

# DuPont™ Rynite® 940 BK505

## THERMOPLASTIC POLYESTER RESIN

Product Information

Common features of Rynite® thermoplastic polyester include mechanical and physical properties such as excellent balance of strength and stiffness, dimensional stability, creep resistance, heat resistance, high surface gloss and good inherent electrical properties at elevated temperature. It can be processed over a broad temperature range and has excellent flow properties.

Rynite® thermoplastic polyester resins are typically used in demanding applications in the automotive, electrical and electronics, appliances where they successfully replace metals and thermosets, as well as other thermoplastic polymers.

**Rynite® 940 BK505 is a 40% mica/glass reinforced modified polyethylene terephthalate resin with low warpage, high stiffness and strength, and excellent electrical properties.**

General information	Value	Unit	Test Standard
Resin Identification	PET-(GF+MD)40	-	ISO 1043
Part Marking Code	PET-(GF+MD)40	-	ISO 11469
Rheological properties	Value	Unit	Test Standard
Moulding shrinkage, parallel	0.2	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.7	%	ISO 294-4, 2577
Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	12500	MPa	ISO 527-1/-2
Stress at break	110	MPa	ISO 527-1/-2
Strain at break	1.8	%	ISO 527-1/-2
Flexural Modulus	13000	MPa	ISO 178
Poisson's ratio	0.33	-	ISO 527-1/-2
Charpy impact strength			ISO 179/1eU
23 °C	35	kJ/m <sup>2</sup>	
-40 °C	35	kJ/m <sup>2</sup>	
Charpy notched impact strength			ISO 179/1eA
23 °C	7	kJ/m <sup>2</sup>	
-40 °C	6	kJ/m <sup>2</sup>	
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10 °C/min	250	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
1.8 MPa	220	°C	
0.45 MPa	241	°C	
Coeff. of linear therm. expansion, parallel	15	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion			ISO 11359-1/-2
normal	60	E-6/K	
Normal, -40-23 °C	54	E-6/K	
Normal, 55-160 °C	84	E-6/K	
Parallel, -40-23 °C	22	E-6/K	
Parallel, 55-160 °C	6	E-6/K	
RTI, electrical, 0.75mm	75	°C	UL 746B
RTI, impact, 0.75mm	75	°C	UL 746B
RTI, strength, 0.75mm	75	°C	UL 746B
Flammability	Value	Unit	Test Standard
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.75	mm	IEC 60695-11-10
UL recognition	yes	-	UL 94
Glow Wire Flammability Index, 3mm	925	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 3mm	900	°C	IEC 60695-2-13
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

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Electrical properties	Value	Unit	Test Standard
Relative permittivity			IEC 62631-2-1
100Hz	4.2	-	
1MHz	3.9	-	
Dissipation factor			IEC 62631-2-1
100Hz	70	E-4	
1MHz	146	E-4	
Volume resistivity	1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	33	kV/mm	IEC 60243-1
Comparative tracking index	250	-	IEC 60112
Other properties	Value	Unit	Test Standard
Density	1640	kg/m <sup>3</sup>	ISO 1183
Injection	Value	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	≥120	°C	-
Drying Time, Dehumidified Dryer	4 - 6	h	-
Processing Moisture Content	≤0.02 <sup>[1]</sup>	%	-
Melt Temperature Optimum	285	°C	-
Min. melt temperature	280	°C	-
Max. melt temperature	300	°C	-
Max. screw tangential speed	0.2	m/s	-
Mold Temperature Optimum	110	°C	-
Min. mould temperature	100	°C	-
Max. mould temperature	120 <sup>[2]</sup>	°C	-
Hold pressure range	≥80	MPa	-
Hold pressure time	4	s/mm	-
Back pressure	As low as possible		-
Ejection temperature	170	°C	-

1: At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects. 2: (6mm - 1mm thickness)

Characteristics			
Processing	• Injection Moulding		
Delivery form	• Pellets		
Additives	• Release agent		
Regional Availability	• North America	• Asia Pacific	• South and Central America

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrel® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23°C unless otherwise stated.

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