

DuPont™ Zytel® RS LC1610 BK387

NYLON RESIN

Product Information

Zytel® RS LC1610 BK387 is an unreinforced, toughened, plasticized, and heat stabilized, biobased polyamide 1010 resin for extrusion.

General information	Value	Unit	Test Standard
Resin Identification	PA1010-HIP	-	ISO 1043
Part Marking Code	PA1010-HIP	-	ISO 11469
Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	1.6 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.0 / -	%	ISO 294-4, 2577
Melt viscosity, @ 1000 sec-1, 250°C	210 / *	Pa s	ISO 11443
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	790 / 570	MPa	ISO 527-1/-2
Yield stress	38 / 33	MPa	ISO 527-1/-2
Yield strain	32 / 39	%	ISO 527-1/-2
Nominal strain at break	>50 / >50	%	ISO 527-1/-2
Stress at Break, 23°C, 50mm/min	38 / 34	MPa	ISO 527-1/-2
Strain at Break, 23°C, 50mm/min	230 / 220	%	ISO 527-1/-2
Flexural Strength	24 / 19	MPa	ISO 178
Flexural Stress at 3.5%	24 / 19	MPa	ISO 178
Charpy impact strength			ISO 179/1eU
73°F	N / N	kJ/m ²	
-22°F	N / N	kJ/m ²	
Charpy notched impact strength			ISO 179/1eA
73°F	24 / 34	kJ/m ²	
-22°F	7 / 6	kJ/m ²	
Izod notched impact strength			ISO 180/1A
73°F	24 / 35	kJ/m ²	
-22°F	6 / 5.5	kJ/m ²	
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 18°F/min	197 / *	°C	ISO 11357-1/-3
Freezing temperature, 18°F/min	175 / *	°C	ISO 11357-1/-2
Temp. of deflection under load			ISO 75-1/-2
260 psi	46 / *	°C	
65 psi	110 / *	°C	
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
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	3 / *	mm	IEC 60695-11-10
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)
Other properties	dry / cond	Unit	Test Standard
Humidity absorption, 80mil	0.75 / *	%	Sim. to ISO 62
Water absorption, 80mil	1.5 / *	%	Sim. to ISO 62
Density	1050 / -	kg/m ³	ISO 1183
Injection	Value	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Time, Dehumidified Dryer	4 - 6	h	-
Processing Moisture Content	≤0.1	%	-
Melt Temperature Optimum	230	°C	-
Min. melt temperature	225	°C	-
Max. melt temperature	235	°C	-
Mold Temperature Optimum	55	°C	-
Min. mold temperature	50	°C	-

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

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Max. mold temperature	80	°C	-
Extrusion	Value	Unit	Test Standard
Drying Temperature	75 - 80	°C	-
Drying Time, Dehumidified Dryer	3 - 4	h	-
Processing Moisture Content	≤0.06	%	-
Melt Temperature Optimum	220	°C	-
Melt Temperature Range	210 - 225	°C	-

Characteristics

Processing	• Injection Molding	• Profile Extrusion	• Other Extrusion
Delivery form	• Pellets		
Additives	• Plasticizer		
Special characteristics	• U.V. stabilized or stable to weather	• Heat stabilized or stable to heat	

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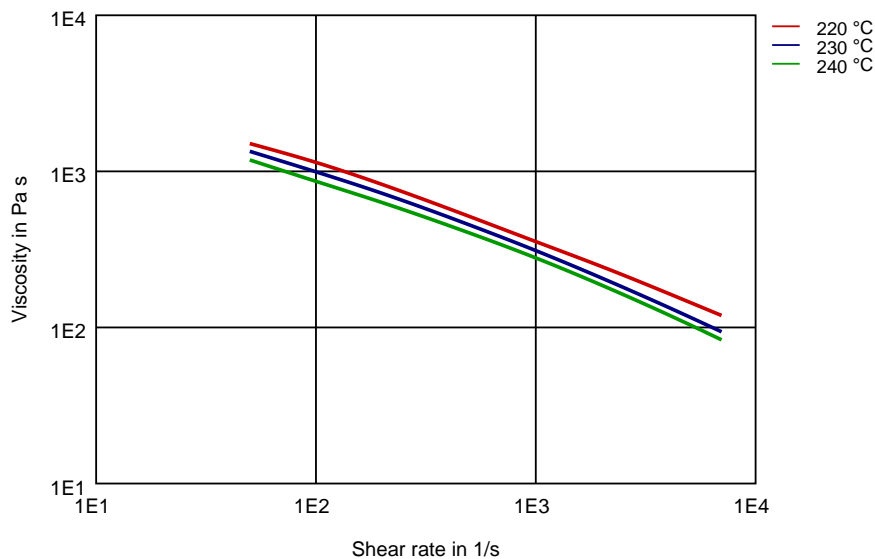


