

# 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	9000 / 6929	MPa	ISO 527-1/-2
Stress at break	150 / 115	MPa	ISO 527-1/-2
Strain at break	4 / 8.6	%	ISO 527-1/-2
Flexural Modulus	7680 / 5600	MPa	ISO 178
Charpy notched impact strength			ISO 179/1eA
73°F	21 / 20	kJ/m <sup>2</sup>	
-40°F	11 / 10	kJ/m <sup>2</sup>	
Izod notched impact strength			ISO 180/1A
73°F	21 / 23	kJ/m <sup>2</sup>	
-40°F	15 / 12	kJ/m <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	250 / *	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
260 psi	222 / *	°C	
65 psi	247 / *	°C	
Coeff. of linear therm. expansion, parallel	15 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	120 / *	E-6/K	ISO 11359-1/-2
RTI, electrical			UL 746B
30mil	105 / *	°C	
60mil	120 / *	°C	
120mil	120	°C	
RTI, impact			UL 746B
30mil	65	°C	
60mil	90 / *	°C	
120mil	90	°C	
RTI, strength			UL 746B
30mil	120	°C	
60mil	120 / *	°C	
120mil	120	°C	

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	1.5 / *	mm	IEC 60695-11-10
UL recognition	yes / *	-	UL 94
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.75 / *	mm	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	mm/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	1340 / -	kg/m <sup>3</sup>	ISO 1183
Injection	dry / cond	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	80	°C	-
Drying Time, Dehumidified Dryer	2 - 4	h	-
Processing Moisture Content	≤0.2	%	-
Melt Temperature Optimum	290	°C	-
Min. melt temperature	280	°C	-
Max. melt temperature	300	°C	-
Max. screw tangential speed	0.2 / *	m/s	-
Mold Temperature Optimum	100	°C	-
Min. mold temperature	70	°C	-
Max. mold temperature	120	°C	-
Hold pressure range	50 - 100	MPa	-
Hold pressure time	3	s/mm	-
Ejection temperature	210	°C	-
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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