

DuPont™ Zytel®

nylon resin

Zytel® 158L NC010

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

Property	Test Method	Units	Value		
			DAM	50%RH	
Identification					
Resin Identification	ISO 1043		PA612		
Part Marking Code	ISO 11469		>PA612<		
Mechanical					
Yield Stress	ISO 527	MPa (kpsi)	62 (9.0)	52 (7.5)	
Nominal Strain at Break	ISO 527	%	35	>100	
Yield Strain	ISO 527	%	4.5	19	
Tensile Modulus	ISO 527	MPa (kpsi)	2400 (348)	1500 (217)	
Flexural Modulus	ISO 178	MPa (kpsi)	2050 (360)	1450 (210)	
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²			
			-30°C (-22°F)	5	4
			23°C (73°F)	4	6
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²			
			-30°C (-22°F)	NB	
			23°C (73°F)	NB	NB

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2005.

040730/050927

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

Zytel® 158L NC010

Property	Test Method	Units	Value	
			DAM	50%RH
Thermal				
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	135 (275)	
1.80MPa			62 (144)	
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	218 (424)	
CLTE, Normal -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.9 (0.5)	
23 - 55°C (73 - 130°F)			1.2 (0.66)	
55 - 160°C (130 - 320°F)			1.8 (1.0)	
CLTE, Parallel -30 - 30°C (-22 - 86°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.9 (0.5)	
-40 - 23°C (-40 - 73°F)			0.9 (0.5)	
23 - 55°C (73 - 130°F)			1.2 (0.66)	
55 - 160°C (130 - 320°F)			1.7 (0.9)	
Electrical				
Relative Permittivity 1E2 Hz	IEC 60250		3.6	
1E6 Hz			3.2	
Dissipation Factor 1E2 Hz	IEC 60250	E-4	140	
1E6 Hz			160	
CTI	IEC 60112	V	600	
CTI 3.0mm	UL 746A	V	>600	

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
Test temperatures are 23°C unless otherwise stated.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2005.

040730/050927

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

Zytel® 158L NC010

Property	Test Method	Units	Value	
			DAM	50%RH
Flammability				
Flammability Classification	IEC 60695-11-10		HB	
0.86mm				
1.5mm				
3.0mm	UL94		HB	
Flammability Classification				
0.86mm				
1.5mm	ISO 4589-1/-2	%	25	
3.0mm				
Oxygen Index				
High Amperage Arc Ignition Resistance	UL 746A	arcs	200	
0.75mm				
1.5mm				
3.0mm	UL 746A	s	200	
Hot Wire Ignition				
0.86mm				
1.5mm	UL 746B	°C	9	
3.0mm				
Temperature Index				
RTI, Electrical	UL 746B	°C	105	
0.86mm				
1.5mm				
3.0mm	UL 746B	°C	105	
RTI, Impact				
0.86mm				
1.5mm	UL 746B	°C	65	
3.0mm				
RTI, Strength				
0.86mm	UL 746B	°C	65	
1.5mm				
3.0mm				

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2005.

040730/050927

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

Zytel® 158L NC010

Property	Test Method	Units	Value	
			DAM	50%RH
Other				
Density	ISO 1183	kg/m ³ (g/cm ³)	1060 (1.06)	
Water Absorption	ISO 62, Similar to	%	1.3	
Equilibrium 50%RH				
Molding Shrinkage	ISO 294-4	%	1.4	
Normal, 2.0mm				
Parallel, 2.0mm				
Mold Shrinkage		%	1.3	
Flow, 3.2mm (0.126in)				
Processing				
Melt Temperature Range		°C (°F)	230-290 (445-550)	
Melt Temperature Optimum		°C (°F)	250 (480)	
Mold Temperature Range		°C (°F)	50-90 (120-190)	
Mold Temperature Optimum		°C (°F)	70 (160)	
Drying Time, Dehumidified Dryer		h	2-4	
Drying Temperature		°C (°F)	80 (175)	
Processing Moisture Content		%	<0.05	

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

The DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2005.

040730/050927

The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.