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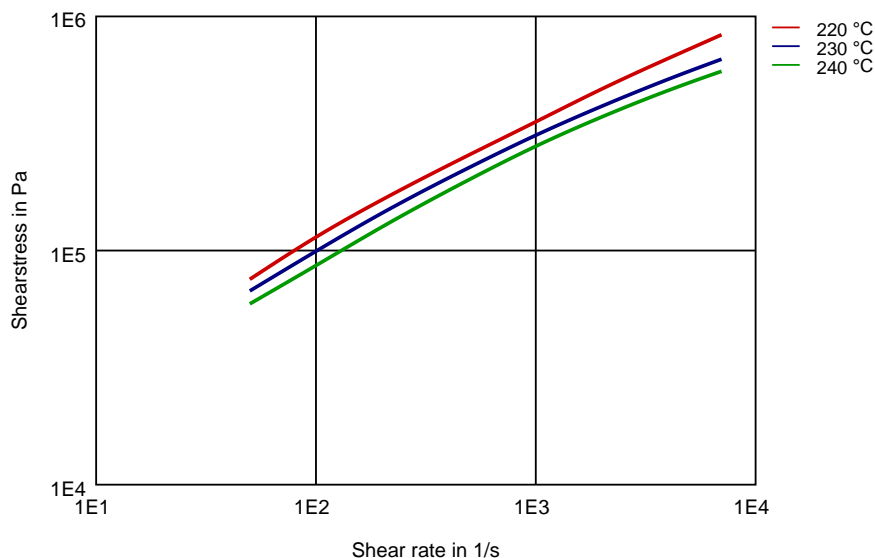
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Diagrams

Viscosity-shear rate



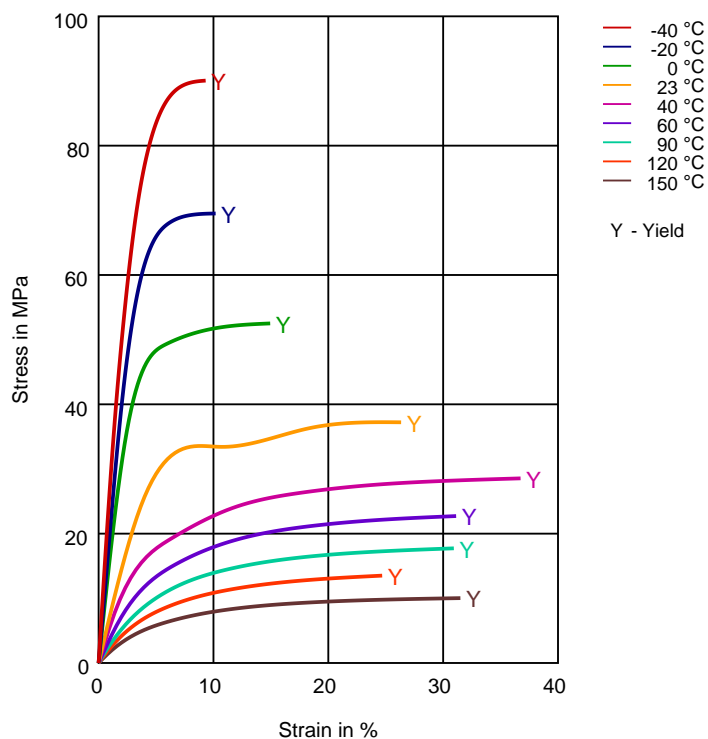
Shearstress-shear rate



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Stress-strain (dry)



