

DuPont Performance Polymers Zytel® HTN 53G50HSLR NC010 Polyphthalamide (PPA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 50% Glass Fiber Reinforced

Material Notes:

50% Glass Reinforced High Performance Polyamide with Improved Impact and Stiffness Zytel HTN53G50HSLR NC010 is a 50% glass reinforced heat stabilized lubricated high performance polyamide resin developed for moderate temperature structural applications. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-HTN-53G50HSLR-NC010-Polyphthalamide-PPA-Unverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.59 g/cc	0.0574 lb/in ³	DAM; ISO 1183
Linear Mold Shrinkage, Flow	0.0020 cm/cm	0.0020 in/in	DAM; ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.0040 cm/cm	0.0040 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	215 MPa	31200 psi	50%RH; ISO 527-1/-2
	250 MPa	36300 psi	DAM; ISO 527-1/-2
Tensile Stress	12.67 MPa	1838 psi	50%RH; ISO 11403-1 -2
	@Strain 0.0900 %, Temperature 0.000 °C	@Strain 0.0900 %, Temperature 32.0 °F	
	13.51 MPa	1959 psi	50%RH; ISO 11403-1 -2
	@Strain 0.0900 %, Temperature -20.0 °C	@Strain 0.0900 %, Temperature -4.00 °F	
	14.93 MPa	2165 psi	50%RH; ISO 11403-1 -2
	@Strain 0.400 %, Temperature 150 °C	@Strain 0.400 %, Temperature 302 °F	
	15.94 MPa	2312 psi	DAM; ISO 11403-1 -2
	@Strain 0.100 %, Temperature 0.000 °C	@Strain 0.100 %, Temperature 32.0 °F	
	16.26 MPa	2358 psi	DAM; ISO 11403-1 -2
	@Strain 0.110 %, Temperature 23.0 °C	@Strain 0.110 %, Temperature 73.4 °F	
	17.84 MPa	2587 psi	DAM; ISO 11403-1 -2
	@Strain 0.120 %,	@Strain 0.120 %,	

Mechanical Properties	Temperature 40.0 °C Metric	Temperature 104 °F English	Comments
	17.96 MPa	2605 psi	
	@Strain 0.120 %, Temperature -20.0 °C	@Strain 0.120 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	18.1 MPa	2630 psi	
	@Strain 0.130 %, Temperature 23.0 °C	@Strain 0.130 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	20.09 MPa	2914 psi	
	@Strain 0.360 %, Temperature 90.0 °C	@Strain 0.360 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	21.04 MPa	3052 psi	
	@Strain 0.530 %, Temperature 150 °C	@Strain 0.530 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	25.66 MPa	3722 psi	
	@Strain 0.250 %, Temperature 40.0 °C	@Strain 0.250 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	29.88 MPa	4334 psi	
	@Strain 0.400 %, Temperature 90.0 °C	@Strain 0.400 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	32.77 MPa	4753 psi	
	@Strain 1.52 %, Temperature 150 °C	@Strain 1.52 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	40.98 MPa	5944 psi	
	@Strain 2.67 %, Temperature 150 °C	@Strain 2.67 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	45.0 MPa	6530 psi	
	@Strain 2.00 %, Temperature 150 °C	@Strain 2.00 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	46.47 MPa	6740 psi	
	@Strain 3.81 %, Temperature 150 °C	@Strain 3.81 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	49.0 MPa	7110 psi	
	@Strain 1.45 %, Temperature 90.0 °C	@Strain 1.45 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	55.95 MPa	8115 psi	
	@Strain 7.24 %, Temperature 150 °C	@Strain 7.24 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	56.17 MPa	8147 psi	

Mechanical Properties	Metric	English	DAM; ISO 11403-1 -2 Comments
	@Strain 3.50 %, Temperature 150 °C	@Strain 3.50 %, Temperature 302 °F	
	56.72 MPa	8227 psi	50%RH; ISO 11403-1 -2
	@Strain 0.360 %, Temperature 0.000 °C	@Strain 0.360 %, Temperature 32.0 °F	
	58.41 MPa	8472 psi	50%RH; ISO 11403-1 -2
	@Strain 9.14 %, Temperature 150 °C	@Strain 9.14 %, Temperature 302 °F	
	60.18 MPa	8728 psi	50%RH; ISO 11403-1 -2
	@Strain 0.360 %, Temperature -20.0 °C	@Strain 0.360 %, Temperature -4.00 °F	
	61.33 MPa	8895 psi	50%RH; ISO 11403-1 -2
	@Strain 2.53 %, Temperature 90.0 °C	@Strain 2.53 %, Temperature 194 °F	
	63.55 MPa	9217 psi	DAM; ISO 11403-1 -2
	@Strain 4.96 %, Temperature 150 °C	@Strain 4.96 %, Temperature 302 °F	
	64.73 MPa	9388 psi	DAM; ISO 11403-1 -2
	@Strain 0.400 %, Temperature 0.000 °C	@Strain 0.400 %, Temperature 32.0 °F	
	66.67 MPa	9670 psi	DAM; ISO 11403-1 -2
	@Strain 0.410 %, Temperature 23.0 °C	@Strain 0.410 %, Temperature 73.4 °F	
	68.93 MPa	9997 psi	50%RH; ISO 11403-1 -2
	@Strain 3.62 %, Temperature 90.0 °C	@Strain 3.62 %, Temperature 194 °F	
	70.09 MPa	10170 psi	50%RH; ISO 11403-1 -2
	@Strain 0.490 %, Temperature 23.0 °C	@Strain 0.490 %, Temperature 73.4 °F	
	74.43 MPa	10800 psi	DAM; ISO 11403-1 -2
	@Strain 0.480 %, Temperature 40.0 °C	@Strain 0.480 %, Temperature 104 °F	
	75.15 MPa	10900 psi	DAM; ISO 11403-1 -2
	@Strain 1.54 %, Temperature 90.0 °C	@Strain 1.54 %, Temperature 194 °F	
	75.63 MPa	10970 psi	DAM; ISO 11403-1 -2
	@Strain 0.470 %, Temperature -20.0 °C	@Strain 0.470 %, Temperature -4.00 °F	

