Rynite® PET

thermoplastic polyester resin

Rynite® 555 NC010A

Rynite® 555 NC010A is a 55% glass reinforced modified polyethylene terephthalate with superior stiffness, dimensional stability, heat resistance and outstanding resistance to creep.

Property	Test Method	Units	Value
Mechanical			
Tensile Strength	ASTM D 638	MPa (kpsi)	
-40°C (-40°F)			220 (31.9)
23°C (73°F)			189 (27.5)
90°C (194°F)			95.8 (13.9)
150°C (300°F)			70.0 (10.0)
Elongation at Break	ASTM D 638	%	
-40°C (-40°F)			1.5
23°C (73°F)			1.6
90°C (194°F)			3.5
150°C (300°F)			4.0
Tensile Modulus	ASTM D 638	MPa (kpsi)	
-40°C (-40°F)			20500 (2970)
23°C (73°F)			17900 (2590)
90°C (194°F)			9100 (1320)
150°C (300°F)			6380 (925)

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.

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Property	Test Method	Units	Value
Mechanical			
Shear Strength	ASTM D 732	MPa (kpsi)	82.7 (12.0)
Poisson's Ratio			0.37
Flexural Modulus	ASTM D 790	MPa (kpsi)	
-40°C (-40°F)			20700 (3000)
23°C (73°F)			17900 (2600)
90°C (194°F)			9210 (1330)
150°C (300°F)			5730 (832)
Flexural Strength	ASTM D 790	MPa (kpsi)	
-40°C (-40°F)			345 (50.0)
23°C (73°F)			290 (42.0)
90°C (194°F)			159 (23.0)
150°C (300°F)			110 (16.0)
Compressive Strength	ASTM D 695	MPa (kpsi)	241 (35.0)
Flexural Fatigue	ASTM D 671	MPa (kpsi)	
Cycles 10E6			53.8 (7.8)
Flexural Creep Strain	ASTM D 2990	%	
23°C (73°F), 27.6MPa (4000psi)			0.19
125°C (257°F), 27.6MPa (4000psi)			0.81
Izod Impact	ASTM D 256	J/m (ft lb/in)	
-40°C (-40°F)			107 (2.0)
23°C (73°F)			107 (2.0)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40°C (-40°F)			585 (11.0)
23°C (73°F)			855 (16.0)

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Property	Test Method	Units	Value
Thermal			
Heat Deflection Temperature	ASTM D 648	°C (°F)	
0.45MPa (66psi)			246 (475)
1.8MPa (264psi)			229 (445)
CLTE, Parallel	ASTM E 831	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.13 (0.07)
23 - 55°C (73 - 130°F)			0.08 (0.04)
55 - 160°C (130 - 320°F)			0.01
CLTE, Normal	ASTM E 831	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.54 (0.30)
23 - 55°C (73 - 130°F)			0.75 (0.42)
55 - 160°C (130 - 320°F)			0.95 (0.53)
Melting Point	ASTM D 3418	°C (°F)	254 (490)
Thermal Conductivity	ASTM C 177	W/m K (Btu in/h ft^2 F)	0.33 (2.3)
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)			24.5 (620)
23°C (73°F), 500 V/s, in oil, 3.2mm (0.126in)			20.0 (510)
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)			17.0 (430)
150°C (300°F), 500 V/s, in oil, 1.6mm (0.062in)			16.5 (420)
150°C (300°F), 500 V/s, in oil, 3.2mm (0.126in)			12.5 (320)
Arc Resistance	ASTM D 495	s	120-180
CTI	UL 746A	V	175-250
Flammability			
Other Thickness Rating	UL94		HB
Other Thickness Tested	UL94	mm	0.75
High Amperage Arc Ignition Resistance	UL 746A	arcs	60-120
High Voltage Arc Tracking Rate		mm/min	10-25
Hot Wire Ignition	UL 746A	s	>120

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Property	Test Method	Units	Value
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.81mm			140
RTI, Mechanical with Impact	UL 746B	°C	
0.81mm			140
RTI, Mechanical without Impact	UL 746B	°C	
0.81mm			140
Other			
Specific Gravity	ASTM D 792		1.81
Hardness, Rockwell	ASTM D 785		
Scale M			100
Scale R			120
Coefficient of Friction	ASTM D 1894		
Self, static			0.27
Steel, static			0.18
Water Absorption	ASTM D 570	%	
50%RH,23°C,24h			0.04
Mold Shrinkage		%	
Flow, 1.57mm (0.062in)			0.13
Flow, 3.2mm (0.126in)			0.20
Transverse, 1.57mm (0.062in)			0.66
Transverse, 3.2mm (0.126in)			0.70
Processing			
Melt Temperature Range		°C (°F)	280-300 (535-570)
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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