

DuPont™ Crastin® PBT

thermoplastic polyester resin

Crastin® ST820 NC010

Crastin® ST820 NC010 is an unreinforced, Super Tough polybutylene terephthalate resin for injection molding				
Identification	Property	Test Method	Units	Value
Resin Identification		ISO 1043		PBT-HI
Part Marking Code		ISO 11469		>PBT-HI<
Mechanical				
Yield Stress		ISO 527	MPa (kpsi)	38 (5.5)
Strain at Break		ISO 527	%	
50mm/min				150
Nominal Strain at Break		ISO 527	%	>50
Yield Strain		ISO 527	%	7
Tensile Modulus		ISO 527	MPa (kpsi)	1700 (247)
Flexural Modulus		ISO 178	MPa (kpsi)	1550 (225)
Flexural Strength		ISO 178	MPa (kpsi)	50 (7.3)
Notched Charpy Impact Strength		ISO 179/1eA	kJ/m ²	
-40°C (-40°F)				10
-30°C (-22°F)				10
23°C (73°F)				85
Unnotched Charpy Impact Strength		ISO 179/1eU	kJ/m ²	
-30°C (-22°F)				NB
23°C (73°F)				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.

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Property	Test Method	Units	Value
Thermal			
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	100 (212)
0.45MPa, Annealed			145 (293)
1.80MPa			50 (122)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	225 (437)
CLTE, Normal 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.9 (1.1)
CLTE, Parallel 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.9 (1.1)
Vicat Softening Temperature 10N	ISO 306	°C (°F)	216 (420)
50N			123 (253)
Electrical			
Surface Resistivity	IEC 60093	ohm	1E15
Volume Resistivity	IEC 60093	ohm m	>1E13
Dielectric Constant 1E3 Hz	IEC 60250		3.5
1E6 Hz			3.4
Dissipation Factor 1E3 Hz	IEC 60250		0.003
1E6 Hz			0.02
Electric Strength 23°C (73°F), 2.0mm	IEC 60243-1	kV/mm (V/mil)	23 (600)
100°C (212°F), 2.0mm			21 (537)
150°C (302°F), 2.0mm			16 (412)
CTI M Plate 4mm	IEC 60112		>600

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Property	Test Method	Units	Value
Flammability			
Flammability Classification 0.8mm	IEC 60695-11-10		HB
Flammability Classification 0.8mm	UL94		HB
Oxygen Index	ISO 4589-1/-2	%	19
Glow Wire Flammability Index 3.0mm	IEC 60695-2-1	°C	700
Temperature Index			
RTI, Electrical 0.8mm	UL 746B	°C	75
RTI, Impact 0.8mm	UL 746B	°C	75
RTI, Strength 0.8mm	UL 746B	°C	75
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1220 (1.22)
Ball Indentation Hardness H 358/30	ISO 2039-1	MPa (kpsi)	78 (11)
Hardness, Rockwell Scale R	ISO 2039/2		104
Water Absorption Equilibrium 50%RH Saturation, immersed	ISO 62, Similar to	%	0.12 0.31
Molding Shrinkage Normal, 2.0mm Parallel, 2.0mm Parallel, Annealed	ISO 294-4	%	1.8 1.9 2.5

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Property	Test Method	Units	Value
Processing			
Melt Temperature Range		°C (°F)	240-260 (465-500)
Melt Temperature Optimum		°C (°F)	250 (480)
Mold Temperature Range		°C (°F)	30-130 (85-265)
Mold Temperature Optimum		°C (°F)	80 (175)
Drying Time, Dehumidified Dryer		h	2-4
Drying Temperature		°C (°F)	110-130 (230-265)
Processing Moisture Content		%	<0.04
Snake Flow		mm	
100MPa, 7 x 2mm			300
90MPa, 5x0.30mm			7
90MPa, 5x0.50mm			18
90MPa, 5x0.75mm			47
90MPa, 5x1.00mm			77

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