

DuPont™ Zytel® 73G40T BK416

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® 73G40T BK416 is a 40% Glass Reinforced, Heat stabilized, Toughened, Polyamide 6 for injection molding

Product information	Value	Unit	Test Standard
Resin Identification	PA6-IGF40	-	ISO 1043
Part Marking Code	PA6-IGF40	-	ISO 11469
Rheological properties	dry / cond	Unit	Test Standard
Viscosity number	3600 / *	in ³ /lb	ISO 307, 1157, 1628
Molding shrinkage, parallel	0.2 / 0.1	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / 0.3	%	ISO 294-4, 2577
Melt viscosity , @ 1000 sec-1, 280°C	190 / *	Pa.s	ISO 11443
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	1.89E6 / 1.16E6	psi	ISO 527-1/-2
Stress at break	30500 / 21800	psi	ISO 527-1/-2
Strain at break	3.8 / 7	%	ISO 527-1/-2
Flexural Modulus	1.6E6 / 1.16E6	psi	ISO 178
Flexural Strength	45000 / 27600	psi	ISO 178
Charpy impact strength			ISO 179/1eU
73°F	47.6 / 52.3	ftlb/in ²	DS
-22°F	38.1 / -	ftlb/in ²	
Charpy notched impact strength			ISO 179/1eA
73°F	9.04 / 10.9	ftlb/in ²	
-22°F	6.66 / 6.66	ftlb/in ²	
DS: Derived from similar grade			
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 18°F/min	428 / *	°F	ISO 11357-1/-3
Temp. of deflection under load, 260 psi	419 / *	°F	ISO 75-1/-2
Flammability	Value	Unit	Test Standard
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	in/min	ISO 3795 (FMVSS 302)
Other properties	dry / cond	Unit	Test Standard
Humidity absorption, 80mil	1.9 / *	%	Sim. to ISO 62
Water absorption, 80mil	5.3 / *	%	Sim. to ISO 62
Density	1.44 / -	g/cm ³	ISO 1183
DS: Derived from similar grade			
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	%	-

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

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Toll-Free (USA): 800 441-0575

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Melt Temperature Optimum	518	°F	-
Min. melt temperature	500	°F	-
Max. melt temperature	536	°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	-

Characteristics

Processing	• Injection Molding		
Regional Availability	• North America	• Asia Pacific	• Near East/Africa
	• Europe	• South and Central America	• Global

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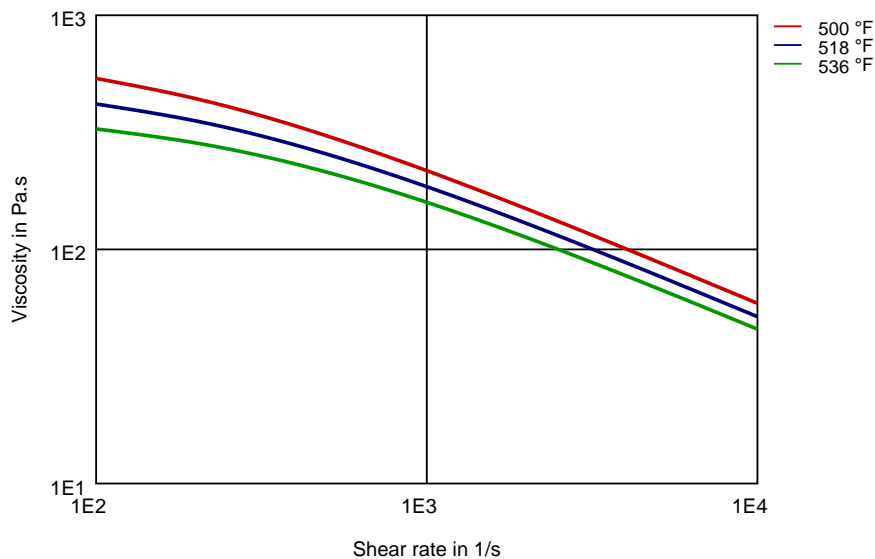


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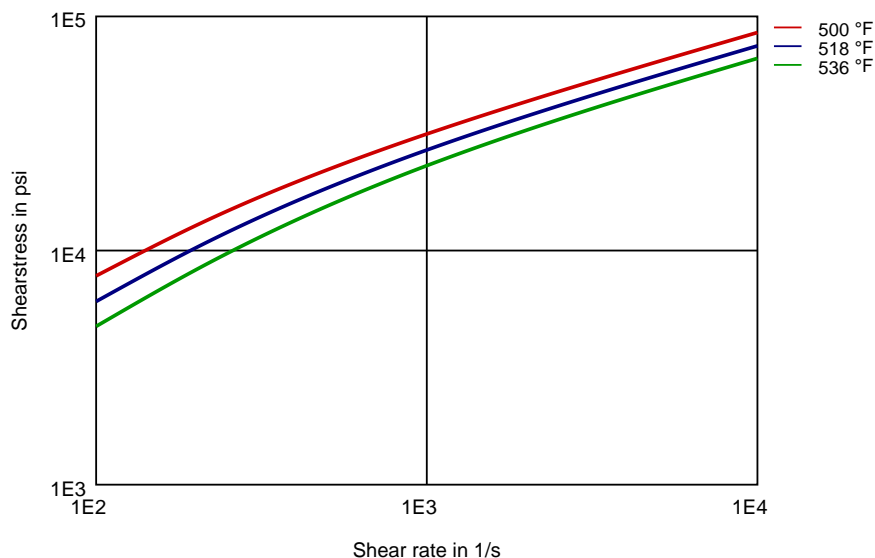
NYLON RESIN

