



Rynite[®] PET

thermoplastic polyester resin

Rynite[®] FR943 NC010

Rynite[®] FR943 NC010 is a flame retardant, 43% glass reinforced modified polyethylene terephthalate. Recognized as UL94V-0 at 0.8mm(0.03in). Has a 155C temp index. Excellent balance of electrical and mechanical properties and low warp characteristics.

Property	Test Method	Units	Value
Mechanical			
Tensile Strength	ASTM D 638	MPa (kpsi)	
-40C (-40F)			155 (22.5)
23C (73F)			124 (18.0)
90C (194F)			65.5 (9.5)
150C (300F)			40.0 (5.8)
Elongation at Break	ASTM D 638	%	
-40C (-40F)			1.3
23C (73F)			1.5
90C (194F)			3.0
150C (300F)			4.5
Tensile Modulus	ASTM D 638	MPa (kpsi)	
-40C (-40F)			15700 (2280)
23C (73F)			11900 (1720)
90C (194F)			6470 (939)
150C (300F)			4300 (628)
Shear Strength	ASTM D 732	MPa (kpsi)	55.2 (8.0)
Poisson's Ratio			0.35
Flexural Modulus	ASTM D 790	MPa (kpsi)	
-40C (-40F)			14500 (2100)
23C (73F)			13100 (1900)
90C (194F)			5860 (850)
150C (300F)			3440 (500)

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

Mechanical properties measured at 23°C (73°F) 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.

Rynite[®] is a DuPont registered trademark.

970601/991020

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Mechanical			
Flexural Strength	ASTM D 790	MPa (kpsi)	
-40C (-40F)			227 (33.0)
23C (73F)			186 (27.0)
90C (194F)			103 (15.0)
150C (300F)			64 (64.1)
Compressive Strength	ASTM D 695	MPa (kpsi)	193 (28.0)
Deformation Under Load	ASTM D 621	%	
23C (73F), 27.6MPa (4000psi)			0.3
50C (122F), 27.6MPa (4000psi)			1.7
Flexural Fatigue	ASTM D 671	MPa (kpsi)	
Cycles 10E6			45.0 (6.5)
Flexural Creep Strain	ASTM D 2990	%	
23C (73F), 27.6MPa (4000psi)			0.39
60C (140F), 27.6MPa (4000psi)			0.72
125C (257F), 27.6MPa (4000psi)			1.48
Izod Impact	ASTM D 256	J/m (ft lb/in)	
-40C (-40F)			53 (1.0)
23C (73F)			64 (1.2)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40C (-40F)			385 (7.2)
23C (73F)			480 (9.0)
Thermal			
Heat Deflection Temperature	ASTM D 648	°C (°F)	
0.45MPa (66psi)			245 (473)
1.8MPa (264psi)			220 (428)
CLTE, Parallel	ASTM E 831	E-4/C (E-4/F)	
-40 - 23C (-40 - 73F)			0.21 (0.12)
23 - 55C (73 - 130F)			0.19 (0.11)
55 - 160C (130 - 320F)			0.06 (0.03)
CLTE, Normal	ASTM E 831	E-4/C (E-4/F)	
-40 - 23C (-40 - 73F)			0.51 (0.28)
23 - 55C (73 - 130F)			0.65 (0.36)
55 - 160C (130 - 320F)			0.84 (0.47)
Melting Point	ASTM D 3418	°C (°F)	250 (482)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft ² F)	0.31 (2.3)

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Property	Test Method	Units	Value
Electrical			
Surface Resistivity	ASTM D 257	ohm	1 E13
Volume Resistivity	ASTM D 257	ohm cm	1 E15
Dielectric Strength, Short Time	ASTM D 149	kV/mm (V/mil)	
23C (73F), 500 V/s, in oil, 1.6mm (0.062in)			25.0 (635)
23C (73F), 500 V/s, in oil, 3.2mm (0.126in)			18.0 (460)
95C (200F), 500 V/s, in oil, 1.6mm (0.062in)			23.0 (585)
95C (200F), 500 V/s, in oil, 3.2mm (0.126in)			18.0 (460)
150C (300F), 500 V/s, in oil, 1.6mm (0.062in)			12.0 (300)
150C (300F), 500 V/s, in oil, 3.2mm (0.126in)			10.5 (265)
Dielectric Strength, Step by Step 3.2mm (0.126in)	ASTM D 149	kV/mm (V/mil)	17.0 (430)
Dielectric Constant	ASTM D 150		
1E3 Hz			4.1
1E6 Hz			4.1
Dissipation Factor	ASTM D 150		
1E3 Hz			0.010
1E6 Hz			0.015
Arc Resistance	ASTM D 495	s	60-120
CTI	UL 746A	V	250-400
Flammability			
Rating @ Thickness	UL94		V-0
Thickness Tested	UL94	mm	0.35
Limited Oxygen Index	ASTM D 2863	%	31
High Amperage Arc Ignition Resistance	UL 746A	arcs	30-60
High Voltage Arc Tracking Rate		mm/min	10-25
Hot Wire Ignition	UL 746A	s	>120
Temperature Index			
RTI, Electrical 0.81mm	UL 746B	°C	155
RTI, Mechanical with Impact 0.81mm	UL 746B	°C	155
RTI, Mechanical without Impact 0.81mm	UL 746B	°C	155

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Other			
Specific Gravity	ASTM D 792		1.79
Hardness, Rockwell	ASTM D 785		
Scale M			95
Scale R			120
Coefficient of Friction	ASTM D 1894		
Self, static			0.29
Steel, static			0.18
Taber Abrasion		mg	
CS-17 Wheel, 1kg, 1000 cycles			82
Water Absorption	ASTM D 570	%	
50%RH,23C,24h			0.04
Mold Shrinkage		%	
Flow, 1.57mm (0.062in)			0.22
Flow, 3.2mm (0.126in)			0.35
Transverse, 1.57mm (0.062in)			0.57
Transverse, 3.2mm (0.126in)			0.70
Processing			
Melt Temperature Range		°C (°F)	270-290 (520-555)
Mold Temperature Range		°C (°F)	>95 (>205)
Drying Time, Dehumidified Dryer		h	4
Drying Temperature		°C (°F)	120 (250)
Processing Moisture Content		%	<0.02

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