

DuPont™ Rynite® PET

thermoplastic polyester resin

Rynite® FR530 NC010

Rynite® FR530 NC010 is a 30% glass reinforced, flame retardant, modified polyethylene terephthalate resin.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		PET-GF30FR(17)
Part Marking Code	ISO 11469		>PET-GF30FR(17)<
Mechanical			
Stress at Break	ISO 527	MPa (kpsi)	135 (19.6)
Strain at Break	ISO 527	%	2.0
Tensile Modulus	ISO 527	MPa (kpsi)	11500 (1670)
Shear Strength	ASTM D 732	MPa (kpsi)	60.0 (8.7)
Poissons Ratio	ASTM E 132		0.40
Flexural Modulus	ASTM D 790	MPa (kpsi)	10300 (1500)
Flexural Modulus	ISO 178	MPa (kpsi)	10500 (1520)
Flexural Strength	ASTM D 790	MPa (kpsi)	200 (29.0)
Compressive Strength	ASTM D 695	MPa (kpsi)	200 (29.0)
Deformation Under Load	ASTM D 621	%	
27.6MPa (4000psi)			0.5
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			9
23°C (73°F)			10
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²	
-30°C (-22°F)			40
23°C (73°F)			40

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc

Test specimen for ISO 527 is 1BA (2mm) at 50mm/min; all other ISO & ASTM mechanical properties measured at 4mm; ISO electrical properties measured at 2mm

All mechanical & electrical properties measured on injection molded specimen

Test temperatures are 23°C unless otherwise stated.

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

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The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. CAUTION: This product is not permitted to be sold for use in medical applications involving any implantation in the human body or where contact with internal body fluids or tissues will equal or exceed 24 hours. For applications involving contact of less than 24 hours, see "DuPont Medical Caution Statement", H-50102 and contact your DuPont sales representative.

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Thermal			
Deflection Temperature	ISO 75-1/-2	°C (°F)	
0.45MPa			243 (469)
1.80MPa			225 (437)
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			252 (486)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.22 (0.12)
23 - 55°C (73 - 130°F)			0.19 (0.11)
55 - 160°C (130 - 320°F)			0.10 (0.06)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.68 (0.38)
23 - 55°C (73 - 130°F)			0.92 (0.51)
55 - 160°C (130 - 320°F)			0.98 (0.54)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft² F)	0.25 (1.7)
Specific Heat	ISO 11357-4	J/kg K (Btu/lb F)	1720 (0.41)
Electrical			
Surface Resistivity	IEC 60093	ohm	1E14
Volume Resistivity	IEC 60093	ohm m	1E13
Electric Strength	IEC 60243-1	kV/mm (V/mil)	
1mm			33 (840)
Relative Permittivity	IEC 60250		
1E2 Hz			4.8
1E6 Hz			4.7
Dissipation Factor	ASTM D 150		
1E6 Hz			0.018
Dissipation Factor	IEC 60250	E-4	
1E2 Hz			70
1E6 Hz			100
CTI	IEC 60112	V	225
CTI	UL 746A	V	250

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Property	Test Method	Units	Value
Flammability			
Flammability Classification 0.35mm	IEC 60695-11-10		V-0
Flammability Classification 0.35mm	UL94		V-0
5V Rating	IEC 60695-11-20		5VA
5V Min. Thickness Tested	IEC 60695-11-20	mm	0.9
Oxygen Index	ISO 4589-1/-2	%	33
Glow Wire Flammability Index 0.75mm	IEC 60695-2-12	°C	960
3.0mm			960
Glow Wire Ignition Temperature 0.75mm	IEC 60695-2-13	°C	800
1.5mm			800
2.0mm			985
High Amperage Arc Ignition Resistance 0.35mm	UL 746A	arcs	60
2.0mm			60
Hot Wire Ignition 0.35mm	UL 746A	s	17
0.75mm			30
0.9mm			30
1.5mm			120
3.0mm			120
Temperature Index			
RTI, Electrical 0.35mm	UL 746B	°C	155
RTI, Impact 0.75mm	UL 746B	°C	155
RTI, Strength 0.75mm	UL 746B	°C	155

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Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1680 (1.68)
Hardness, Rockwell	ASTM D 785		
Scale M			95
Scale R			120
Coefficient of Friction	ASTM D 1894		
Self, static			0.18
Steel, static			0.19
Taber Abrasion	ASTM D 1044	mg	
CS-17 Wheel, 1kg, 1000 cycles			38
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			0.8
Parallel, 2.0mm			0.2
Processing			
Melt Temperature Range		°C (°F)	270-290 (520-555)
Melt Temperature Optimum		°C (°F)	280 (535)
Mold Temperature Range		°C (°F)	90-110 (195-230)
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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