DuPont Performance Polymers Rynite® 415HP NC010 Polyethylene Terephthalate (PET) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET) , Polyethylene Terephthalate (PET), 20% Glass Reinforced

Material Notes:

15% Glass Reinforced Polyethylene Terephthalate with Excellent Impact Resistance Rynite 415HP NC010 is a 15% glass reinforced modified polyethylene terephthalate improved for easy fast processing over a broad molding range with excellent balance of strInformation provided by DuPont Performance Polymers

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Rynite-415HP-NC010-Polyethylene-Terephthalate-PET-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.39 g/cc	1.39 g/cc	ASTM D792
Density	1.39 g/cc	0.0502 lb/in³	ISO 1183
Water Absorption	2.5 % @Thickness 2.00 mm	2.5 % @Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.250 % @Thickness 2.00 mm	0.250 % @Thickness 0.0787 in	Sim. to ISO 62
Viscosity	57000 cP @Shear Rate 5000 1/s, Temperature 315 °C	57000 cP @Shear Rate 5000 1/s, Temperature 599 °F	ISO 11403-1 -2
	71000 cP @Shear Rate 5000 1/s, Temperature 295 °C	71000 cP @Shear Rate 5000 1/s, Temperature 563 °F	ISO 11403-1 -2
	92000 cP @Shear Rate 5000 1/s, Temperature 275 °C	92000 cP @Shear Rate 5000 1/s, Temperature 527 °F	ISO 11403-1 -2
	200000 cP @Shear Rate 500 1/s, Temperature 315 °C	200000 cP @Shear Rate 500 1/s, Temperature 599 °F	ISO 11403-1 -2
	248000 cP @Shear Rate 500 1/s, Temperature 295 °C	248000 cP @Shear Rate 500 1/s, Temperature 563 °F	ISO 11403-1 -2
	312000 cP @Shear Rate 500 1/s, Temperature 275 °C	312000 cP @Shear Rate 500 1/s, Temperature 527 °F	ISO 11403-1 -2

Physical Properties	Metric	English	Comments
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
	0.012 cm/cm	0.012 in/in	annealed; ISO 294-4
Melt Flow	4.0 g/10 min @Load 2.16 kg, Temperature 280 °C	4.0 g/10 min @Load 4.76 lb, Temperature 536 °F	cm³/10min; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	58	58	ISO 2039-2
Hardness, Rockwell R	111	111	ISO 2039-2
Tensile Strength at Break	79.0 MPa	11500 psi	ISO 527-1/-2
Tensile Stress	13.4 MPa @Strain 1.00 %, Temperature 150 °C	1940 psi @Strain 1.00 %, Temperature 302 °F	ISO 11403-1 -2
	16.4 MPa @Strain 0.450 %, Temperature 40.0 °C	2380 psi @Strain 0.450 %, Temperature 104 °F	ISO 11403-1 -2
	18.2 MPa @Strain 0.350 %, Temperature 23.0 °C	2640 psi @Strain 0.350 %, Temperature 73.4 °F	ISO 11403-1 -2
	19.7 MPa @Strain 0.300 %, Temperature 0.000 °C	2860 psi @Strain 0.300 %, Temperature 32.0 °F	ISO 11403-1 -2
	21.1 MPa @Strain 1.00 %, Temperature 90.0 °C	3060 psi @Strain 1.00 %, Temperature 194 °F	ISO 11403-1 -2
	27.9 MPa @Strain 0.350 %, Temperature -20.0 °C	4050 psi @Strain 0.350 %, Temperature -4.00 °F	ISO 11403-1 -2
	34.1 MPa @Strain 4.00 %, Temperature 150 °C	4950 psi @Strain 4.00 %, Temperature 302 °F	ISO 11403-1 -2
	40.0 MPa @Strain 7.00 %, Temperature 150 °C	5800 psi @Strain 7.00 %, Temperature 302 °F	ISO 11403-1 -2

