

DuPont Performance Polymers Rynite® FR530 NC010 Polyethylene Terephthalate (PET) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET) , Polyethylene Terephthalate (PET), Glass Fiber Filled, Flame Retardant

Material Notes:

30% Glass Reinforced Flame Retardant Polyethylene Terephthalate Rynite FR530 NC010 is a 30% glass reinforced flame retardant modified polyethylene terephthalate resin. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Rynite-FR530-NC010-Polyethylene-Terephthalate-PET-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.68 g/cc	0.0607 lb/in ³	ISO 1183
Water Absorption	0.75 % @Thickness 2.00 mm	0.75 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.150 % @Thickness 2.00 mm	0.150 % @Thickness 0.0787 in	Sim. to ISO 62
Linear Mold Shrinkage, Flow	0.0020 cm/cm	0.0020 in/in	ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	ISO 294-4 2577
Melt Flow	6.0 g/10 min @Load 2.16 kg, Temperature 280 °C	6.0 g/10 min @Load 4.76 lb, Temperature 536 °F	cm ³ /10min; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	95	95	ASTM D785
Hardness, Rockwell R	120	120	ASTM D785
Tensile Strength at Break	135 MPa	19600 psi	ISO 527-1/-2
Tensile Stress	16.0 MPa @Strain 0.450 %, Temperature 150 °C	2320 psi @Strain 0.450 %, Temperature 302 °F	ISO 11403-1 -2
	20.1 MPa @Strain 0.380 %, Temperature 90.0 °C	2920 psi @Strain 0.380 %, Temperature 194 °F	ISO 11403-1 -2
	21.1 MPa @Strain 0.210 %, Temperature 40.0 °C	3060 psi @Strain 0.210 %, Temperature 104 °F	ISO 11403-1 -2

Mechanical Properties	Metric	English	Comments
	22.0 MPa	3190 psi	
	@Strain 0.180 %, Temperature 0.000 °C	@Strain 0.180 %, Temperature 32.0 °F	ISO 11403-1 -2
	22.7 MPa	3290 psi	
	@Strain 0.200 %, Temperature 23.0 °C	@Strain 0.200 %, Temperature 73.4 °F	ISO 11403-1 -2
	24.3 MPa	3520 psi	
	@Strain 0.180 %, Temperature -40.0 °C	@Strain 0.180 %, Temperature -40.0 °F	ISO 11403-1 -2
	42.0 MPa	6090 psi	
	@Strain 1.80 %, Temperature 150 °C	@Strain 1.80 %, Temperature 302 °F	ISO 11403-1 -2
	50.0 MPa	7250 psi	
	@Strain 3.16 %, Temperature 150 °C	@Strain 3.16 %, Temperature 302 °F	ISO 11403-1 -2
	53.0 MPa	7690 psi	
	@Strain 4.51 %, Temperature 150 °C	@Strain 4.51 %, Temperature 302 °F	ISO 11403-1 -2
	54.1 MPa	7850 psi	
	@Strain 1.50 %, Temperature 90.0 °C	@Strain 1.50 %, Temperature 194 °F	ISO 11403-1 -2
	67.3 MPa	9760 psi	
	@Strain 2.61 %, Temperature 90.0 °C	@Strain 2.61 %, Temperature 194 °F	ISO 11403-1 -2
	70.9 MPa	10300 psi	
	@Strain 3.72 %, Temperature 90.0 °C	@Strain 3.72 %, Temperature 194 °F	ISO 11403-1 -2
	72.3 MPa	10500 psi	
	@Strain 0.840 %, Temperature 40.0 °C	@Strain 0.840 %, Temperature 104 °F	ISO 11403-1 -2
	76.3 MPa	11100 psi	
	@Strain 0.770 %, Temperature 23.0 °C	@Strain 0.770 %, Temperature 73.4 °F	ISO 11403-1 -2
	81.0 MPa	11700 psi	
	@Strain 0.740 %, Temperature 0.000 °C	@Strain 0.740 %, Temperature 32.0 °F	ISO 11403-1 -2
	84.9 MPa	12300 psi	
			ISO 11403-1 -2

