

DuPont™ Rynite® PET

thermoplastic polyester resin

Rynite® FR530 BK507A

Rynite® FR530 BK507A is a 30% glass reinforced, flame retardant, black, modified polyethylene terephthalate resin recognized by UL as UL94V-0 at 0.35mm. It has an outstanding balance of properties, temperature index and flow characteristics.

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)	
-40°C (-40°F)			172 (24.9)
23°C (73°F)			130 (18.9)
90°C (194°F)			67 (9.7)
150°C (300°F)			43 (6.3)
Strain at Break	ISO 527	%	
-40°C (-40°F)			1.8
23°C (73°F)			1.9
90°C (194°F)			3.5
150°C (300°F)			4.0
Tensile Modulus	ISO 527	MPa (kpsi)	
-40°C (-40°F)			12000 (1740)
23°C (73°F)			11300 (1640)
90°C (194°F)			5900 (855)
150°C (300°F)			3650 (530)

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 plaques or ASTM D 955 based on 76 X 127mm (3 X 5in) end-gated plaques.

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Property	Test Method	Units	Value
Mechanical			
Poissons Ratio			0.40
Flexural Modulus	ISO 178	MPa (kpsi)	
-40°C (-40°F)			11000 (1600)
23°C (73°F)			10500 (1520)
90°C (194°F)			4650 (674)
150°C (300°F)			2650 (384)
Flexural Strength	ISO 178	MPa (kpsi)	
-40°C (-40°F)			262 (38.0)
23°C (73°F)			200 (29.0)
90°C (194°F)			107 (15.5)
150°C (300°F)			69.0 (10.0)
Notched Izod Impact Strength	ISO 180/1A	kJ/m ²	
-40°C (-40°F)			8
23°C (73°F)			8.5
Unnotched Izod Impact Strength	ISO 180/1U	kJ/m ²	
-40°C (-40°F)			34
23°C (73°F)			40
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-40°C (-40°F)			8
-30°C (-22°F)			8
23°C (73°F)			9
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²	
-40°C (-40°F)			30
23°C (73°F)			40

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Property	Test Method	Units	Value
Thermal			
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	243 (469)
1.80MPa			220 (428)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	252 (486)
CLTE, Normal -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.73 (0.40)
23 - 55°C (73 - 130°F)			0.90 (0.50)
55 - 160°C (130 - 320°F)			1.21 (0.67)
CLTE, Parallel -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.20 (0.11)
23 - 55°C (73 - 130°F)			0.14 (0.08)
55 - 160°C (130 - 320°F)			0.04 (0.02)
Electrical			
Surface Resistivity	ASTM D 257	ohm	1E14
Volume Resistivity	ASTM D 257	ohm cm	1E15
Dielectric Strength, Short Time 23°C (73°F), 500 V/s, in oil, 3.2mm (0.126in)	ASTM D 149	kV/mm (V/mil)	17.7 (449)
100°C (212°F), 500 V/s, in oil, 3.2mm (0.126in)			14.7 (372)
150°C (300°F), 500 V/s, in oil, 3.2mm (0.126in)			9.5 (241)
Dielectric Constant 1E3 Hz	ASTM D 150		3.2
1E6 Hz			3.3
Dissipation Factor 1E3 Hz	ASTM D 150		0.011
1E6 Hz			0.017
CTI	ASTM D 3638	V	250-450

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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 Rating	UL94		5VA
5V Min. Thickness Tested	IEC 60695-11-20	mm	1.5
5V Min. Thickness Tested	UL94	mm	1.5
Glow Wire Flammability Index 0.75mm	IEC 60695-2-12	°C	960
2.0mm			960
Glow Wire Ignition Temperature 0.75mm	IEC 60695-2-13	°C	800
1.5mm			800
2.0mm			985
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
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1680 (1.68)
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			0.8
Parallel, 2.0mm			0.2

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Property	Test Method	Units	Value
Processing			
Melt Temperature Range		°C (°F)	270-290 (520-555)
Melt Temperature Optimum		°C (°F)	280 (535)
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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