

## DuPont Performance Polymers Rynite® FR543 NC010 PET

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET) , Polyethylene Terephthalate (PET), 40% Glass Reinforced

### Material Notes:

Rynite® FR543 NC010 is a flame retardant, 43% glass reinforced polyethylene terephthalate. Has a 155C temperature index that is equivalent to many thermosets. Recognized by UL as UL94V-0 at 0.8mm(0.03in).Information provided by DuPont Performance Polymers

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DuPont-Performance-Polymers-Rynite-FR543-NC010-PET.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Rynite-FR543-NC010-PET.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.79 g/cc	1.79 g/cc	ASTM D792
Density	1.79 g/cc	0.0647 lb/in <sup>3</sup>	ISO 1183
Filler Content	43 %	43 %	
Water Absorption	0.060 %	0.060 %	50%RH,23°C,24h; ASTM D570
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.11 %	0.11 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	Equilibrium 50%RH; ISO 62, Similar to
	0.62 %	0.62 %	Saturation, immersed; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Linear Mold Shrinkage	0.0013 cm/cm	0.0013 in/in	Flow
	@Thickness 1.57 mm	@Thickness 0.0618 in	
	0.0020 cm/cm	0.0020 in/in	Flow
	@Thickness 3.20 mm	@Thickness 0.126 in	
	0.0048 cm/cm	0.0048 in/in	Transverse
	@Thickness 1.57 mm	@Thickness 0.0618 in	
	0.0065 cm/cm	0.0065 in/in	Transverse
	@Thickness 3.20 mm	@Thickness 0.126 in	
Linear Mold Shrinkage, Flow	0.0025 cm/cm	0.0025 in/in	Annealed; ISO 294-4
	0.0020 cm/cm	0.0020 in/in	ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Linear Mold Shrinkage, Transverse	0.0105 cm/cm	0.0105 in/in	Annealed; ISO 294-4
	0.0075 cm/cm	0.0075 in/in	ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Physical Properties	Metric	English	Comments
Melt Index of Compound	@Load 2.16 kg, Temperature 280 °C	@Load 4.76 lb, Temperature 536 °F	cm3/10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	95	95	ASTM D785
	102	102	ISO 2039/2
Hardness, Rockwell R	120	120	ASTM D785
	122	122	ISO 2039/2
Tensile Strength at Break	170 MPa @Temperature 23.0 °C	24700 psi @Temperature 73.4 °F	ISO 527
	55.2 MPa @Temperature 150 °C	8010 psi @Temperature 302 °F	ASTM D638
Tensile Strength	86.5 MPa @Temperature 90.0 °C	12500 psi @Temperature 194 °F	ASTM D638
	172 MPa @Temperature 23.0 °C	24900 psi @Temperature 73.4 °F	ASTM D638
Tensile Strength	210 MPa @Temperature -40.0 °C	30500 psi @Temperature -40.0 °F	ASTM D638
	22.4 MPa @Strain 0.470 %, Temperature 150 °C	3250 psi @Strain 0.470 %, Temperature 302 °F	ISO 527
Tensile Stress	27.22 MPa @Strain 0.430 %, Temperature 120 °C	3948 psi @Strain 0.430 %, Temperature 248 °F	ISO 527
	27.5 MPa @Strain 0.160 %, Temperature 0.000 °C	3990 psi @Strain 0.160 %, Temperature 32.0 °F	ISO 527
Tensile Stress	28.39 MPa @Strain 0.350 %, Temperature 90.0 °C	4118 psi @Strain 0.350 %, Temperature 194 °F	ISO 527
	29.0 MPa @Strain 0.140 %, Temperature -40.0 °C	4210 psi @Strain 0.140 %, Temperature -40.0 °F	ISO 527

Mechanical Properties	Metric	English	Comments
	@Strain 0.210 %, Temperature 40.0 °C	@Strain 0.210 %, Temperature 104 °F	ISO 527
	<b>31.0 MPa</b>	<b>4500 psi</b>	
	@Strain 0.180 %, Temperature 23.0 °C	@Strain 0.180 %, Temperature 73.4 °F	ISO 527
	<b>34.9 MPa</b>	<b>5060 psi</b>	
	@Strain 0.940 %, Temperature 150 °C	@Strain 0.940 %, Temperature 302 °F	ISO 527
	<b>35.57 MPa</b>	<b>5159 psi</b>	
	@Strain 0.310 %, Temperature 60.0 °C	@Strain 0.310 %, Temperature 140 °F	ISO 527
	<b>41.5 MPa</b>	<b>6020 psi</b>	
	@Strain 1.41 %, Temperature 150 °C	@Strain 1.41 %, Temperature 302 °F	ISO 527
	<b>41.8 MPa</b>	<b>6060 psi</b>	
	@Strain 0.830 %, Temperature 120 °C	@Strain 0.830 %, Temperature 248 °F	ISO 527
	<b>45.7 MPa</b>	<b>6630 psi</b>	
	@Strain 1.87 %, Temperature 150 °C	@Strain 1.87 %, Temperature 302 °F	ISO 527
	<b>47.19 MPa</b>	<b>6844 psi</b>	
	@Strain 0.690 %, Temperature 90.0 °C	@Strain 0.690 %, Temperature 194 °F	ISO 527
	<b>49.1 MPa</b>	<b>7120 psi</b>	
	@Strain 2.34 %, Temperature 150 °C	@Strain 2.34 %, Temperature 302 °F	ISO 527
	<b>50.35 MPa</b>	<b>7303 psi</b>	
	@Strain 0.370 %, Temperature 40.0 °C	@Strain 0.370 %, Temperature 104 °F	ISO 527
	<b>50.8 MPa</b>	<b>7370 psi</b>	
	@Strain 1.23 %, Temperature 120 °C	@Strain 1.23 %, Temperature 248 °F	ISO 527
	<b>51.7 MPa</b>	<b>7500 psi</b>	
	@Strain 2.81 %, Temperature 150 °C	@Strain 2.81 %, Temperature 302 °F	ISO 527
	<b>52.4 MPa</b>	<b>7600 psi</b>	
	@Strain 0.320 %,	@Strain 0.320 %,	ISO 527

