

DuPont™ Zytel® 158L NC010

NYLON RESIN

Product Information

DuPont™ Zytel® LCPA long chain polyamide resins provide an innovative and growing portfolio of flexible polymers with excellent thermal, chemical, and hydrolysis resistance. The diverse selection of Zytel® LCPA grades is targeted for a range of performance characteristics, balancing temperature resistance, flexibility and low permeation.

Zytel® 158L NC010 is an intermediate viscosity, lubricated polyamide 612 resin that is suitable for molding and extrusion applications.

General information	Value	Unit	Test Standard
Resin Identification	PA612	-	ISO 1043
Part Marking Code	PA612	-	ISO 11469
Rheological properties	dry / cond	Unit	Test Standard
Viscosity number	120 / *	cm ³ /g	ISO 307, 1157, 1628
Molding shrinkage, parallel	1.3 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.4 / -	%	ISO 294-4, 2577
Mold Shrinkage, Flow, 3.2mm (0.125in)	1.1 / *	%	-
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	2400 / 1500	MPa	ISO 527-1/-2
Yield stress	62 / 52	MPa	ISO 527-1/-2
Yield strain	4.5 / 19	%	ISO 527-1/-2
Nominal strain at break	35 / >50	%	ISO 527-1/-2
Flexural Modulus	2050 / 1450	MPa	ISO 178
Charpy impact strength			ISO 179/1eU
73°F	N / N	kJ/m ²	
-22°F	N / -	kJ/m ²	
Charpy notched impact strength			ISO 179/1eA
73°F	4 / 6	kJ/m ²	
-22°F	5 / 4	kJ/m ²	
Izod notched impact strength			ISO 180/1A
73°F	4 / 6	kJ/m ²	
-22°F	5 / 4	kJ/m ²	
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 18°F/min	218 / *	°C	ISO 11357-1/-3
Glass transition temperature, 18°F/min	60 / 45	°C	ISO 11357-1/-2
Temp. of deflection under load			ISO 75-1/-2
260 psi	62 / *	°C	
65 psi	135 / *	°C	
Coeff. of linear therm. expansion, parallel	120 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion			ISO 11359-1/-2
normal	120 / *	E-6/K	
Normal, -40-23°C	90 / *	E-6/K	
Normal, 55-160°C	180 / *	E-6/K	
Parallel, -40-23°C	90 / *	E-6/K	
Parallel, 55-160°C	170 / *	E-6/K	
Thermal conductivity of melt	0.19	W/(m K)	-
Spec. heat capacity of melt	2800	J/(kg K)	-
RTI, electrical			UL 746B
30mil	105 / *	°C	
60mil	105 / *	°C	
120mil	105	°C	
RTI, impact			UL 746B
30mil	65	°C	
60mil	65 / *	°C	
120mil	65	°C	

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

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RTI, strength			UL 746B
30mil	65	°C	
60mil	65 / *	°C	
120mil	65	°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
UL recognition	yes / *	-	UL 94
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.86 / *	mm	IEC 60695-11-10
UL recognition	yes / *	-	UL 94
Oxygen index	25 / *	%	ISO 4589-1/-2
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
Relative permittivity			IEC 60250
100Hz	3.6 / -	-	
1MHz	3.2 / -	-	
Dissipation factor			IEC 60250
100Hz	140 / -	E-4	
1MHz	160 / -	E-4	
Volume resistivity	>1E13 / -	Ohm*m	IEC 60093
Surface resistivity	* / >1E15	Ohm	IEC 60093
Electric strength	36 / 36	kV/mm	IEC 60243-1
Other properties	dry / cond	Unit	Test Standard
Humidity absorption, 80mil	1.3 / *	%	Sim. to ISO 62
Water absorption, 80mil	3 / *	%	Sim. to ISO 62
Density	1060 / -	kg/m ³	ISO 1183
Density of melt	900	kg/m ³	-
Injection	Value	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	80	°C	-
Drying Time, Dehumidified Dryer	2 - 4	h	-
Processing Moisture Content	≤0.15	%	-
Melt Temperature Optimum	250	°C	-
Min. melt temperature	230	°C	-
Max. melt temperature	290	°C	-
Mold Temperature Optimum	70	°C	-
Min. mold temperature	50	°C	-
Max. mold temperature	90	°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	240	°C	-
Melt Temperature Range	235 - 250	°C	-

