

DuPont Performance Polymers Rynite® 940 BK505 PET (Unverified Data**)

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET) , Polyethylene Terephthalate (PET), Glass/Mineral Reinforced

Material Notes:

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

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Rynite-940-BK505-PET-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.64 g/cc	1.64 g/cc	ASTM D792
Density	1.64 g/cc	0.0592 lb/in ³	ISO 1183
Filler Content	40 %	40 %	
Water Absorption	0.050 % @Temperature 23.0 °C	0.050 % @Temperature 73.4 °F	50%RH,23°C,24h; ASTM D570
Linear Mold Shrinkage	0.0017 cm/cm @Thickness 1.57 mm	0.0017 in/in @Thickness 0.0618 in	Flow
	0.0030 cm/cm @Thickness 3.20 mm	0.0030 in/in @Thickness 0.126 in	Flow
Linear Mold Shrinkage, Transverse	0.0055 cm/cm @Thickness 1.57 mm	0.0055 in/in @Thickness 0.0618 in	Transverse
	0.0070 cm/cm @Thickness 3.20 mm	0.0070 in/in @Thickness 0.126 in	Transverse
Linear Mold Shrinkage, Flow	0.0020 cm/cm @Thickness 2.00 mm	0.0020 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.0070 cm/cm @Thickness 2.00 mm	0.0070 in/in @Thickness 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	75	75	ASTM D785
Hardness, Rockwell R	115	115	ASTM D785
Tensile Strength at Break	40.0 MPa @Temperature 150 °C	5800 psi @Temperature 302 °F	ISO 527

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	ISO 527
	160 MPa	23200 psi	ISO 527
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Tensile Strength	38.6 MPa	5600 psi	ASTM D638
	@Temperature 150 °C	@Temperature 302 °F	
	55.2 MPa	8010 psi	ASTM D638
	@Temperature 90.0 °C	@Temperature 194 °F	
	117 MPa	17000 psi	ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	152 MPa	22000 psi	ASTM D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Elongation at Break	1.6 %	1.6 %	ASTM D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.7 %	1.7 %	ISO 527
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.8 %	1.8 %	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.9 %	1.9 %	ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	5.5 %	5.5 %	ASTM D638
	@Temperature 90.0 °C	@Temperature 194 °F	
	5.5 %	5.5 %	ISO 527
	@Temperature 150 °C	@Temperature 302 °F	
	6.5 %	6.5 %	ASTM D638
	@Temperature 150 °C	@Temperature 302 °F	
Tensile Modulus	3.19 GPa	463 ksi	ASTM D638
	@Temperature 150 °C	@Temperature 302 °F	
	3.284 GPa	476.3 ksi	ISO 527
	@Temperature 150 °C	@Temperature 302 °F	
	4.45 GPa	645 ksi	

Mechanical Properties	Metric @ Temperature 90.0 °C	English @ Temperature 194 °F	ASTM D638 Comments
	11.6 GPa @Temperature 23.0 °C	1680 ksi @Temperature 73.4 °F	ASTM D638
	12.5 GPa @Temperature 23.0 °C	1810 ksi @Temperature 73.4 °F	ISO 527
	13.9 GPa @Temperature -40.0 °C	2020 ksi @Temperature -40.0 °F	ASTM D638
Flexural Strength	49.0 MPa @Temperature 150 °C	7110 psi @Temperature 302 °F	ASTM D790
	73.1 MPa @Temperature 90.0 °C	10600 psi @Temperature 194 °F	ASTM D790
	198 MPa @Temperature 23.0 °C	28700 psi @Temperature 73.4 °F	ASTM D790
	261 MPa @Temperature -40.0 °C	37900 psi @Temperature -40.0 °F	ASTM D790
Flexural Modulus	2.10 GPa @Temperature 150 °C	305 ksi @Temperature 302 °F	ASTM D790
	3.58 GPa @Temperature 90.0 °C	519 ksi @Temperature 194 °F	ASTM D790
	11.7 GPa @Temperature 23.0 °C	1700 ksi @Temperature 73.4 °F	ASTM D790
	12.951 GPa @Temperature 23.0 °C	1878.4 ksi @Temperature 73.4 °F	ISO 178
	13.2 GPa @Temperature -40.0 °C	1910 ksi @Temperature -40.0 °F	ASTM D790
	14.18 GPa @Temperature -40.0 °C	2057 ksi @Temperature -40.0 °F	ISO 178
Compressive Strength	175 MPa @Temperature 23.0 °C	25400 psi @Temperature 73.4 °F	ASTM D695
Shear Strength	60.7 MPa @Temperature 23.0 °C	8800 psi @Temperature 73.4 °F	ASTM D732

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched	0.690 J/cm	1.21 ft-lb/in	ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.750 J/cm	1.41 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	4.15 J/cm	7.77 ft-lb/in	ASTM D4812
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	5.30 J/cm	9.93 ft-lb/in	ASTM D4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	7.00 kJ/m ²	3.33 ft-lb/in ²	ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	36.0 kJ/m ²	17.1 ft-lb/in ²	ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	39.0 kJ/m ²	18.6 ft-lb/in ²	ISO 180/1U
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Charpy Impact Unnotched	3.50 J/cm ²	16.7 ft-lb/in ²	ISO 179/1eU
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	3.50 J/cm ²	16.7 ft-lb/in ²	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/1eA
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.700 J/cm ²	3.33 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D257
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.00e+14 ohm	1.00e+14 ohm	

Surface Resistance Electrical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ASTM D257 Comments
	1.00e+14 ohm @Temperature 23.0 °C	1.00e+14 ohm @Temperature 73.4 °F	IEC 60093
Dielectric Constant	3.7 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.7 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	ASTM D150
	3.7 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.7 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	IEC 60250
	3.8 @Frequency 1000 Hz, Temperature 23.0 °C	3.8 @Frequency 1000 Hz, Temperature 73.4 °F	ASTM D150
	3.8 @Frequency 100 Hz, Temperature 23.0 °C	3.8 @Frequency 100 Hz, Temperature 73.4 °F	IEC 60250
Dielectric Strength	10.5 kV/mm @Thickness 3.20 mm, Temperature 150 °C	267 kV/in @Thickness 0.126 in, Temperature 302 °F	500 V/s, in oil; Short Time; ASTM D149
	14.0 kV/mm @Thickness 3.20 mm, Temperature 95.0 °C	356 kV/in @Thickness 0.126 in, Temperature 203 °F	500 V/s, in oil; Short Time; ASTM D149
	15.0 kV/mm @Thickness 1.60 mm, Temperature 150 °C	381 kV/in @Thickness 0.0630 in, Temperature 302 °F	500 V/s, in oil; Short Time; ASTM D149
	16.5 kV/mm @Thickness 3.20 mm, Temperature 23.0 °C	419 kV/in @Thickness 0.126 in, Temperature 73.4 °F	500 V/s, in oil; Short Time; ASTM D149

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