

# DuPont™ Zytel® 84G33 BKB031

## NYLON RESIN

Product Information

Common features of Zytel® nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness and toughness, good high temperature performance, good electrical and flammability properties, good abrasion and chemical resistance. In addition, Zytel® nylon resins are available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses. Zytel® nylon resin, including most flame retardant grades, offer the ability to be coloured.

The good melt stability of Zytel® nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, DuPont recommends, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Zytel® nylon resin typically is used in demanding applications in the automotive, furniture, domestic appliances, sporting goods and construction industry.

Zytel® 84G33 BKB031 is a 33% glass reinforced toughened polyamide 66 and polyamide 6 co-melt black cube blended resin. This resin was developed for applications requiring strength, stiffness and impact resistance along with good surface appearance.

General information	Value	Unit	Test Standard
Part Marking Code	>PA66+PA6-IGF33<	-	ISO 11469
<b>Rheological properties</b>			
	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	0.1 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / -	%	ISO 294-4, 2577
<b>Mechanical properties</b>			
	dry / cond	Unit	Test Standard
Tensile Modulus	1.31E6 / 1E6	psi	ISO 527-1/-2
Stress at break	21800 / 16700	psi	ISO 527-1/-2
Strain at break	4 / 8.6	%	ISO 527-1/-2
Flexural Modulus	1.11E6 / 812000	psi	ISO 178
Charpy notched impact strength			ISO 179/1eA
73°F	9.99 / 9.51	ftlb/in <sup>2</sup>	
-40°F	5.23 / 4.76	ftlb/in <sup>2</sup>	
Izod notched impact strength			ISO 180/1A
73°F	9.99 / 10.9	ftlb/in <sup>2</sup>	
-40°F	7.14 / 5.71	ftlb/in <sup>2</sup>	
Hardness, Rockwell, M-scale	81 / 53	-	ISO 2039-2
Hardness, Rockwell, R-scale	116 / 113	-	ISO 2039-2
<b>Thermal properties</b>			
	dry / cond	Unit	Test Standard
Melting temperature, 18°F/min	482 / *	°F	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
260 psi	432 / *	°F	
65 psi	477 / *	°F	
Coeff. of linear therm. expansion, parallel	8.33E-6 / *	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	6.67E-5 / *	in/in/°F	ISO 11359-1/-2
RTI, electrical			UL 746B
30mil	221 / *	°F	
60mil	248 / *	°F	
120mil	248	°F	
RTI, impact			UL 746B
30mil	149	°F	
60mil	194 / *	°F	
120mil	194	°F	
RTI, strength			UL 746B
30mil	248	°F	
60mil	248 / *	°F	
120mil	248	°F	

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

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Flammability			
	dry / cond	Unit	Test Standard
Burning Behav. at 60mil nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	0.0591 / *	in	IEC 60695-11-10
UL recognition	yes / *	-	UL 94
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.0295 / *	in	IEC 60695-11-10
UL recognition	yes / *	-	UL 94
Flammability, 3.0mm	HB / *	-	IEC 60695-11-10
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	in/min	ISO 3795 (FMVSS 302)
Electrical properties			
	dry / cond	Unit	Test Standard
Comparative tracking index	600 / -	-	IEC 60112
Other properties			
	dry / cond	Unit	Test Standard
Density	1.34 / -	g/cm <sup>3</sup>	ISO 1183
Injection			
	dry / cond	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	176	°F	-
Drying Time, Dehumidified Dryer	2 - 4	h	-
Processing Moisture Content	≤0.2	%	-
Melt Temperature Optimum	554	°F	-
Min. melt temperature	536	°F	-
Max. melt temperature	572	°F	-
Max. screw tangential speed	0.2 / *	m/s	-
Mold Temperature Optimum	212	°F	-
Min. mold temperature	158	°F	-
Max. mold temperature	248	°F	-
Hold pressure range	7250 - 14500	psi	-
Hold pressure time	0.0762	s/mil	-
Ejection temperature	410	°F	-
Characteristics			
Processing	• Injection Molding		
Delivery form	• Pellets		

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 (Hytrel® 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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