Characteristics

Processing	<ul style="list-style-type: none"> • Injection Molding • Film Extrusion • Profile Extrusion 	<ul style="list-style-type: none"> • Sheet Extrusion • Other Extrusion • Coating 	<ul style="list-style-type: none"> • Casting
Delivery form	<ul style="list-style-type: none"> • Pellets 		
Additives	<ul style="list-style-type: none"> • Lubricants 	<ul style="list-style-type: none"> • Release agent 	
Regional Availability	<ul style="list-style-type: none"> • North America • Europe 	<ul style="list-style-type: none"> • Asia Pacific • South and Central America 	<ul style="list-style-type: none"> • Near East/Africa • Global

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Page: 2 of 4

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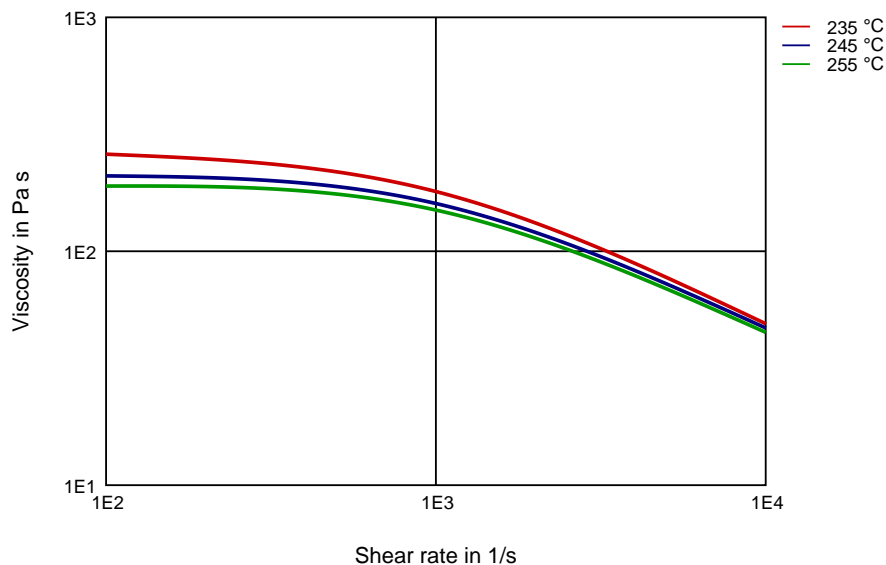
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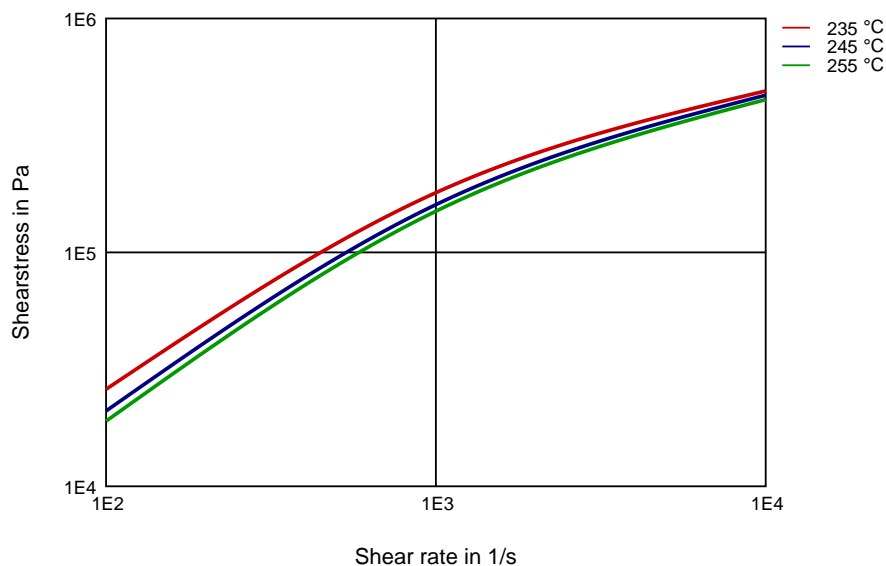
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Diagrams

Viscosity-shear rate



Shearstress-shear rate



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

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Page: 3 of 4

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measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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