

DuPont Performance Polymers Zytel® HTN 53G60LRHF BK083 Polyphthalamide (PPA) (Unverified Data**)

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

Material Notes:

60% Glass Reinforced High Performance Polyamide with High Stiffness and Improved Flow Zytel HTN53G60LRHF BK083 is a 60% glass reinforced lubricated high performance polyamide resin with improved flow. It was developed for structural applications requiring information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-HTN-53G60LRHF-BK083-Polyphthalamide-PPA-Unverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.72 g/cc	0.0621 lb/in ³	DAM; ISO 1183
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	DAM; ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.0050 cm/cm	0.0050 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	225 MPa	32600 psi	50%RH; ISO 527-1/-2
	265 MPa	38400 psi	DAM; ISO 527-1/-2
Tensile Stress	4.08 MPa	592 psi	50%RH; ISO 11403-1 -2
	@Strain 0.0600 %, Temperature 150 °C	@Strain 0.0600 %, Temperature 302 °F	
	4.40 MPa	638 psi	DAM; ISO 11403-1 -2
	@Strain 0.0600 %, Temperature 180 °C	@Strain 0.0600 %, Temperature 356 °F	
	5.17 MPa	750 psi	DAM; ISO 11403-1 -2
	@Strain 0.0600 %, Temperature 150 °C	@Strain 0.0600 %, Temperature 302 °F	
	5.69 MPa	825 psi	50%RH; ISO 11403-1 -2
	@Strain 0.0400 %, Temperature 0.000 °C	@Strain 0.0400 %, Temperature 32.0 °F	
	5.88 MPa	853 psi	DAM; ISO 11403-1 -2
	@Strain 0.0500 %, Temperature 23.0 °C	@Strain 0.0500 %, Temperature 73.4 °F	
	5.98 MPa	867 psi	50%RH; ISO 11403-1 -2
	@Strain 0.0600 %,	@Strain 0.0600 %,	

Mechanical Properties	Temperature 90.0 °C Metric	Temperature 194 °F English	Comments
	7.13 MPa	1030 psi	
	@Strain 0.0600 %, Temperature -20.0 °C	@Strain 0.0600 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	7.38 MPa	1070 psi	
	@Strain 0.0500 %, Temperature 0.000 °C	@Strain 0.0500 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	7.56 MPa	1100 psi	
	@Strain 0.0500 %, Temperature 90.0 °C	@Strain 0.0500 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	7.63 MPa	1110 psi	
	@Strain 0.0600 %, Temperature -20.0 °C	@Strain 0.0600 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	8.40 MPa	1220 psi	
	@Strain 0.0400 %, Temperature 40.0 °C	@Strain 0.0400 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	9.24 MPa	1340 psi	
	@Strain 0.0400 %, Temperature 23.0 °C	@Strain 0.0400 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	10.59 MPa	1536 psi	
	@Strain 0.0400 %, Temperature 40.0 °C	@Strain 0.0400 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	11.75 MPa	1704 psi	
	@Strain 0.200 %, Temperature 150 °C	@Strain 0.200 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	12.49 MPa	1812 psi	
	@Strain 0.220 %, Temperature 180 °C	@Strain 0.220 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	15.02 MPa	2178 psi	
	@Strain 0.230 %, Temperature 150 °C	@Strain 0.230 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	17.25 MPa	2502 psi	
	@Strain 0.200 %, Temperature 90.0 °C	@Strain 0.200 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	22.5 MPa	3260 psi	
	@Strain 0.210 %, Temperature 90.0 °C	@Strain 0.210 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	25.67 MPa	3723 psi	

Mechanical Properties	Metric	English	50%RH; ISO 11403-1 -2 Comments
	@Strain 0.150 %, Temperature 40.0 °C	@Strain 0.150 %, Temperature 104 °F	
	28.51 MPa	4135 psi	50%RH; ISO 11403-1 -2
	@Strain 0.140 %, Temperature 23.0 °C	@Strain 0.140 %, Temperature 73.4 °F	
	29.52 MPa	4282 psi	DAM; ISO 11403-1 -2
	@Strain 0.130 %, Temperature 23.0 °C	@Strain 0.130 %, Temperature 73.4 °F	
	29.75 MPa	4315 psi	50%RH; ISO 11403-1 -2
	@Strain 0.760 %, Temperature 150 °C	@Strain 0.760 %, Temperature 302 °F	
	30.63 MPa	4443 psi	DAM; ISO 11403-1 -2
	@Strain 0.800 %, Temperature 180 °C	@Strain 0.800 %, Temperature 356 °F	
	31.13 MPa	4515 psi	DAM; ISO 11403-1 -2
	@Strain 0.150 %, Temperature 0.000 °C	@Strain 0.150 %, Temperature 32.0 °F	
	31.52 MPa	4572 psi	50%RH; ISO 11403-1 -2
	@Strain 0.150 %, Temperature 0.000 °C	@Strain 0.150 %, Temperature 32.0 °F	
	32.16 MPa	4664 psi	DAM; ISO 11403-1 -2
	@Strain 0.140 %, Temperature 40.0 °C	@Strain 0.140 %, Temperature 104 °F	
	37.36 MPa	5419 psi	50%RH; ISO 11403-1 -2
	@Strain 0.170 %, Temperature -20.0 °C	@Strain 0.170 %, Temperature -4.00 °F	
	37.9 MPa	5500 psi	50%RH; ISO 11403-1 -2
	@Strain 0.240 %, Temperature 40.0 °C	@Strain 0.240 %, Temperature 104 °F	
	38.73 MPa	5617 psi	DAM; ISO 11403-1 -2
	@Strain 0.150 %, Temperature -20.0 °C	@Strain 0.150 %, Temperature -4.00 °F	
	40.49 MPa	5873 psi	50%RH; ISO 11403-1 -2
	@Strain 0.200 %, Temperature 23.0 °C	@Strain 0.200 %, Temperature 73.4 °F	
	40.61 MPa	5890 psi	DAM; ISO 11403-1 -2
	@Strain 1.01 %, Temperature 150 °C	@Strain 1.01 %, Temperature 302 °F	

