

DuPont™ Zytel®

nylon resin

Zytel® 70G43L NC010

Zytel® 70G43L NC010 is a 43% glass fiber reinforced polyamide 66 resin for injection molding.

Property	Test Method	Units	Value	
			DAM	50%RH
Identification				
Resin Identification	ISO 1043		PA66-GF43	
Part Marking Code	ISO 11469		>PA66-GF43<	
Mechanical				
Stress at Break	ISO 527	MPa (kpsi)	225 (32.6)	160 (23.2)
Strain at Break	ISO 527	%	3	4
Tensile Modulus	ISO 527	MPa (kpsi)	14000 (2030)	11000 (1595)
Tensile Creep Modulus	ISO 899	MPa (kpsi)		
1h				10800 (1566)
1000h				7960 (1154)
Poisson's Ratio			0.39	
Flexural Modulus	ISO 178	MPa (kpsi)	12000 (1740)	8900 (1290)
Flexural Strength	ISO 178	MPa (kpsi)	340 (49.3)	260 (37.7)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²		
-40°C (-40°F)			11	11
-30°C (-22°F)			12	12
23°C (73°F)			16	19
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²		
-30°C (-22°F)			85	75
23°C (73°F)			100	105

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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Thermal				
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	262 (504)	
1.80MPa			255 (491)	
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	262 (504)	
CLTE, Normal -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.61 (0.34)	
23 - 55°C (73 - 130°F)			0.79 (0.44)	
55 - 160°C (130 - 320°F)			1.28 (0.71)	
CLTE, Parallel -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.20 (0.11)	
23 - 55°C (73 - 130°F)			0.15 (0.08)	
55 - 160°C (130 - 320°F)			0.09 (0.05)	
Vicat Softening Temperature 50N	ISO 306	°C (°F)	255 (491)	
Electrical				
Surface Resistivity	IEC 60093	ohm	1E12	
Relative Permittivity 1E2 Hz	IEC 60250		4.5	
1E6 Hz			4.1	4.9
Volume Resistivity	IEC 60093	ohm m	1E14	1E10
Dissipation Factor 1E2 Hz	IEC 60250	E-4	100	
1E6 Hz			145	600
Electric Strength 2.0mm	IEC 60243-1	kV/mm (V/mil)	27 (686)	
Arc Resistance 3.0mm	UL 746A	s	146	
CTI	IEC 60112	V	>600	
CTI 3.0mm	UL 746A	V	>600	

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Flammability				
Flammability Classification 0.71mm	IEC 60695-11-10		HB	
Flammability Classification 0.71mm	UL94		HB	
Oxygen Index	ISO 4589-1/-2	%	23	
Glow Wire Flammability Index 0.71mm	IEC 60695-2-12	°C	650	
1.5mm			650	
3.0mm			825	
Glow Wire Ignition Temperature 0.71mm	IEC 60695-2-13	°C	675	
1.5mm			675	
3.0mm			700	
High Amperage Arc Ignition Resistance 0.71mm	UL 746A	arcs	>200	
High Voltage Arc Tracking Rate	UL 746A	mm/min (in/min)	19.3 (0.76)	
Hot Wire Ignition 0.71mm	UL 746A	s	28	
1.5mm			9	
3.0mm			28	
Temperature Index				
RTI, Electrical 0.71mm	UL 746B	°C	130	
RTI, Impact 0.71mm	UL 746B	°C	120	
RTI, Strength 0.71mm	UL 746B	°C	130	

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Other				
Density	ISO 1183	kg/m ³ (g/cm ³)	1490 (1.49)	
Ball Indention Hardness H 961/30	ISO 2039-1	MPa (kpsi)	295 (42)	218 (31)
Hardness, Rockwell Scale M	ISO 2039/2		105	90
Scale R			125	118
Water Absorption Equilibrium 50%RH	ISO 62, Similar to	%	1.5	
Immersion 24h, 2.0mm			0.9	
Saturation, immersed			4.7	
Molding Shrinkage Normal, 2.0mm	ISO 294-4	%	1.0	
Parallel, 2.0mm			0.3	
Mold Shrinkage Flow, 1.6mm (0.063in)		%	0.2	
Flow, 3.2mm (0.126in)			0.3	
Flow, 6.4mm (0.25in)			0.4	
Transverse, 1.6mm (0.063in)			0.9	
Transverse, 3.2mm (0.126in)			0.9	
Transverse, 6.4mm (0.25in)			0.9	
Processing				
Melt Temperature Range		°C (°F)	285-305 (545-580)	
Melt Temperature Optimum		°C (°F)	295 (565)	
Mold Temperature Range		°C (°F)	70-120 (160-250)	
Mold Temperature Optimum		°C (°F)	100 (210)	
Drying Time, Dehumidified Dryer		h	2-4	
Drying Temperature		°C (°F)	80 (175)	
Processing Moisture Content		%	<0.20	

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