Mechanical Properties	Metric ^{MPa}	English ^{psi}	Comments
	@Strain 9.43 %, Temperature 150 °C	@Strain 9.43 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	77.63 MPa	11260 psi	
	@Strain 1.00 %, Temperature 40.0 °C	@Strain 1.00 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	78.59 MPa	11400 psi	
	@Strain 11.92 %, Temperature 150 °C	@Strain 11.92 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	79.81 MPa	11580 psi	
	@Strain 6.86 %, Temperature 90.0 °C	@Strain 6.86 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	81.52 MPa	11820 psi	
	@Strain 8.65 %, Temperature 90.0 °C	@Strain 8.65 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	96.68 MPa	14020 psi	
	@Strain 2.70 %, Temperature 90.0 °C	@Strain 2.70 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	96.82 MPa	14040 psi	
	@Strain 0.620 %, Temperature 0.000 °C	@Strain 0.620 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	103.7 MPa	15040 psi	
	@Strain 0.620 %, Temperature -20.0 °C	@Strain 0.620 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	104.54 MPa	15162 psi	
	@Strain 1.74 %, Temperature 40.0 °C	@Strain 1.74 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	108.99 MPa	15808 psi	
	@Strain 3.85 %, Temperature 90.0 °C	@Strain 3.85 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	109.97 MPa	15950 psi	
	@Strain 0.850 %, Temperature 23.0 °C	@Strain 0.850 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	110.4 MPa	16010 psi	
	@Strain 0.700 %, Temperature 0.000 °C	@Strain 0.700 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	110.75 MPa	16063 psi	

Mechanical Properties	Metric @Strain 0.710 %, Temperature 23.0 °C	English @Strain 0.710 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2 Comments
	120.98 MPa	17547 psi	
	@Strain 2.49 %, Temperature 40.0 °C	@Strain 2.49 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	122.53 MPa	17772 psi	
	@Strain 0.840 %, Temperature 40.0 °C	@Strain 0.840 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	124.67 MPa	18082 psi	
	@Strain 7.68 %, Temperature 90.0 °C	@Strain 7.68 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	125.6 MPa	18220 psi	
	@Strain 9.61 %, Temperature 90.0 °C	@Strain 9.61 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	128.32 MPa	18611 psi	
	@Strain 0.820 %, Temperature -20.0 °C	@Strain 0.820 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	131.89 MPa	19129 psi	
	@Strain 0.880 %, Temperature 0.000 °C	@Strain 0.880 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	135.04 MPa	19586 psi	
	@Strain 5.96 %, Temperature 40.0 °C	@Strain 5.96 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	136.27 MPa	19764 psi	
	@Strain 4.72 %, Temperature 40.0 °C	@Strain 4.72 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	138.36 MPa	20067 psi	
	@Strain 1.20 %, Temperature 23.0 °C	@Strain 1.20 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	140.62 MPa	20395 psi	
	@Strain 0.880 %, Temperature -20.0 °C	@Strain 0.880 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	148.68 MPa	21564 psi	
	@Strain 1.01 %, Temperature 23.0 °C	@Strain 1.01 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	153.08 MPa	22202 psi	
	@Strain 1.01 %, Temperature 0.000 °C	@Strain 1.01 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2

Mechanical Properties	160.11 MPa Metric	23222 psi English	Comments
	@Strain 1.20 %, Temperature 40.0 °C	@Strain 1.20 %, Temperature 104 °F	DAM, ISO 11403-1 -2
	176.84 MPa @Strain 1.17 %, Temperature -20.0 °C	25649 psi @Strain 1.17 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	183.62 MPa @Strain 2.29 %, Temperature 23.0 °C	26632 psi @Strain 2.29 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2

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