DuPont™ Zytel® 74G33W BK196

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® 74G33W BK196 is a high gloss automotive weatherable black 33% glass reinforced nylon 66 and nylon 6 comelt resin.

General information	Value	Unit	Test Standard
Resin Identification	PA66+PA6-GF33	-	ISO 1043
Part Marking Code	PA66+PA6-GF33	-	ISO 11469
Rheological properties	**dry / cond**	**Unit**	**Test Standard**
Molding shrinkage, parallel	0.1 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7 / -	%	ISO 294-4, 2577
Mechanical properties	**dry / cond**	**Unit**	**Test Standard**
Tensile Modulus	1.45E6 / 1.03E6	psi	ISO 527-1/-2
Stress at break	26800 / 18100	psi	ISO 527-1/-2
Strain at break	3 / 6	%	ISO 527-1/-2
Flexural Modulus	1.29E6 / -	psi	ISO 178
Charpy impact strength			ISO 179/1eU
73°F	38.1 / 47.6	ftlb/in²	
-22°F	33.3 / 30.9	ftlb/in²	
Charpy notched impact strength			ISO 179/1eA
73°F	5.71 / 8.56	ftlb/in²	
-22°F	4.76 / 4.76	ftlb/in²	
-40°F	4.76 / -	ftlb/in²	
Izod notched impact strength			ISO 180/1A
73°F	5.71 / -	ftlb/in²	
-40°F	5.23 / -	ftlb/in²	
Izod impact strength, 73°F	38.1 / -	ftlb/in²	ISO 180/1U
Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature, 18°F/min	491 / *	°F	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
260 psi	437 / *	°F	
65 psi	482 / *	°F	
Coeff. of linear therm. expansion, parallel	7.78E-6 / *	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	6.0E-5 / *	in/in/°F	ISO 11359-1/-2
RTI, electrical			UL 746B
30mil	149 / *	°F	
120mil	149	°F	
RTI, impact			UL 746B
30mil	149	°F	
120mil	149	°F	
RTI, strength			UL 746B
30mil	149	°F	
120mil	149	°F	

To find out more, visit DuPont Performance Polymers or contact nearest DuPont location.

North America
Tel: +1 302 999-4592
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Flammability	dry / cond	Unit	Test Standard
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
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	in/min	ISO 3795 (FMVSS 302)
Other properties	**dry / cond**	**Unit**	**Test Standard**
Density	1.39 / -	g/cm³	ISO 1183
VDA Properties	**Value**	**Unit**	**Test Standard**
Weather stability delta l	-4.7[1]	-	DIN 53236
Weather stability delta a	-0.15[2]	-	DIN 53236
Weather stability delta b	-0.8[3]	-	DIN 53236
Weather stability delta E	4.7[4]	-	DIN 53236

4: Without washing

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		
Special characteristics	• Light stabilized or stable to light	• U.V. stabilized or stable to weather	
Regional Availability	• North America • Europe	• Asia Pacific • South and Central America	• Near East/Africa • Global

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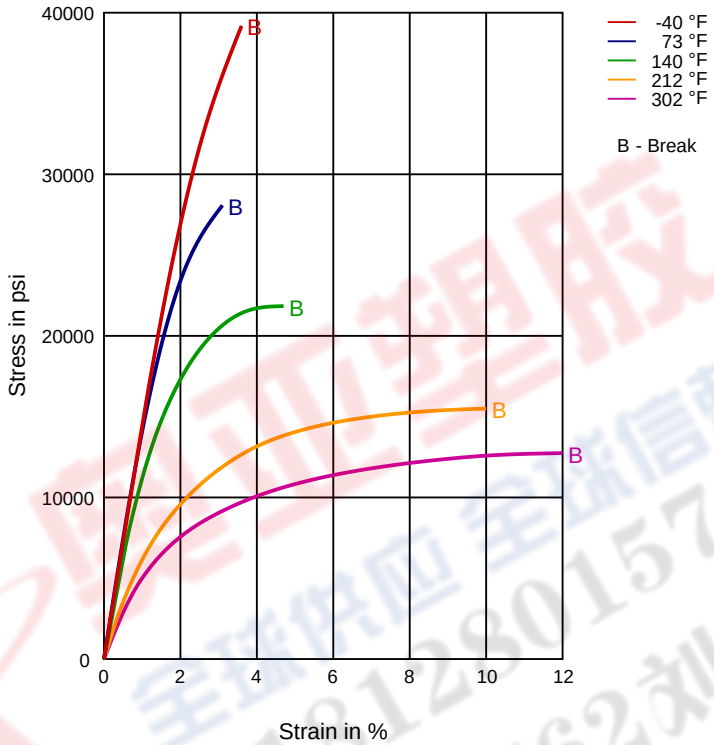
Diagrams

Stress-strain (dry)