Mechanical Properties	Metric ¹ MPa	English ¹	Comments
	@Strain 1.62 %, Temperature 150 °C	@Strain 1.62 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	41.26 MPa	5984 psi	
	@Strain 0.170 %, Temperature 23.0 °C	@Strain 0.170 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	41.27 MPa	5986 psi	
	@Strain 1.69 %, Temperature 180 °C	@Strain 1.69 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	43.31 MPa	6282 psi	
	@Strain 0.720 %, Temperature 90.0 °C	@Strain 0.720 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	44.86 MPa	6506 psi	
	@Strain 0.200 %, Temperature 40.0 °C	@Strain 0.200 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	46.01 MPa	6673 psi	
	@Strain 0.210 %, Temperature 0.000 °C	@Strain 0.210 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	47.63 MPa	6908 psi	
	@Strain 0.230 %, Temperature 0.000 °C	@Strain 0.230 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	52.16 MPa	7565 psi	
	@Strain 0.220 %, Temperature 23.0 °C	@Strain 0.220 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	52.67 MPa	7639 psi	
	@Strain 0.210 %, Temperature -20.0 °C	@Strain 0.210 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	53.08 MPa	7699 psi	
	@Strain 1.99 %, Temperature 150 °C	@Strain 1.99 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	54.46 MPa	7899 psi	
	@Strain 0.260 %, Temperature 23.0 °C	@Strain 0.260 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	55.7 MPa	8080 psi	
	@Strain 5.04 %, Temperature 180 °C	@Strain 5.04 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	56.01 MPa	8124 psi	

Mechanical Properties	Metric @Strain 4.77 %, Temperature 150 °C	English @Strain 4.77 %, Temperature 302 °F	50%RH; ISO 11403-1 -2 Comments
	56.33 MPa	8170 psi	
	@Strain 0.630 %, Temperature 90.0 °C	@Strain 0.630 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	56.48 MPa	8192 psi	
	@Strain 0.200 %, Temperature -20.0 °C	@Strain 0.200 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	56.96 MPa	8261 psi	
	@Strain 0.250 %, Temperature 40.0 °C	@Strain 0.250 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	58.58 MPa	8496 psi	
	@Strain 7.15 %, Temperature 180 °C	@Strain 7.15 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	59.14 MPa	8578 psi	
	@Strain 6.74 %, Temperature 150 °C	@Strain 6.74 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	60.57 MPa	8785 psi	
	@Strain 1.49 %, Temperature 90.0 °C	@Strain 1.49 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	63.55 MPa	9217 psi	
	@Strain 0.280 %, Temperature 0.000 °C	@Strain 0.280 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	65.21 MPa	9458 psi	
	@Strain 0.250 %, Temperature -20.0 °C	@Strain 0.250 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	70.92 MPa	10290 psi	
	@Strain 5.53 %, Temperature 150 °C	@Strain 5.53 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	71.95 MPa	10440 psi	
	@Strain 0.260 %, Temperature -20.0 °C	@Strain 0.260 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	74.29 MPa	10770 psi	
	@Strain 7.80 %, Temperature 150 °C	@Strain 7.80 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	74.49 MPa	10800 psi	
	@Strain 0.540 %, Temperature 40.0 °C	@Strain 0.540 %, Temperature 104 °F	50%RH; ISO 11403-1 -2

Mechanical Properties	82.47 MPa Metric	11960 psi English	Comments
	@Strain 0.390 %, Temperature 0.000 °C	@Strain 0.390 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	84.81 MPa @Strain 1.25 %, Temperature 90.0 °C	12300 psi @Strain 1.25 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	85.83 MPa @Strain 4.65 %, Temperature 90.0 °C	12450 psi @Strain 4.65 %, Temperature 194 °F	50%RH; ISO 11403-1 -2

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