Mechanical Properties	Metric @Strain 0.700 %, Temperature -40.0 °C	English @Strain 0.700 %, Temperature -40.0 °F	Comments
	105 MPa	15200 psi	
	@Strain 1.47 %, Temperature 40.0 °C	@Strain 1.47 %, Temperature 104 °F	ISO 11403-1 -2
	113 MPa	16400 psi	
	@Strain 1.34 %, Temperature 23.0 °C	@Strain 1.34 %, Temperature 73.4 °F	ISO 11403-1 -2
	120 MPa	17400 psi	
	@Strain 2.12 %, Temperature 40.0 °C	@Strain 2.12 %, Temperature 104 °F	ISO 11403-1 -2
	124 MPa	18000 psi	
	@Strain 1.29 %, Temperature 0.000 °C	@Strain 1.29 %, Temperature 32.0 °F	ISO 11403-1 -2
	134 MPa	19400 psi	
	@Strain 1.90 %, Temperature 23.0 °C	@Strain 1.90 %, Temperature 73.4 °F	ISO 11403-1 -2
	137 MPa	19900 psi	
	@Strain 1.23 %, Temperature -40.0 °C	@Strain 1.23 %, Temperature -40.0 °F	ISO 11403-1 -2
	153 MPa	22200 psi	
	@Strain 1.85 %, Temperature 0.000 °C	@Strain 1.85 %, Temperature 32.0 °F	ISO 11403-1 -2
	176 MPa	25500 psi	
	@Strain 1.75 %, Temperature -40.0 °C	@Strain 1.75 %, Temperature -40.0 °F	ISO 11403-1 -2
Elongation at Break	2.0 %	2.0 %	ISO 527-1/-2
Tensile Modulus	11.5 GPa	1670 ksi	ISO 527-1/-2
Flexural Modulus	10.5 GPa	1520 ksi	ISO 178
	6.61 GPa	958 ksi	
Secant Modulus	@Strain 1.68 %, Temperature 40.0 °C	@Strain 1.68 %, Temperature 104 °F	ISO 11403-1 -2
	7.9085 GPa	1147.0 ksi	
	@Strain 1.53 %, Temperature 23.0 °C	@Strain 1.53 %, Temperature 73.4 °F	ISO 11403-1 -2
	8.61 GPa	1250 ksi	
	@Strain 0.840 %,	@Strain 0.840 %,	ISO 11403-1 -2

Mechanical Properties	Temperature 40.0 °C Metric	Temperature 104 °F English	Comments
	9.19 GPa	1330 ksi	
	@Strain 1.48 %, Temperature 0.000 °C	@Strain 1.48 %, Temperature 32.0 °F	ISO 11403-1 -2
	9.91 GPa	1440 ksi	
	@Strain 0.770 %, Temperature 23.0 °C	@Strain 0.770 %, Temperature 73.4 °F	ISO 11403-1 -2
	10.0 GPa	1460 ksi	
	@Strain 0.210 %, Temperature 40.0 °C	@Strain 0.210 %, Temperature 104 °F	ISO 11403-1 -2
	10.8 GPa	1560 ksi	
	@Strain 1.40 %, Temperature -40.0 °C	@Strain 1.40 %, Temperature -40.0 °F	ISO 11403-1 -2
	10.9 GPa	1590 ksi	
	@Strain 0.740 %, Temperature 0.000 °C	@Strain 0.740 %, Temperature 32.0 °F	ISO 11403-1 -2
	11.35 GPa	1646 ksi	
	@Strain 0.200 %, Temperature 23.0 °C	@Strain 0.200 %, Temperature 73.4 °F	ISO 11403-1 -2
	12.1 GPa	1760 ksi	
	@Strain 0.700 %, Temperature -40.0 °C	@Strain 0.700 %, Temperature -40.0 °F	ISO 11403-1 -2
	12.2 GPa	1770 ksi	
	@Strain 0.180 %, Temperature 0.000 °C	@Strain 0.180 %, Temperature 32.0 °F	ISO 11403-1 -2
	13.5 GPa	1960 ksi	
	@Strain 0.180 %, Temperature -40.0 °C	@Strain 0.180 %, Temperature -40.0 °F	ISO 11403-1 -2
Charpy Impact Unnotched	4.00 J/cm ²	19.0 ft-lb/in ²	ISO 179/1eU
	4.00 J/cm ²	19.0 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	ISO 179/1eA
	0.900 J/cm ²	4.28 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eA
Tensile Creep Modulus, 1 hour	11200 MPa	1.62e+6 psi	
	@Time 3600 sec	@Time 1.00 hour	ISO 899-1

Mechanical Properties	Metric	English	Comments
Tensile Creep Modulus, 1000 hours	@Time 3.60e+6 sec	@Time 1000 hour	ISO 899-1

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	19.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	10.6 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-1/-2
	22.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	12.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature -40.0 - 23.0 $^{\circ}\text{C}$	@Temperature -40.0 - 73.4 $^{\circ}\text{F}$	ISO 11359-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	IEC 60093
Dielectric Constant	3.7	3.7	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.8	3.8	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	4.7	4.7	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	4.8	4.8	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	33.0 kV/mm	838 kV/in	IEC 60243-1
Dissipation Factor	0.0070	0.0070	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.010	0.010	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.011	0.011	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.018	0.018	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	200 V	200 V	IEC 60112

Electrical Properties	Metric	English	Comments
	100 ~ 400 V	100 ~ 400 V	UL 148A

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