DuPont™ Rynite® PET

thermoplastic polyester resin

Rynite® 530 NC010

Rynite® 530 NC010 is a 30% glass reinforced modified polyethylene terephthalate with outstanding balance of strength, stiffness, and toughness, excellent electrical properties, surface appearance, and chemical resistance.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043-1/-2/-3/-4		PET-GF30
Part Marking Code	ISO 11469		>PET-GF30<
Mechanical			
Tensile Strength	ASTM D 638	MPa (kpsi)	
-40°C (-40°F)			214 (31.0)
23°C (73°F)			159 (23.0)
90°C (194°F)			83.4 (12.1)
150°C (300°F)			56 (8.1)
Elongation at Break	ASTM D 638	%	
-40°C (-40°F)			2.5
23°C (73°F)			2.7
90°C (194°F)			5.7
150°C (300°F)			6.5
Tensile Modulus	ASTM D 638	MPa (kpsi)	
-40°C (-40°F)			11300 (1640)
23°C (73°F)			10700 (1550)
90°C (194°F)			4540 (658)
150°C (300°F)			3090 (448)

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.
Shrinkage generated per ISO 294-4 based on 60 X 60mm end-gated plagues or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

040420/040422

Rynite® 530 NC010

Property	Test Method	Units	Value
Mechanical			
Shear Strength	ASTM D 732	MPa (kpsi)	79.0 (11.5)
Poisson's Ratio			0.41
Flexural Modulus	ASTM D 790	MPa (kpsi)	
-40°C (-40°F)			10300 (1500)
23°C (73°F)			8960 (1300)
90°C (194°F)			3580 (520)
150°C (300°F)			2690 (390)
Flexural Strength	ASTM D 790	MPa (kpsi)	
-40°C (-40°F)			269 (39.0)
23°C (73°F)			235 (34.0)
90°C (194°F)			114 (16.5)
150°C (300°F)			75.8 (11.0)
Compressive Strength	ASTM D 695	MPa (kpsi)	227 (33.0)
Deformation Under Load	ASTM D 621	%	
23°C (73°F), 27.6MPa (4000psi)			0.4
50°C (122°F), 27.6MPa (4000psi)			1.6
Flexural Fatigue	ASTM D 671	MPa (kpsi)	
Cycles 10E6			40.7 (5.9)
Flexural Creep Strain	ASTM D 2990	%	
23°C (73°F), 27.6MPa (4000psi)			0.56
60°C (140°F), 27.6MPa (4000psi)			1.18
125°C (257°F), 27.6MPa (4000psi)			1.65
Izod Impact	ASTM D 256	J/m (ft lb/in)	
-40°C (-40°F)			96 (1.8)
23°C (73°F)			101 (1.9)

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Mechanical			
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40°C (-40°F)			750 (14.0)
23°C (73°F)			960 (18.0)
Thermal			
Heat Deflection Temperature	ASTM D 648	°C (°F)	
0.45MPa (66psi)			247 (477)
1.8MPa (264psi)			224 (435)
Melting Point	ASTM D 3418	°C (°F)	254 (489)
CLTE, Normal	ASTM E 831	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.67 (0.37)
23 - 55°C (73 - 130°F)			0.81 (0.45)
55 - 160°C (130 - 320°F)			1.07 (0.59)
CLTE, Parallel	ASTM E 831	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.22 (0.12)
23 - 55°C (73 - 130°F)			0.10 (0.06)
55 - 160°C (130 - 320°F)			0.04 (0.02)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft^2 F)	0.29 (2.0)
Electrical			
Surface Resistivity	ASTM D 257	ohm	1E14
Relative Permittivity	IEC 60250		
1E2 Hz			4.2
1E6 Hz			3.9
Volume Resistivity	ASTM D 257	ohm cm	1E15

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Property	Test Method	Units	Value
Electrical			
Dielectric Strength, Short Time	ASTM D 149	kV/mm (V/mil)	
23°C (73°F), 500 V/s, in oil, 1.6mm (0.062in)			25.5 (650)
23°C (73°F), 500 V/s, in oil, 3.2mm (0.126in)			20.5 (520)
95°C (200°F), 500 V/s, in oil, 1.6mm (0.062in)			22.5 (570)
95°C (200°F), 500 V/s, in oil, 3.2mm (0.126in)			16.5 (420)
150°C (300°F), 500 V/s, in oil, 1.6mm (0.062in)			15.5 (395)
150°C (300°F), 500 V/s, in oil, 3.2mm (0.126in)			12.0 (300)
Dielectric Strength, Step by Step	ASTM D 149	kV/mm (V/mil)	
3.2mm (0.126in)			17.5 (445)
Dielectric Constant	ASTM D 150		
1E3 Hz			3.6
1E6 Hz			3.5
Dissipation Factor	ASTM D 150		
1E3 Hz			0.005
1E6 Hz			0.012
Arc Resistance	UL 746A	s	
Plate 4mm			125
CTI	UL 746A	PLC level	2
23°C (73°F)			250-400
Flammability			
Flammability Classification	UL94		
0.75mm			HB
Oxygen Index	ASTM D 2863	%	20
Glow Wire Flammability Index	IEC 60695-2-1	°C	
2.0mm			750
3.0mm			750

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Property	Test Method	Units	Value
Flammability			
High Amperage Arc Ignition Resistance	UL 746A	arcs	60-120
High Voltage Arc Tracking Rate		mm/min	25-80
Hot Wire Ignition	UL 746A	s	>120
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.81mm			140
RTI, Impact	UL 746B	°C	
0.81mm			140
RTI, Strength	UL 746B	°C	
0.81mm			140
Other			
Specific Gravity	ASTM D 792		1.56
Hardness, Rockwell	ASTM D 785		
Scale M			95
Scale R			120
Coefficient of Friction	ASTM D 1894		
Self, static			0.18
Steel, static			0.17
Taber Abrasion	ASTM D 1044	mg	
CS-17 Wheel, 1kg, 1000 cycles			30
Water Absorption	ASTM D 570	%	
50%RH,23°C,24h			0.05
Mold Shrinkage		%	
Flow, 1.57mm (0.062in)			0.18
Flow, 3.2mm (0.126in)			0.25
Transverse, 1.57mm (0.062in)			0.78
Transverse, 3.2mm (0.126in)			0.80

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Processing			
Melt Temperature Range		°C (°F)	280-300 (535-570)
Melt Temperature Optimum		°C (°F)	285 (545)
Mold Temperature Range		°C (°F)	>95 (>205)
Mold Temperature Optimum		°C (°F)	110 (230)
Drying Time, Dehumidified Dryer		h	4
Drying Temperature		°C (°F)	120 (250)
Processing Moisture Content		%	<0.02

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