Mechanical Properties	Metric	English	Comments
	@Strain 10.0 %, Temperature 150 °C	@Strain 10.0 %, Temperature 302 °F	ISO 11403-1 -2
	44.7 MPa @Strain 4.00 %, Temperature 90.0 °C	6480 psi @Strain 4.00 %, Temperature 194 °F	ISO 11403-1 -2
	49.9 MPa @Strain 7.00 %, Temperature 90.0 °C	7240 psi @Strain 7.00 %, Temperature 194 °F	ISO 11403-1 -2
	50.2 MPa @Strain 1.80 %, Temperature 40.0 °C	7280 psi @Strain 1.80 %, Temperature 104 °F	ISO 11403-1 -2
	51.9 MPa @Strain 10.0 %, Temperature 90.0 °C	7530 psi @Strain 10.0 %, Temperature 194 °F	ISO 11403-1 -2
	57.4 MPa @Strain 1.40 %, Temperature 23.0 °C	8330 psi @Strain 1.40 %, Temperature 73.4 °F	ISO 11403-1 -2
	63.8 MPa @Strain 1.20 %, Temperature 0.000 °C	9250 psi @Strain 1.20 %, Temperature 32.0 °F	ISO 11403-1 -2
	67.5 MPa @Strain 3.15 %, Temperature 40.0 °C	9790 psi @Strain 3.15 %, Temperature 104 °F	ISO 11403-1 -2
	71.3 MPa @Strain 4.50 %, Temperature 40.0 °C	10300 psi @Strain 4.50 %, Temperature 104 °F	ISO 11403-1 -2
	77.6 MPa @Strain 2.45 %, Temperature 23.0 °C	11300 psi @Strain 2.45 %, Temperature 73.4 °F	ISO 11403-1 -2
	84.5 MPa @Strain 3.50 %, Temperature 23.0 °C	12300 psi @Strain 3.50 %, Temperature 73.4 °F	ISO 11403-1 -2
	86.3 MPa @Strain 1.40 %, Temperature -20.0 °C	12500 psi @Strain 1.40 %, Temperature -4.00 °F	ISO 11403-1 -2
	91.6 MPa	13300 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 2.10 %, Temperature 0.000 °C	@Strain 2.10 %, Temperature 32.0 °F	ISO 11403-1 -2
	109 MPa @Strain 3.00 %, Temperature 0.000 °C	15800 psi @Strain 3.00 %, Temperature 32.0 °F	ISO 11403-1 -2
	116 MPa @Strain 2.45 %, Temperature -20.0 °C	16800 psi @Strain 2.45 %, Temperature -4.00 °F	ISO 11403-1 -2
	128 MPa @Strain 3.33 %, Temperature -20.0 °C	18600 psi @Strain 3.33 %, Temperature -4.00 °F	ISO 11403-1 -2
Elongation at Break	5.0 %	5.0 %	ISO 527-1/-2
Tensile Modulus	4.70 GPa	682 ksi	ISO 527-1/-2
	0.161 GPa @Temperature 230 °C	23.4 ksi @Temperature 446 °F	Dynamic; ISO 11403-1 -2
	0.296 GPa @Temperature 170 °C	42.9 ksi @Temperature 338 °F	Dynamic; ISO 11403-1 -2
	0.404 GPa @Temperature 90.0 °C	58.6 ksi @Temperature 194 °F	Dynamic; ISO 11403-1 -2
	0.779 GPa @Temperature 40.0 °C	113 ksi @Temperature 104 °F	Dynamic; ISO 11403-1 -2
	1.314 GPa @Temperature -20.0 °C	190.6 ksi @Temperature -4.00 °F	Dynamic; ISO 11403-1 -2
	1.657 GPa @Temperature -50.0 °C	240.3 ksi @Temperature -58.0 °F	Dynamic; ISO 11403-1 -2
Flexural Modulus	3.55 GPa	515 ksi	ISO 178
Shear Modulus	0.303 GPa @Temperature 160 °C	43.9 ksi @Temperature 320 °F	Dynamic; ISO 11403-1 -2
	0.333 GPa @Temperature 120 °C	48.3 ksi @Temperature 248 °F	Dynamic; ISO 11403-1 -2
	0.486 GPa @Temperature 70.0 °C	70.5 ksi @Temperature 158 °F	Dynamic; ISO 11403-1 -2
	0.992 GPa	144 ksi	

Mechanical Properties	Metric	English	Comments
	@Temperature 20.0 °C	@Temperature 68.0 °F	Dynamic; ISO 11403-1 -2
	1.314 GPa @Temperature -20.0 °C	190.6 ksi @Temperature -4.00 °F	Dynamic; ISO 11403-1 -2
	1.657 GPa @Temperature -50.0 °C	240.3 ksi @Temperature -58.0 °F	Dynamic; ISO 11403-1 -2
Shear Strength	0.100 MPa @Shear Rate 500 1/s, Temperature 315 °C	14.5 psi @Shear Rate 500 1/s, Temperature 599 °F	ISO 11403-1 -2
	0.124 MPa @Shear Rate 500 1/s, Temperature 295 °C	18.0 psi @Shear Rate 500 1/s, Temperature 563 °F	ISO 11403-1 -2
	0.156 MPa @Shear Rate 500 1/s, Temperature 275 °C	22.6 psi @Shear Rate 500 1/s, Temperature 527 °F	ISO 11403-1 -2
Secant Modulus	1.94 GPa @Strain 3.60 %, Temperature 40.0 °C	282 ksi @Strain 3.60 %, Temperature 104 °F	ISO 11403-1 -2
	2.79 GPa @Strain 1.80 %, Temperature 40.0 °C	405 ksi @Strain 1.80 %, Temperature 104 °F	ISO 11403-1 -2
	2.89 GPa @Strain 2.80 %, Temperature 23.0 °C	420 ksi @Strain 2.80 %, Temperature 73.4 °F	ISO 11403-1 -2
	3.64 GPa @Strain 0.450 %, Temperature 40.0 °C	529 ksi @Strain 0.450 %, Temperature 104 °F	ISO 11403-1 -2
	4.09 GPa @Strain 2.40 %, Temperature 0.000 °C	593 ksi @Strain 2.40 %, Temperature 32.0 °F	ISO 11403-1 -2
	4.10 GPa @Strain 1.40 %, Temperature 23.0 °C	595 ksi @Strain 1.40 %, Temperature 73.4 °F	ISO 11403-1 -2

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