DuPont™ Rynite® PET

thermoplastic polyester resin

PRELIMINARY DATA

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
Identification			
Resin Identification	ISO 1043		PET-(GF+MD)40
Part Marking Code	ISO 11469		>PET-(GF+MD)40<
Mechanical			
Stress at Break	ISO 527	MPa (kpsi)	
-40°C (-40°F)			160 (23)
23°C (73°F)			110 (16)
150°C (300°F)			40 (5.6)
Strain at Break	ISO 527	%	
-40°C (-40°F)			1.7
23°C (73°F)			1.8
150°C (300°F)			5.5
Tensile Modulus	ISO 527	MPa (kpsi)	
23°C (73°F)			12500 (1813)
150°C (300°F)			3284 (477)

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

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

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Property	Test Method	Units	Value
Mechanical			
Poissons Ratio			0.36
Flexural Modulus	ISO 178	MPa (kpsi)	
-40°C (-40°F)			14180 (2057)
23°C (73°F)			12951 (1870)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m^2	
-40°C (-40°F)			6
23°C (73°F)			7
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2	
-40°C (-40°F)			35
23°C (73°F)			35
Thermal			
Deflection Temperature	ISO 75-1/-2	°C (°F)	
0.45MPa			241 (466)
1.80MPa			220 (428)
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			250 (482)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.22 (0.12)
23 - 55°C (73 - 130°F)			0.15 (0.08)
55 - 160°C (130 - 320°F)			0.06 (0.03)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.54 (0.30)
23 - 55°C (73 - 130°F)			0.60 (0.33)
55 - 160°C (130 - 320°F)			0.84 (0.47)

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Electrical			
Surface Resistivity	IEC 60093	ohm	1E14
Volume Resistivity	IEC 60093	ohm m	1E13
Relative Permittivity	IEC 60250		
1E2 Hz			3.8
1E6 Hz			3.7
Dissipation Factor	IEC 60250	E-4	
1E2 Hz			70
1E6 Hz			150
Flammability			
Flammability Classification	IEC 60695-11-10		
0.75mm			HB75
Flammability Classification	UL94		
0.75mm			HB
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.75mm			75
RTI, Impact	UL 746B	°C	
0.75mm			75
RTI, Strength	UL 746B	°C	
0.75mm			75
Other			
Density	ISO 1183	kg/m^3 (g/cm^3)	1640 (1.64)
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			0.2
Parallel, 2.0mm			0.7

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Property	Test Method	Units	Value
Processing			
Melt Temperature Range		°C (°F)	280-300 (535-570)
Melt Temperature Optimum		°C (°F)	285 (545)
Mold Temperature Range		°C (°F)	>95 (>205)
Mold Temperature Optimum		°C (°F)	110 (230)
Injection Speed		s	Fast
Drying Time, Dehumidified Dryer		h	4
Drying Temperature		°C (°F)	120 (250)
Processing Moisture Content		%	<0.02
Hold Pressure Range		MPa (kpsi)	35-140 (5-20)
Snake Flow		mm	
90MPa, 5x0.30mm			13
90MPa, 5x0.50mm			43
90MPa, 5x0.75mm			86
90MPa, 5x1.00mm			135

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