DuPont™ Crastin® PBT

thermoplastic polyester resin

Crastin® 6129 NC010

Crastin® 6129 NC010 is an unreinforced, high viscosity polybutylene terephthalate resin for extrusion and 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)	58 (8.4)
Strain at Break	ISO 527	%	
50mm/min			200
Nominal Strain at Break	ISO 527	%	>50
Yield Strain	ISO 527	%	5
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)	2350 (340)
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)			5.5
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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Property	Test Method	Units	Value
Thermal			
Deflection Temperature	ISO 75f	°C (°F)	
0.45MPa			115 (239)
0.45MPa, Annealed			180 (356)
1.80MPa			50 (122)
1.80MPa, Annealed			60 (140)
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			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)			1.3 (0.72)
55 - 160°C (130 - 320°F)			1.62 (0.9)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.72 (0.4)
23 - 55°C (73 - 130°F)			1.3 (0.72)
55 - 160°C (130 - 320°F)			1.8 (1.0)
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, 50°C/h			215 (420)
50N, 50°C/h			175 (350)
Hot Ball Pressure Test	VDE 0470	°C (°F)	
Plate 3mm			180 (356)
Electrical			
Surface Resistivity	IEC 60093	ohm	>1E12
Relative Permittivity	IEC 60250		
1E6 Hz			3.2
50Hz			3.8

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Electrical			
Volume Resistivity	IEC 60093	ohm m	>1E13
Dissipation Factor	IEC 60250	E-4	
1E6 Hz			200
50Hz			20
Electric Strength	IEC 60243-1	kV/mm (V/mil)	
1.0mm			26 (660)
2.0mm			15 (380)
Electrolytical Corrosion	IEC 60426		
4.0mm			A1
CTI	UL 746A	V	>600
Flammability			
Flammability Classification	IEC 60695-11-10		
0.92mm			HB
Flammability Classification	UL94		
0.92mm			HB
Oxygen Index	ISO 4589-1/-2	%	22
Glow Wire Flammability Index	IEC 60695-2-12	°C	
0.92mm			925
1.5mm			960
3.0mm			850
Glow Wire Ignition Temperature	IEC 60695-2-13	°C	
0.92mm			825
1.5mm			825
3.0mm			825
High Amperage Arc Ignition Resistance	UL 746A	arcs	
0.92mm			120
Hot Wire Ignition	UL 746A	s	
0.92mm			7
1.5mm			15
3.0mm			30

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Property	Test Method	Units	Value
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.92mm			75
RTI, Impact	UL 746B	°C	
0.92mm			75
RTI, Strength	UL 746B	°C	
0.92mm			75
Other			
Density	ISO 1183	kg/m^3 (g/cm^3)	1300 (1.30)
Ball Indention Hardness	ISO 2039-1	MPa (kpsi)	
H 358/30			139 (20)
Water Absorption	ISO 62, Similar to	%	
Equilibrium 50%RH			0.2
Saturation, immersed			0.4
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			1.5
Parallel, 2.0mm			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)
Processing Moisture Content		%	<0.04
Snake Flow		mm	
90MPa, 5x0.30mm			8
90MPa, 5x0.50mm			26
90MPa, 5x0.75mm			60
90MPa, 5x1.00mm			95

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