



Rynite® PET

thermoplastic polyester resin

Rynite® 415HP NC010

Rynite® 415HP NC010 is a 15% glass reinforced modified polyethylene terephthalate with improved for easy, fast processing over a broad molding range with excellent balance of strength, stiffness, and temperature resistance.

Property	Test Method	Units	Value
Mechanical			
Tensile Strength	ASTM D 638	MPa (kpsi)	
-40C (-40F)			145 (21.0)
23C (73F)			79.0 (11.5)
90C (194F)			44.8 (6.5)
150C (300F)			35.9 (5.2)
Elongation at Break	ASTM D 638	%	
-40C (-40F)			3.0
23C (73F)			6.0
90C (194F)			13
150C (300F)			14
Tensile Modulus	ASTM D 638	MPa (kpsi)	
-40C (-40F)			6400 (928)
23C (73F)			4220 (612)
90C (194F)			1830 (265)
150C (300F)			1690 (245)
Shear Strength	ASTM D 732	MPa (kpsi)	40 (5.8)
Poisson's Ratio			0.49
Flexural Modulus	ASTM D 790	MPa (kpsi)	
-40C (-40F)			5860 (850)
23C (73F)			3600 (525)
90C (194F)			1280 (185)
150C (300F)			1100 (155)

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.

991001/991020

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Mechanical			
Flexural Strength	ASTM D 790	MPa (kpsi)	
-40C (-40F)			210 (30.5)
23C (73F)			93.1 (13.5)
90C (194F)			48.3 (7.0)
150C (300F)			34.5 (5.0)
Compressive Strength	ASTM D 695	MPa (kpsi)	93 (13.5)
Deformation Under Load	ASTM D 621	%	
23C (73F), 27.6MPa (4000psi)			2.2
50C (122F), 27.6MPa (4000psi)			4.4
Flexural Fatigue	ASTM D 671	MPa (kpsi)	
Cycles 10E6			20.7 (3)
Flexural Creep Strain	ASTM D 2990	%	
23C (73F), 27.6MPa (4000psi)			1.98
60C (140F), 27.6MPa (4000psi)			2.94
Izod Impact	ASTM D 256	J/m (ft lb/in)	
-40C (-40F)			69 (1.3)
23C (73F)			133 (2.5)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40C (-40F)			640 (12.0)
23C (73F)			855 (16.0)
Thermal			
Heat Deflection Temperature	ASTM D 648	°C (°F)	
0.45MPa (66psi)			235 (454)
1.8MPa (264psi)			207 (405)
CLTE, Parallel	ASTM E 831	E-4/C (E-4/F)	
-40 - 23C (-40 - 73F)			0.40 (0.22)
23 - 55C (73 - 130F)			0.20 (0.11)
55 - 160C (130 - 320F)			0.32 (0.18)
CLTE, Normal	ASTM E 831	E-4/C (E-4/F)	
-40 - 23C (-40 - 73F)			0.98 (0.54)
23 - 55C (73 - 130F)			1.17 (0.65)
55 - 160C (130 - 320F)			1.09 (0.61)
Melting Point	ASTM D 3418	°C (°F)	250 (482)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft ² F)	0.26 (1.8)

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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 E13
Dielectric Strength, Short Time	ASTM D 149	kV/mm (V/mil)	
23C (73F), 500 V/s, in oil, 1.6mm (0.062in)			24.0 (610)
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)			15.5 (395)
95C (200F), 500 V/s, in oil, 3.2mm (0.126in)			11.0 (280)
150C (300F), 500 V/s, in oil, 1.6mm (0.062in)			8.5 (215)
150C (300F), 500 V/s, in oil, 3.2mm (0.126in)			6.5 (170)
Dielectric Strength, Step by Step	ASTM D 149	kV/mm (V/mil)	
3.2mm (0.126in)			16.5 (420)
Dielectric Constant	ASTM D 150		
1E3 Hz			3.9
1E6 Hz			3.7
Dissipation Factor	ASTM D 150		
1E3 Hz			0.019
1E6 Hz			0.022
Arc Resistance	ASTM D 495	s	60-120
CTI	UL 746A	V	250-400
Flammability			
Rating @ Thickness	UL94		HB
Thickness Tested	UL94	mm	0.75
Limited Oxygen Index	ASTM D 2863	%	19
High Amperage Arc Ignition Resistance	UL 746A	arcs	>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, Mechanical with Impact	UL 746B	°C	
0.81mm			120
RTI, Mechanical without Impact	UL 746B	°C	
0.81mm			140

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Other			
Specific Gravity	ASTM D 792		1.39
Hardness, Rockwell	ASTM D 785		
Scale M			55
Scale R			110
Coefficient of Friction	ASTM D 1894		
Self, static			0.42
Steel, static			0.27
Taber Abrasion		mg	
CS-17 Wheel, 1kg, 1000 cycles			35
Water Absorption	ASTM D 570	%	
50%RH,23C,24h			0.24
Mold Shrinkage		%	
Flow, 1.57mm (0.062in)			0.24
Flow, 3.2mm (0.126in)			0.40
Transverse, 1.57mm (0.062in)			0.67
Transverse, 3.2mm (0.126in)			0.95
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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