mm				

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			DAM	50%RH
Processing				
Melt Temperature Range		°C (°F)	320-330 (610-625)	
Melt Temperature Optimum		°C (°F)	325 (620)	
Mold Temperature Range		°C (°F)	140-160 (280-320)	
Mold Temperature Optimum		°C (°F)	150 (300)	
Drying Time, Dehumidified Dryer		h	6-8	
Drying Temperature		°C (°F)	100 (210)	
Processing Moisture Content		%	<0.10	

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