

DuPont Performance Polymers Rynite® FR515 NC010 Polyethylene Terephthalate (PET) (Unverified Data**)

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

Material Notes:

15% Glass Reinforced Flame Retardant Polyethylene Terephthalate Rynite FR515 NC010 is a flame retardant 15% glass reinforced modified polyethylene terephthalate. Recognized by UL as UL94V-0 at 0.8mm(0.03in). Has a 140C temp index. Excellent balance of information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Rynite-FR515-NC010-Polyethylene-Terephthalate-PET-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.53 g/cc	0.0553 lb/in ³	ISO 1183
Viscosity	658000 cP	658000 cP	ISO 11403-1 -2
	@Shear Rate 12.0 1/s, Temperature 295 °C	@Shear Rate 12.0 1/s, Temperature 563 °F	
	998000 cP	998000 cP	ISO 11403-1 -2
	@Shear Rate 12.0 1/s, Temperature 285 °C	@Shear Rate 12.0 1/s, Temperature 545 °F	
	1.33e+6 cP	1.33e+6 cP	ISO 11403-1 -2
	@Shear Rate 12.0 1/s, Temperature 275 °C	@Shear Rate 12.0 1/s, Temperature 527 °F	
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	ISO 294-4 2577
	0.0050 cm/cm	0.0050 in/in	annealed; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	ISO 294-4 2577
	0.0115 cm/cm	0.0115 in/in	annealed; ISO 294-4
Melt Flow	6.0 g/10 min	6.0 g/10 min	cm ³ /10min; ISO 1133
	@Load 2.16 kg, Temperature 280 °C	@Load 4.76 lb, Temperature 536 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	88	88	ISO 2039-2
Hardness, Rockwell R	120	120	ISO 2039-2
Tensile Strength at Break	107 MPa	15500 psi	ISO 527-1/-2
	16.13 MPa	2339 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 0.460 %, Temperature 90.0 °C	@Strain 0.460 %, Temperature 194 °F	ISO 11403-1 -2
	17.35 MPa	2516 psi	ISO 11403-1 -2
	@Strain 0.260 %, Temperature 40.0 °C	@Strain 0.260 %, Temperature 104 °F	ISO 11403-1 -2
	20.0 MPa	2900 psi	ISO 11403-1 -2
	@Strain 0.270 %, Temperature 23.0 °C	@Strain 0.270 %, Temperature 73.4 °F	ISO 11403-1 -2
	46.19 MPa	6699 psi	ISO 11403-1 -2
	@Strain 1.81 %, Temperature 90.0 °C	@Strain 1.81 %, Temperature 194 °F	ISO 11403-1 -2
	59.46 MPa	8624 psi	ISO 11403-1 -2
	@Strain 3.16 %, Temperature 90.0 °C	@Strain 3.16 %, Temperature 194 °F	ISO 11403-1 -2
	60.81 MPa	8820 psi	ISO 11403-1 -2
	@Strain 4.52 %, Temperature 90.0 °C	@Strain 4.52 %, Temperature 194 °F	ISO 11403-1 -2
	61.0 MPa	8850 psi	ISO 11403-1 -2
	@Strain 1.04 %, Temperature 40.0 °C	@Strain 1.04 %, Temperature 104 °F	ISO 11403-1 -2
	66.0 MPa	9570 psi	ISO 11403-1 -2
	@Strain 1.04 %, Temperature 23.0 °C	@Strain 1.04 %, Temperature 73.4 °F	ISO 11403-1 -2
	87.6 MPa	12700 psi	ISO 11403-1 -2
	@Strain 1.82 %, Temperature 40.0 °C	@Strain 1.82 %, Temperature 104 °F	ISO 11403-1 -2
	97.08 MPa	14080 psi	ISO 11403-1 -2
	@Strain 1.83 %, Temperature 23.0 °C	@Strain 1.83 %, Temperature 73.4 °F	ISO 11403-1 -2
	100.6 MPa	14590 psi	ISO 11403-1 -2
	@Strain 2.60 %, Temperature 40.0 °C	@Strain 2.60 %, Temperature 104 °F	ISO 11403-1 -2
	113.1 MPa	16400 psi	ISO 11403-1 -2
	@Strain 2.61 %, Temperature 23.0 °C	@Strain 2.61 %, Temperature 73.4 °F	ISO 11403-1 -2
Elongation at Break	2.6 %	2.6 %	ISO 527-1/-2
Tensile Modulus	6.80 GPa	986 ksi	ISO 527-1/-2