Diagrams

Viscosity-shear rate



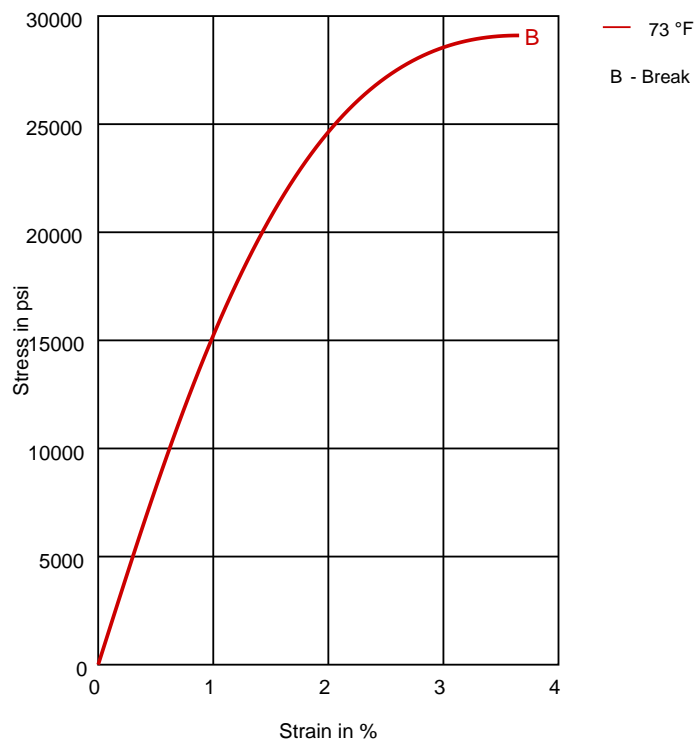
Shearstress-shear rate



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Stress-strain (dry)



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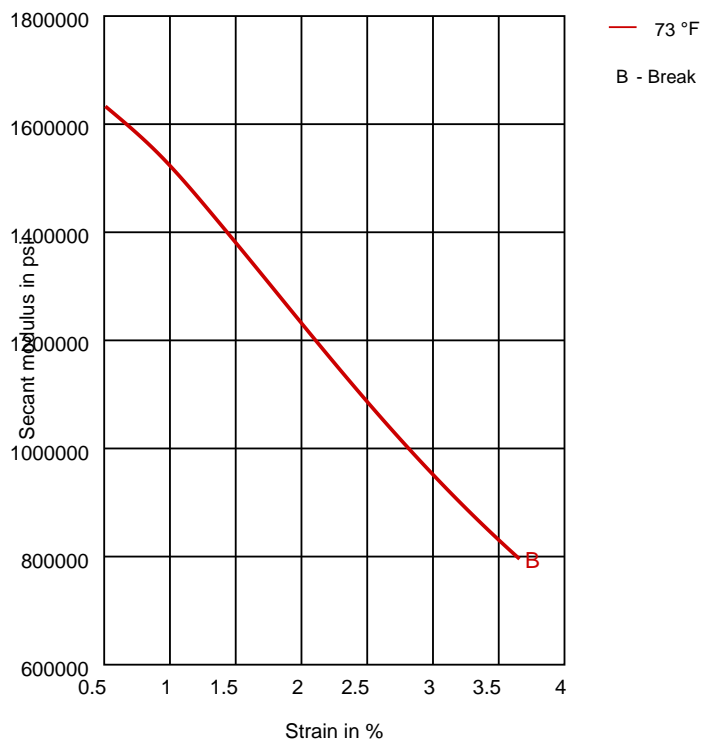
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Secant modulus-strain (dry)



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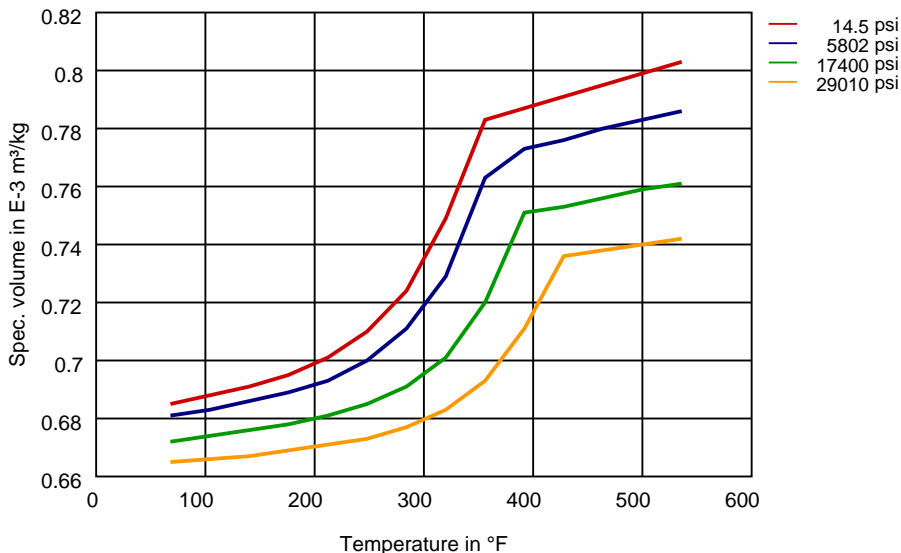
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Specific volume-temperature (pvT)



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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