

# DuPont™ Crastin® PBT

thermoplastic polyester resin

## Crastin® S650FR NC010

Crastin® S650FR is an unreinforced, flame retardant polybutylene terephthalate for injection molding.

Property	Test Method	Units	Value
<b>Identification</b>			
Resin Identification	ISO 1043		PBT-FR(17)
Part Marking Code	ISO 11469		>PBT-FR(17)<
<b>Mechanical</b>			
Yield Stress	ISO 527	MPa (kpsi)	65 (9.4)
Strain at Break	ISO 527	%	9
Nominal Strain at Break	ISO 527	%	7.2
Yield Strain	ISO 527	%	4.6
Tensile Modulus	ISO 527	MPa (kpsi)	3000 (435)
Tensile Creep Modulus	ISO 899	MPa (kpsi)	
1h			2500 (363)
1000h			1800 (261)
Flexural Strength	ISO 178	MPa (kpsi)	100 (14.5)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup>	
-30°C (-22°F)			3.3
23°C (73°F)			3.8
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m <sup>2</sup>	
-30°C (-22°F)			67
23°C (73°F)			70

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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# Product Information

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Property	Test Method	Units	Value
<b>Thermal</b>			
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	160 (320)
1.80MPa			65 (149)
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)	1.2 (0.67)
CLTE, Parallel 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.2 (0.67)
Thermal Conductivity	DIN 51046	W/m K (Btu in/h ft <sup>2</sup> F)	0.26 (1.8)
Vicat Softening Temperature 10N	ISO 306	°C (°F)	215 (419)
50N			177 (351)
Hot Ball Pressure Test Plate 3mm	VDE 0470	°C (°F)	190 (374)
<b>Electrical</b>			
Surface Resistivity	IEC 60093	ohm	1E15
Relative Permittivity 1E2 Hz	IEC 60250		3.5
1E6 Hz			3.5
Volume Resistivity	IEC 60093	ohm m	>1E13
Dissipation Factor 1E2 Hz	IEC 60250	E-4	17
1E6 Hz			180
Electric Strength 1.0mm	IEC 60243-1	kV/mm (V/mil)	25 (635)
20s, Plate 2mm			15 (381)

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<b>Electrical</b>			
Electrolytical Corrosion Plate 4mm	IEC 60426		A1
CTI	IEC 60112	V	225
CTI 3.0mm	UL 746A	V	250
CTI M Plate 4mm	IEC 60112		175 M
<b>Flammability</b>			
Flammability Classification 0.75mm	IEC 60695-11-10		V-0
1.5mm			V-0
3.0mm			V-0
6.0mm			V-0
Flammability Classification 0.75mm	UL94		V-0
1.5mm			V-0
3.0mm			V-0
6.0mm			V-0
Oxygen Index	ISO 4589-1/-2	%	30
Glow Wire Flammability Index 3.0mm	IEC 60695-2-1	°C	960
High Amperage Arc Ignition Resistance 0.75mm	UL 746A	arcs	200
1.5mm			200
3.0mm			200
6.0mm			200
Hot Wire Ignition 0.75mm	UL 746A	s	12
1.5mm			18
3.0mm			37
6.0mm			79

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<b>Temperature Index</b>			
RTI, Electrical	UL 746B	°C	
0.75mm			130
1.5mm			130
3.0mm			130
6.0mm			130
RTI, Impact	UL 746B	°C	
0.75mm			130
1.5mm			130
3.0mm			130
6.0mm			130
RTI, Strength	UL 746B	°C	
0.75mm			130
1.5mm			130
3.0mm			130
6.0mm			130
Temperature Index, Tensile Strength	IEC 60216	°C (°F)	
20000h			130 (265)
5000h			145 (293)
<b>Other</b>			
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1460 (1.46)
Ball Indentation Hardness	ISO 2039-1	MPa (kpsi)	
H 358/30			150 (22)
Water Absorption	ISO 62, Similar to	%	
Equilibrium 50%RH			0.15
Saturation, immersed			0.39
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			1.6
Normal, Annealed			2.15
Parallel, 2.0mm			1.8
Parallel, Annealed			2.25

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<b>Processing</b>			
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			360
90MPa, 5x0.30mm			7
90MPa, 5x0.50mm			28
90MPa, 5x0.75mm			62
90MPa, 5x1.00mm			99

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