Mechanical Properties	0.269 GPa Metric	39.0 ksi English	Comments Dynamic; ISO 11403-1 -2
	@Temperature 230 °C	@Temperature 446 °F	
	0.467 GPa	67.7 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 170 °C	@Temperature 338 °F	
	0.736 GPa	107 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 90.0 °C	@Temperature 194 °F	
	1.495 GPa	216.8 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 40.0 °C	@Temperature 104 °F	
	1.849 GPa	268.2 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	2.01 GPa	292 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -50.0 °C	@Temperature -58.0 °F	
Flexural Strength	170 MPa	24700 psi	ISO 178
Flexural Modulus	5.94 GPa	862 ksi	ISO 178
Shear Strength	0.007896 MPa	1.145 psi	ISO 11403-1 -2
	@Shear Rate 12.0 1/s, Temperature 295 °C	@Shear Rate 12.0 1/s, Temperature 563 °F	
	0.008556 MPa	1.241 psi	ISO 11403-1 -2
	@Shear Rate 7.00 1/s, Temperature 285 °C	@Shear Rate 7.00 1/s, Temperature 545 °F	
	0.011753 MPa	1.7046 psi	ISO 11403-1 -2
	@Shear Rate 7.00 1/s, Temperature 275 °C	@Shear Rate 7.00 1/s, Temperature 527 °F	
Secant Modulus	4.47 GPa	649 ksi	ISO 11403-1 -2
	@Strain 2.08 %, Temperature 40.0 °C	@Strain 2.08 %, Temperature 104 °F	
	4.95 GPa	718 ksi	ISO 11403-1 -2
	@Strain 2.09 %, Temperature 23.0 °C	@Strain 2.09 %, Temperature 73.4 °F	
	5.87 GPa	851 ksi	ISO 11403-1 -2
	@Strain 1.04 %, Temperature 40.0 °C	@Strain 1.04 %, Temperature 104 °F	
	6.35 GPa	920 ksi	ISO 11403-1 -2
	@Strain 1.04 %, Temperature 23.0 °C	@Strain 1.04 %, Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
	@Strain 0.260 %, Temperature 40.0 °C	@Strain 0.260 %, Temperature 104 °F	ISO 11403-1 -2
	7.41 GPa	1070 ksi	
	@Strain 0.270 %, Temperature 23.0 °C	@Strain 0.270 %, Temperature 73.4 °F	ISO 11403-1 -2
Charpy Impact Unnotched	4.00 J/cm ²	19.0 ft-lb/in ²	ISO 179/1eU
	2.00 J/cm ²	9.52 ft-lb/in ²	
	@Temperature -40.0 °C	@Temperature -40.0 °F	ISO 179/1eU
	3.50 J/cm ²	16.7 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179/1eA
	0.700 J/cm ²	3.33 ft-lb/in ²	
	@Temperature -40.0 °C	@Temperature -40.0 °F	ISO 179/1eA
	0.700 J/cm ²	3.33 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	18.0 μm/m-°C	10.0 μin/in-°F	ISO 11359-1/-2
	12.0 μm/m-°C	6.67 μin/in-°F	
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	ISO 11359-1/-2
	33.0 μm/m-°C	18.3 μin/in-°F	
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	88.0 μm/m-°C	48.9 μin/in-°F	ISO 11359-1/-2
	70.0 μm/m-°C	38.9 μin/in-°F	
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °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+13 ohm	1.00e+13 ohm	IEC 60093
	3.0	3.0	

Electrical Properties	Metric	English	Comments
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.1	3.1	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	3.7	3.7	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	3.7	3.7	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	34.0 kV/mm	864 kV/in	IEC 60243-1
Dissipation Factor	0.0040	0.0040	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0090	0.0090	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.015	0.015	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.015	0.015	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	200 V	200 V	IEC 60112
	175 - 250 V	175 - 250 V	UL 746A

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