Revised: 2018-07-12

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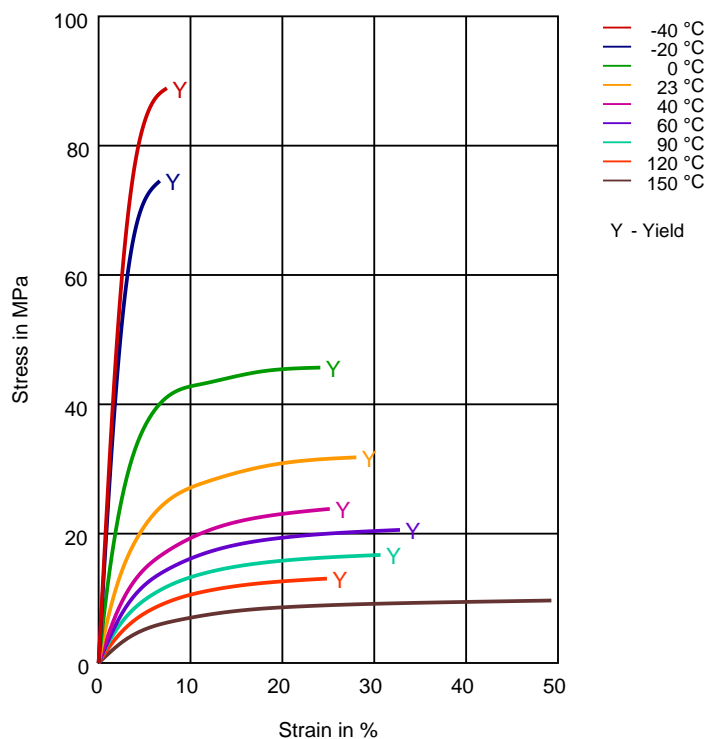
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Stress-strain (cond.)



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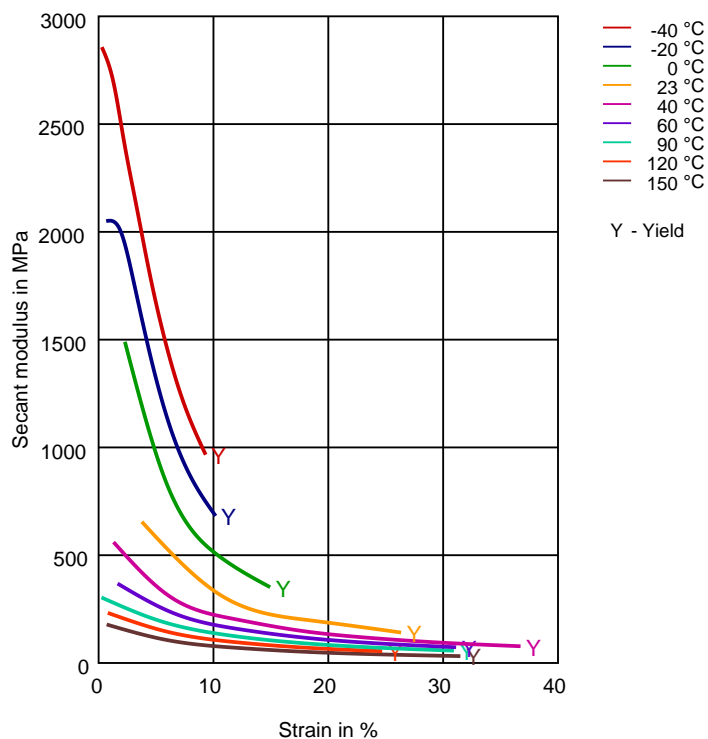
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Secant modulus-strain (dry)



