DuPont™ Zytel®

nylon resin

Zytel® 158 NC010

Zytel® 158 NC010 is an intermediate viscosity PA 612 resin.

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)	52 (7.5)
Nominal Strain at Break	ISO 527	%	35	>50
Yield Strain	ISO 527	%	4.3	19
Tensile Modulus	ISO 527	MPa (kpsi)	2400 (348)	1500 (218)
Poissons Ratio			0.4	
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m^2		
-30°C (-22°F)			4.2	4
23°C (73°F)			4.2	8
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2		
-30°C (-22°F)			NB	NB
23°C (73°F)			NB	NB
Thermal				
Deflection Temperature	ISO 75f	°C (°F)		
0.45MPa			135 (275)	
1.80MPa			62 (144)	
Melting Temperature	ISO 11357-1/-3	°C (°F)		
10°C/min			218 (424)	
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)		
23 - 55°C (73 - 130°F)			1.2 (0.67)	
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)		
23 - 55°C (73 - 130°F)			1.2 (0.67)	
Vicat Softening Temperature	ISO 306	°C (°F)		
50N			181 (358)	

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.

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Electrical				
Surface Resistivity	IEC 60093	ohm	1E12	
Relative Permittivity	IEC 60250			
1E2 Hz			3.6	
1E6 Hz			3.2	4
Volume Resistivity	IEC 60093	ohm m	1E15	1E9
Dielectric Constant	IEC 60250			
1E2 Hz			4.0	6.0
1E3 Hz			4.0	5.3
1E6 Hz			3.5	4.0
Dissipation Factor	IEC 60250	E-4		
1E2 Hz			0.02	1500
1E3 Hz			0.02	0.15
1E6 Hz			165	0.10
CTI	UL 746A	V		
3.0mm			>600	
Flammability				
Flammability Classification	IEC 60695-11-10			
0.86mm			HB	
1.5mm			HB	
3.0mm			HB	
Flammability Classification	UL94			
0.86mm			HB	
1.5mm			HB	
3.0mm			HB	
Oxygen Index	ISO 4589-1/-2	%	25	
High Amperage Arc Ignition Resistance	UL 746A	arcs		
0.86mm			200	
1.5mm			200	
3.0mm			200	

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			DAM	50%RH
Flammability				
Hot Wire Ignition	UL 746A	s		
0.86mm			9	
1.5mm			9	
3.0mm			19	
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.86mm			105	
1.5mm			105	
3.0mm			105	
RTI, Impact	UL 746B	°C		
0.86mm			65	
1.5mm			65	
3.0mm			65	
RTI, Strength	UL 746B	°C		
0.86mm			65	
1.5mm			65	
3.0mm			65	
Other				
Density	ISO 1183	kg/m^3 (g/cm^3)	1060 (1.06)	
Hardness, Rockwell	ISO 2039/2			
Scale R			114	108
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			1.3	
Saturation, immersed			3	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			1.5	
Parallel, 2.0mm			1.5	
Mold Shrinkage		%		
Flow, 3.2mm (0.126in)			1.1	
Transverse, 3.2mm (0.126in)			1.1	

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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	

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