Rynite® PET

thermoplastic polyester resin

Rynite® 940 BK505

Rynite® 940 BK505 is a 40% mica/glass reinforced modified polyethylene terephthalate with greater strength, stiffness, and low warpage.

Property	Test Method	Units	Value
Mechanical			
Tensile Strength	ASTM D 638	MPa (kpsi)	
-40C (-40F)			152 (22.0)
23C (73F)			117 (17.0)
90C (194F)			55.2 (8.0)
150C (300F)			38.6 (5.6)
Elongation at Break	ASTM D 638	%	
-40C (-40F)			1.6
23C (73F)			1.9
90C (194F)			5.5
150C (300F)			6.5
Tensile Modulus	ASTM D 638	MPa (kpsi)	
-40C (-40F)			13900 (2010)
23C (73F)			11600 (1680)
90C (194F)			4450 (645)
150C (300F)			3190 (462)
Shear Strength	ASTM D 732	MPa (kpsi)	60.7 (8.8)
Poisson's Ratio			0.36
Flexural Modulus	ASTM D 790	MPa (kpsi)	
-40C (-40F)			13200 (1920)
23C (73F)			11700 (1700)
90C (194F)			3580 (520)
150C (300F)			2100 (300)
Flexural Strength	ASTM D 790	MPa (kpsi)	
-40C (-40F)			261 (37.9)
23C (73F)			198 (28.7)
90C (194F)			73.1 (10.6)
150C (300F)			49.0 (7.1)

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 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			
Compressive Strength	ASTM D 695	MPa (kpsi)	175 (25.4)
Deformation Under Load	ASTM D 621	%	
23C (73F), 27.6MPa (4000psi)			0.6
50C (122F), 27.6MPa (4000psi)			1.5
Flexural Fatigue	ASTM D 671	MPa (kpsi)	
Cycles 10E6			42.7 (6.2)
Flexural Creep Strain	ASTM D 2990	%	
23C (73F), 27.6MPa (4000psi)			0.51
60C (140F), 27.6MPa (4000psi)			1.29
125C (257F), 27.6MPa (4000psi)			1.80
Izod Impact	ASTM D 256	J/m (ft lb/in)	
-40C (-40F)			69 (1.3)
23C (73F)			75 (1.4)
Unnotched Impact	ASTM D 4812	J/m (ft lb/in)	
-40C (-40F)			415 (7.8)
23C (73F)			530 (9.9)
Thermal			
Heat Deflection Temperature	ASTM D 648	°C (°F)	
0.45MPa (66psi)			241 (466)
1.8MPa (264psi)			211 (412)
CLTE, Parallel	ASTM E 831	E-4/C (E-4/F)	
-40 - 23C (-40 - 73F)			0.22 (0.12)
23 - 55C (73 - 130F)			0.15 (0.08)
55 - 160C (130 - 320F)			0.06 (0.03)
CLTE, Normal	ASTM E 831	E-4/C (E-4/F)	
-40 - 23C (-40 - 73F)			0.54 (0.30)
23 - 55C (73 - 130F)			0.60 (0.33)
55 - 160C (130 - 320F)			0.84 (0.47)
Melting Point	ASTM D 3418	°C (°F)	250 (482)

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Property	Test Method	Units	Value
Electrical			
Surface Resistivity	ASTM D 257	ohm	1 E14
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)			23.0 (585)
23C (73F), 500 V/s, in oil, 3.2mm (0.126in)			16.5 (415)
95C (200F), 500 V/s, in oil, 1.6mm (0.062in)			19.0 (485)
95C (200F), 500 V/s, in oil, 3.2mm (0.126in)			14.0 (355)
150C (300F), 500 V/s, in oil, 1.6mm (0.062in)			15.0 (380)
150C (300F), 500 V/s, in oil, 3.2mm (0.126in)			10.5 (265)
Dielectric Strength, Step by Step	ASTM D 149	kV/mm (V/mil)	
3.2mm (0.126in)			19.0 (485)
Dielectric Constant	ASTM D 150		
1E3 Hz			3.8
1E6 Hz			3.7
Dissipation Factor	ASTM D 150		
1E3 Hz			0.007
1E6 Hz			0.015
Flammability			
Rating @ Thickness	UL94		HB
Thickness Tested	UL94	mm	0.75
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.75mm			75
RTI, Mechanical with Impact	UL 746B	°C	
0.75mm			75
RTI, Mechanical without Impact	UL 746B	°C	
0.75mm			75

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Property	Test Method	Units	Value
Other			
Specific Gravity	ASTM D 792		1.64
Hardness, Rockwell	ASTM D 785		
Scale M			75
Scale R			115
Taber Abrasion		mg	
CS-17 Wheel, 1kg, 1000 cycles			81
Water Absorption	ASTM D 570	%	
50%RH,23C,24h			0.05
Mold Shrinkage		%	
Flow, 1.57mm (0.062in)			0.17
Flow, 3.2mm (0.126in)			0.30
Transverse, 1.57mm (0.062in)			0.55
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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