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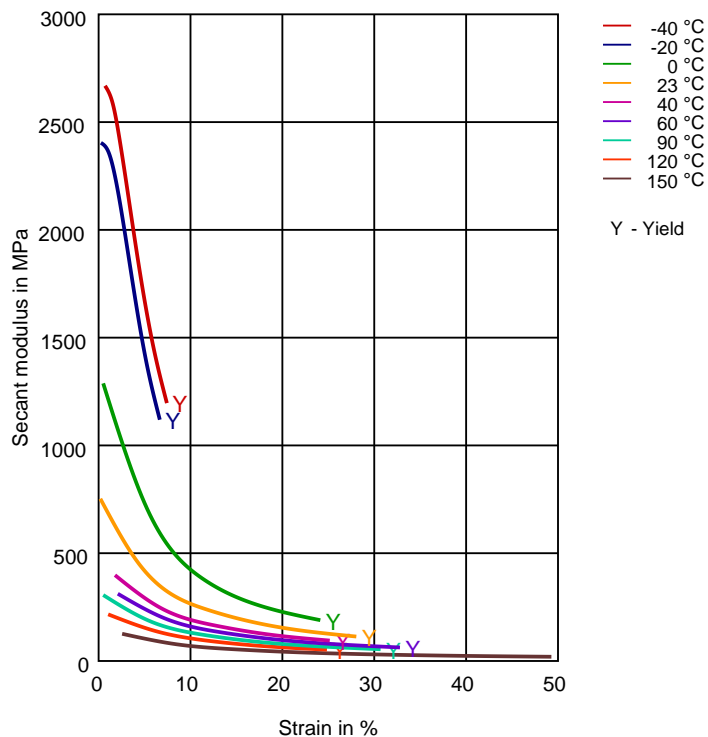
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Secant modulus-strain (cond.)



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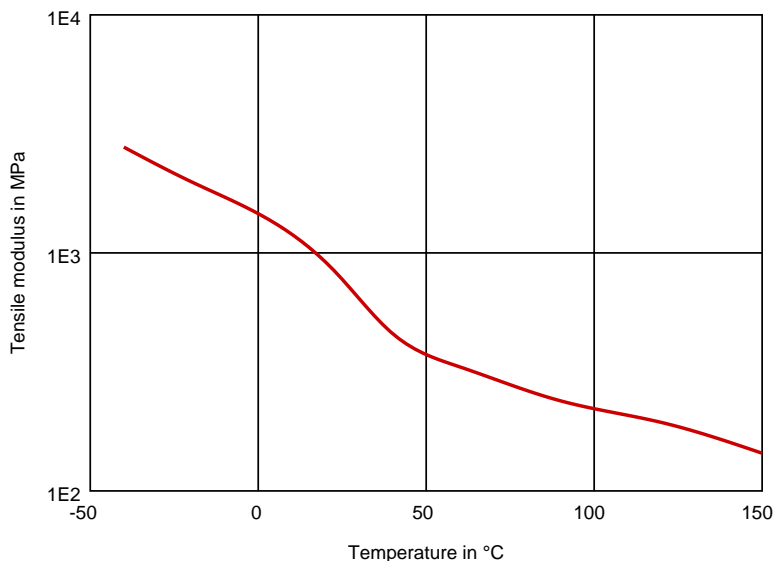
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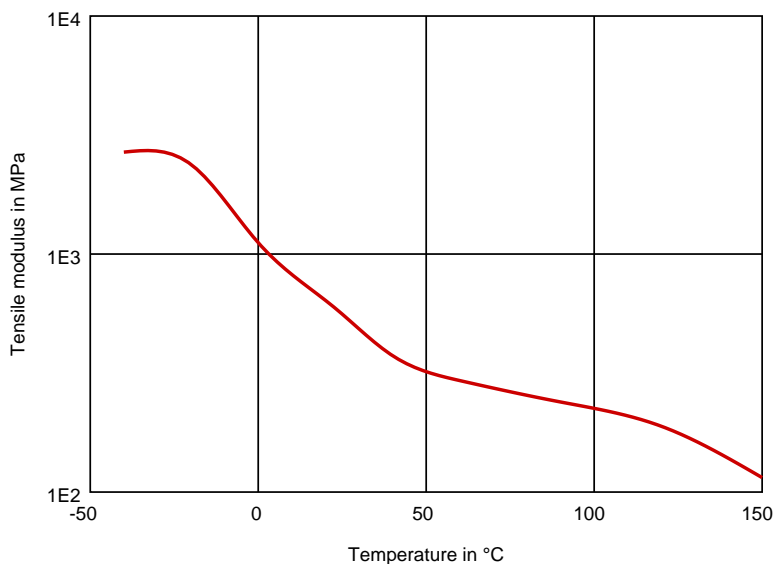
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Tensile modulus-temperature (dry)



Tensile modulus-temperature (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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