Mechanical Properties	Temperature 0.000 °C Metric	Temperature 32.0 °F English	Comments
	53.8 MPa	7800 psi	
	@Strain 3.28 %, Temperature 150 °C	@Strain 3.28 %, Temperature 302 °F	ISO 527
	53.9 MPa	7820 psi	
	@Strain 0.280 %, Temperature -40.0 °C	@Strain 0.280 %, Temperature -40.0 °F	ISO 527
	55.0 MPa	7980 psi	
	@Strain 0.520 %, Temperature 60.0 °C	@Strain 0.520 %, Temperature 140 °F	ISO 527
	55.6 MPa	8060 psi	
	@Strain 3.75 %, Temperature 150 °C	@Strain 3.75 %, Temperature 302 °F	ISO 527
	56.4 MPa	8180 psi	
	@Strain 0.350 %, Temperature 23.0 °C	@Strain 0.350 %, Temperature 73.4 °F	ISO 527
	56.85 MPa	8245 psi	
	@Strain 1.63 %, Temperature 120 °C	@Strain 1.63 %, Temperature 248 °F	ISO 527
	57.1 MPa	8280 psi	
	@Strain 4.21 %, Temperature 150 °C	@Strain 4.21 %, Temperature 302 °F	ISO 527
	58.5 MPa	8480 psi	
	@Strain 4.69 %, Temperature 150 °C	@Strain 4.69 %, Temperature 302 °F	ISO 527
	59.61 MPa	8646 psi	
	@Strain 1.03 %, Temperature 90.0 °C	@Strain 1.03 %, Temperature 194 °F	ISO 527
	61.26 MPa	8885 psi	
	@Strain 2.04 %, Temperature 120 °C	@Strain 2.04 %, Temperature 248 °F	ISO 527
	64.62 MPa	9372 psi	
	@Strain 2.44 %, Temperature 120 °C	@Strain 2.44 %, Temperature 248 °F	ISO 527
	67.28 MPa	9758 psi	
	@Strain 2.84 %, Temperature 120 °C	@Strain 2.84 %, Temperature 248 °F	ISO 527
	68.2 MPa	9890 psi	

Mechanical Properties	Metric	English	ISO 527 Comments
	@Strain 1.37 %, Temperature 90.0 °C	@Strain 1.37 %, Temperature 194 °F	
	<b>69.36 MPa</b>	<b>10060 psi</b>	
	@Strain 3.24 %, Temperature 120 °C	@Strain 3.24 %, Temperature 248 °F	ISO 527
	<b>71.09 MPa</b>	<b>10310 psi</b>	
	@Strain 3.65 %, Temperature 120 °C	@Strain 3.65 %, Temperature 248 °F	ISO 527
	<b>71.87 MPa</b>	<b>10420 psi</b>	
	@Strain 0.730 %, Temperature 60.0 °C	@Strain 0.730 %, Temperature 140 °F	ISO 527
	<b>72.35 MPa</b>	<b>10490 psi</b>	
	@Strain 4.05 %, Temperature 120 °C	@Strain 4.05 %, Temperature 248 °F	ISO 527
	<b>72.8 MPa</b>	<b>10600 psi</b>	
	@Strain 0.560 %, Temperature 40.0 °C	@Strain 0.560 %, Temperature 104 °F	ISO 527
	<b>74.5 MPa</b>	<b>10800 psi</b>	
	@Strain 0.480 %, Temperature 23.0 °C	@Strain 0.480 %, Temperature 73.4 °F	ISO 527
	<b>74.52 MPa</b>	<b>10810 psi</b>	
	@Strain 1.70 %, Temperature 90.0 °C	@Strain 1.70 %, Temperature 194 °F	ISO 527
	<b>75.5 MPa</b>	<b>11000 psi</b>	
	@Strain 0.420 %, Temperature -40.0 °C	@Strain 0.420 %, Temperature -40.0 °F	ISO 527
	<b>75.9 MPa</b>	<b>11000 psi</b>	
	@Strain 0.470 %, Temperature 0.000 °C	@Strain 0.470 %, Temperature 32.0 °F	ISO 527
	<b>79.34 MPa</b>	<b>11510 psi</b>	
	@Strain 2.04 %, Temperature 90.0 °C	@Strain 2.04 %, Temperature 194 °F	ISO 527
	<b>83.14 MPa</b>	<b>12060 psi</b>	
	@Strain 2.41 %, Temperature 90.0 °C	@Strain 2.41 %, Temperature 194 °F	ISO 527
	<b>83.19 MPa</b>	<b>12070 psi</b>	
	@Strain 0.940 %, Temperature 60.0 °C	@Strain 0.940 %, Temperature 140 °F	ISO 527

Mechanical Properties	Metric <b>MPa</b>	English <b>psi</b>	Comments
	@Strain 2.75 %, Temperature 90.0 °C	@Strain 2.75 %, Temperature 194 °F	ISO 527

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