

DuPont™ Zytel® HTN53G50HSLR BK083

HIGH PERFORMANCE POLYAMIDE RESIN

Product Information

Zytel® HTN high performance polyamide resins feature high retention of properties upon exposure to elevated temperature, to high moisture, and to harsh chemical environments. Polymer families and grades of Zytel® HTN are tailored to optimize performance as well as processability.

Typical applications with Zytel® HTN include demanding applications in the automotive, electrical and electronics, domestic appliances, and construction industries.

Zytel® HTN53G50HSLR BK083 is a 50% glass reinforced, heat stabilized, lubricated high performance polyamide resin developed for moderate temperature structural applications requiring retention of high impact and stiffness.

General information	Value	Unit	Test Standard
Resin Identification	PA-GF50	-	ISO 1043
Part Marking Code	PA-GF50	-	ISO 11469
Part Marking Code	>PA-GF50<	-	SAE J1344
Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5 / -	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	16000 / 15000	MPa	ISO 527-1/-2
Stress at break	250 / 220	MPa	ISO 527-1/-2
Strain at break	2.8 / 3.2	%	ISO 527-1/-2
Flexural Modulus	15000 / -	MPa	ISO 178
Flexural Strength	390 / -	MPa	ISO 178
Tensile creep modulus			ISO 899-1
1h	* / 10000	MPa	
1000h	* / 7500	MPa	
Charpy impact strength			ISO 179/1eU
73 °F	95 / 90	kJ/m ²	
-22 °F	65 / 65	kJ/m ²	
Charpy notched impact strength			ISO 179/1eA
73 °F	14 / 13	kJ/m ²	
-22 °F	13 / 13	kJ/m ²	
Izod notched impact strength, 73 °F	13 / -	kJ/m ²	ISO 180/1A
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, first heat	260 / *	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
260 psi	234 / *	°C	
65 psi	254 / *	°C	
Coeff. of linear therm. expansion, parallel	17 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion			ISO 11359-1/-2
normal	59 / *	E-6/K	
Normal, -40-23 °C	59 / *	E-6/K	
Normal, 55-160 °C	95 / *	E-6/K	
Parallel, -40-23 °C	19 / *	E-6/K	
RTI, electrical			UL 746B
30mil	65 / *	°C	
60mil	65 / *	°C	
120mil	65	°C	
RTI, impact			UL 746B
30mil	65	°C	
60mil	65 / *	°C	
120mil	65	°C	

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

Asia Pacific

Europe/Middle East/Africa

DONGGUAN FUMEI PLASTICS CO.,LTD.

TEL: +86 0769-82339888 / 87798999

EMAIL: fumei@foomx.com



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RTI, strength		UL 746B	
30mil	65	°C	
60mil	65 / *	°C	
120mil	65	°C	
Flammability			
Burning Behav. at 60mil nom. thickn.	dry / cond	Unit	Test Standard
Thickness tested	HB / *	class	IEC 60695-11-10
UL recognition	1.5 / *	mm	IEC 60695-11-10
Burning Behav. at thickness h	yes / *	-	UL 94
Thickness tested	HB / *	class	IEC 60695-11-10
UL recognition	0.75 / *	mm	IEC 60695-11-10
Oxygen index	yes / *	-	UL 94
FMVSS Class	27 / *	%	ISO 4589-1/-2
Burning rate, Thickness 1 mm	B	-	ISO 3795 (FMVSS 302)
	<100	mm/min	ISO 3795 (FMVSS 302)
Electrical properties			
Volume resistivity	dry / cond	Unit	Test Standard
Comparative tracking index	1E13 / -	Ohm*m	IEC 62631-3-1
	550 / -	-	IEC 60112
Other properties			
Humidity absorption, 80mil	dry / cond	Unit	Test Standard
Density	1.6 / *	%	Sim. to ISO 62
	1590 / -	kg/m ³	ISO 1183
Injection			
Drying Recommended	Value	Unit	Test Standard
Drying Temperature	yes	-	-
Drying Time, Dehumidified Dryer	≥100	°C	-
Processing Moisture Content	6 - 8	h	-
Melt Temperature Optimum	≤0.1	%	-
Min. melt temperature	290	°C	-
Max. melt temperature	280	°C	-
Min. mold temperature	300	°C	-
Max. mold temperature	90	°C	-
	110	°C	-

Characteristics			
Processing	• Injection Molding		
Delivery form	• Pellets		
Additives	• Release agent		
Special characteristics	• Heat stabilized or stable to heat		
Regional Availability	• North America	• Asia Pacific	• Near East/Africa
	• Europe	• South and Central America	• Global

Processing Texts

Injection molding

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.

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 160 mil (Hytel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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