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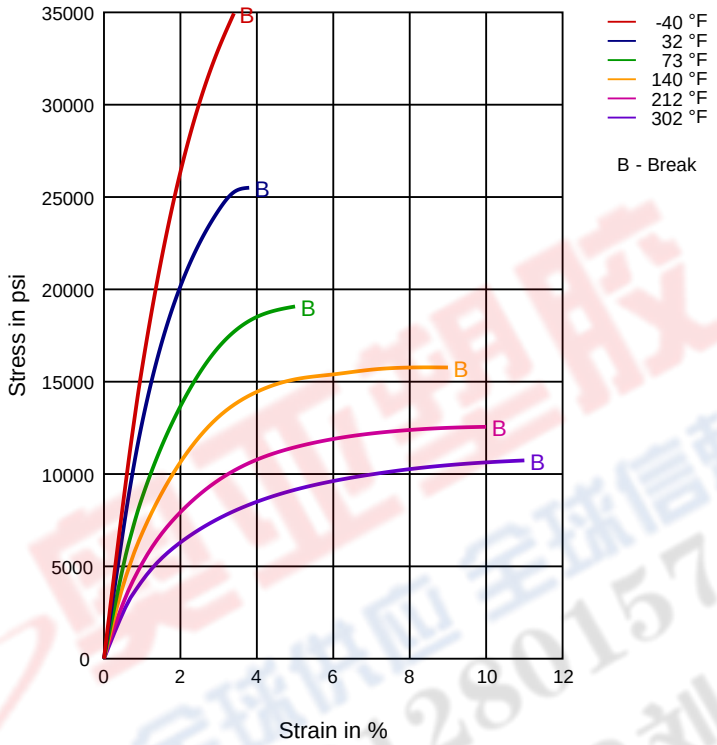
Stress-strain (cond.)



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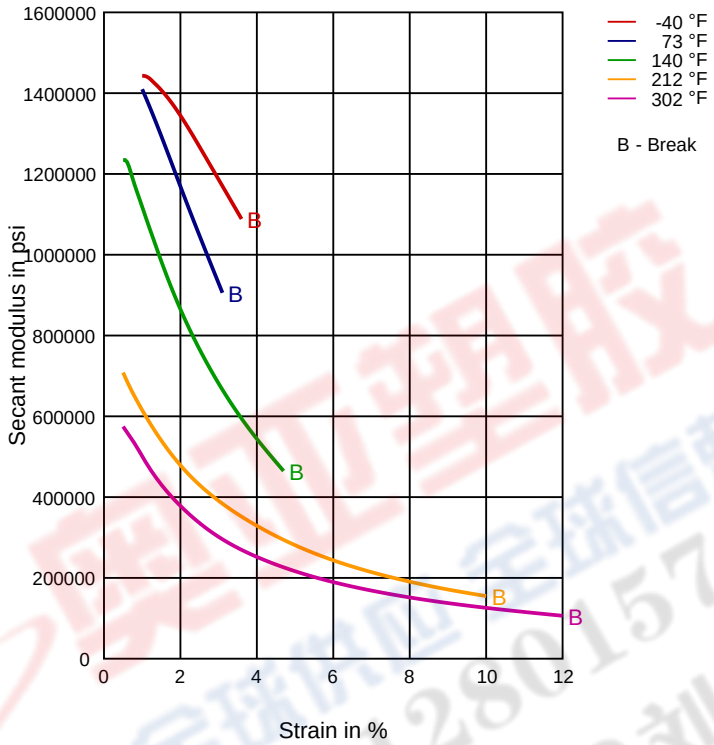
Secant modulus-strain (dry)



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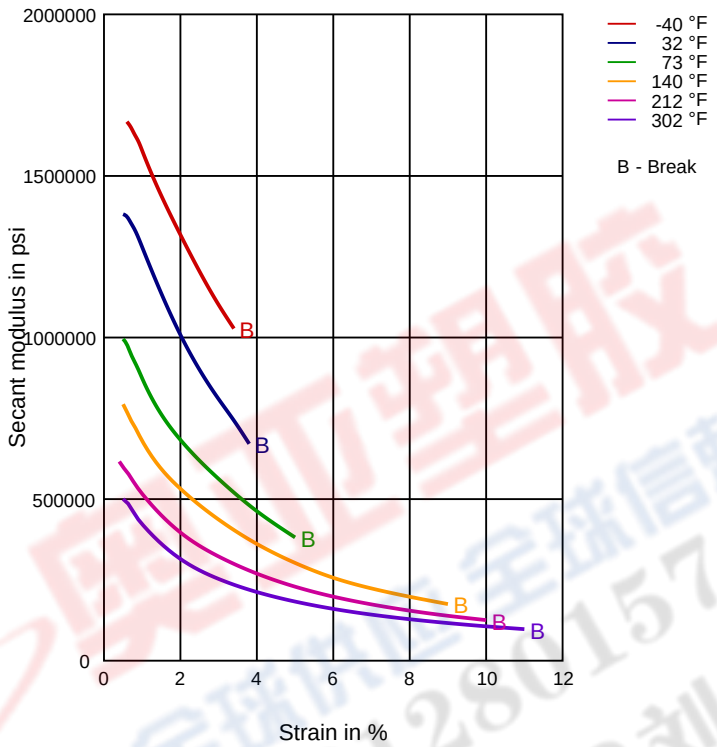
Secant modulus-strain (cond.)



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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