

DuPont™ Crastin® PBT

thermoplastic polyester resin

Crastin® S600F10 NC010

Crastin® S600F10 NC010 is an unreinforced, medium viscosity polybutylene terephthalate resin for injection molding.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		PBT
Part Marking Code	ISO 11469		>PBT<
Mechanical			
Yield Stress	ISO 527	MPa (kpsi)	57 (8.3)
Strain at Break	ISO 527	%	
50mm/min			>50
Nominal Strain at Break	ISO 527	%	>50
Yield Strain	ISO 527	%	6
Tensile Modulus	ISO 527	MPa (kpsi)	2600 (377)
Tensile Creep Modulus	ISO 899	MPa (kpsi)	
1h			2600 (377)
1000h			1800 (261)
Flexural Modulus	ISO 178	MPa (kpsi)	2300 (330)
Flexural Strength	ISO 178	MPa (kpsi)	85 (12.3)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			4
23°C (73°F)			5
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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Thermal			
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	115 (239)
0.45MPa, Annealed			180 (356)
1.80MPa			50 (122)
1.80MPa, Annealed			60 (140)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	225 (437)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.9 (0.5)
23 - 55°C (73 - 130°F)			1.2 (0.67)
55 - 160°C (130 - 320°F)			2.0 (1.11)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.8 (0.44)
23 - 55°C (73 - 130°F)			1.1 (0.61)
55 - 160°C (130 - 320°F)			1.9 (1.06)
Thermal Conductivity	DIN 51046	W/m K (Btu in/h ft ² F)	0.25 (1.7)
Vicat Softening Temperature	ISO 306	°C (°F)	
10N			216 (420)
50N, 50°C/h			175 (347)
Hot Ball Pressure Test	VDE 0470	°C (°F)	
Plate 3mm			180 (355)
Electrical			
Surface Resistivity	IEC 60093	ohm	1E15
Relative Permittivity	IEC 60250		
1E2 Hz			3.8
1E6 Hz			3.2

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Property	Test Method	Units	Value
Electrical			
Volume Resistivity	IEC 60093	ohm m	>1E13
Dissipation Factor	IEC 60250	E-4	
1E2 Hz			20
1E6 Hz			200
Electric Strength	IEC 60243-1	kV/mm (V/mil)	
1.0mm			26 (660)
20s, 2.0mm			15 (381)
Electrolytical Corrosion	IEC 60426		
Plate 4mm			A1
CTI	IEC 60112	V	600
CTI	UL 746A	V	250
CTI M	IEC 60112	V	
Plate 4mm			350 M
Flammability			
Flammability Classification	IEC 60695-11-10		
1.5mm			HB
Flammability Classification	UL94		
1.5mm			HB
Oxygen Index	ISO 4589-1/-2	%	22
Glow Wire Flammability Index	IEC 60695-2-1	°C	
3.0mm			750
High Amperage Arc Ignition Resistance	UL 746A	arcs	
1.5mm			60
3.0mm			120
6.0mm			120
Hot Wire Ignition	UL 746A	s	
1.5mm			15
3.0mm			15
6.0mm			60

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Property	Test Method	Units	Value
Temperature Index			
RTI, Electrical 0.75mm	UL 746B	°C	130
RTI, Impact 0.75mm	UL 746B	°C	115
RTI, Strength 0.75mm	UL 746B	°C	120
Temperature Index, Tensile Strength 20000h 5000h	IEC 60216	°C (°F)	120 (248) 130 (265)
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1300 (1.30)
Ball Indentation Hardness H 358/30	ISO 2039-1	MPa (kpsi)	139 (20)
Water Absorption Equilibrium 50%RH Saturation, immersed	ISO 62, Similar to	%	0.2 0.5
Molding Shrinkage Normal, 2.0mm Parallel, 2.0mm	ISO 294-4	%	1.6 1.7
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)

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Processing			
Processing Moisture Content		%	<0.04
Snake Flow		mm (in)	
100MPa, 7 x 2mm			380 (15)
90MPa, 5x0.30mm			10 (0.4)
90MPa, 5x0.50mm			31 (1.2)
90MPa, 5x0.75mm			61 (2.4)
90MPa, 5x1.00mm			97 (3.8)

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