

DuPont Performance Polymers Zytel® HTN 92G45DH2 BK083 Polyphthalamide (PPA)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 40% Glass Fiber Reinforced

Material Notes:

35% Glass Reinforced PPA High Performance Polyamide with DuPont Zytel HTN92G45DH2 BK083 is a 45% glass reinforced high performance polyamide resin using DuPont SHIELD Technology with high flow and excellent retention of properties after aging at elevated temperature. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-HTN-92G45DH2-BK083-Polyphthalamide-PPA.php

Physical Properties	Metric	English	Comments
Density	1.54 g/cc	0.0556 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	0.0070 cm/cm	0.0070 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	168 MPa	24400 psi	50%RH; ISO 527-1/-2
	214 MPa	31000 psi	DAM; ISO 527-1/-2
Tensile Stress	3.94 MPa	571 psi	DAM; ISO 11403-1 -2
	@Strain 0.0400 %, Temperature 180 °C	@Strain 0.0400 %, Temperature 356 °F	
	4.52 MPa	656 psi	DAM; ISO 11403-1 -2
	@Strain 0.0500 %, Temperature 150 °C	@Strain 0.0500 %, Temperature 302 °F	
	4.78 MPa	693 psi	DAM; ISO 11403-1 -2
	@Strain 0.0500 %, Temperature 0.000 °C	@Strain 0.0500 %, Temperature 32.0 °F	
	5.34 MPa	775 psi	DAM; ISO 11403-1 -2
	@Strain 0.0400 %, Temperature 90.0 °C	@Strain 0.0400 %, Temperature 194 °F	
	6.13 MPa	889 psi	DAM; ISO 11403-1 -2
	@Strain 0.0400 %, Temperature 23.0 °C	@Strain 0.0400 %, Temperature 73.4 °F	
	7.13 MPa	1030 psi	DAM; ISO 11403-1 -2
	@Strain 0.0500 %, Temperature 40.0 °C	@Strain 0.0500 %, Temperature 104 °F	

Mechanical Properties	Metric	English	Comments
	@Strain 0.190 %, Temperature 180 °C	@Strain 0.190 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	13.69 MPa	1986 psi	
	@Strain 0.190 %, Temperature 150 °C	@Strain 0.190 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	15.77 MPa	2287 psi	
	@Strain 0.160 %, Temperature 90.0 °C	@Strain 0.160 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	19.8 MPa	2870 psi	
	@Strain 0.140 %, Temperature 23.0 °C	@Strain 0.140 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	22.33 MPa	3239 psi	
	@Strain 0.150 %, Temperature 40.0 °C	@Strain 0.150 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	22.45 MPa	3256 psi	
	@Strain 0.170 %, Temperature 0.000 °C	@Strain 0.170 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	27.33 MPa	3964 psi	
	@Strain 0.300 %, Temperature 90.0 °C	@Strain 0.300 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	29.77 MPa	4318 psi	
	@Strain 0.220 %, Temperature 0.000 °C	@Strain 0.220 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	32.99 MPa	4785 psi	
	@Strain 0.590 %, Temperature 180 °C	@Strain 0.590 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	33.22 MPa	4818 psi	
	@Strain 0.230 %, Temperature 23.0 °C	@Strain 0.230 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	33.34 MPa	4836 psi	
	@Strain 0.520 %, Temperature 150 °C	@Strain 0.520 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	34.71 MPa	5034 psi	
	@Strain 0.250 %, Temperature 40.0 °C	@Strain 0.250 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	47.72 MPa	6921 psi	
	@Strain 0.560 %,	@Strain 0.560 %,	DAM; ISO 11403-1 -2

Mechanical Properties	Temperature 90.0 °C Metric	Temperature 194 °F English	Comments
	48.89 MPa @Strain 1.07 %, Temperature 180 °C	7091 psi @Strain 1.07 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	49.63 MPa @Strain 0.350 %, Temperature 0.000 °C	7198 psi @Strain 0.350 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	50.0 MPa @Strain 0.900 %, Temperature 150 °C	7250 psi @Strain 0.900 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	63.23 MPa @Strain 0.460 %, Temperature 40.0 °C	9171 psi @Strain 0.460 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	73.66 MPa @Strain 0.520 %, Temperature 23.0 °C	10680 psi @Strain 0.520 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	77.82 MPa @Strain 3.20 %, Temperature 180 °C	11290 psi @Strain 3.20 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	84.05 MPa @Strain 4.84 %, Temperature 180 °C	12190 psi @Strain 4.84 %, Temperature 356 °F	DAM; ISO 11403-1 -2
	89.32 MPa @Strain 2.97 %, Temperature 150 °C	12950 psi @Strain 2.97 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	96.98 MPa @Strain 4.74 %, Temperature 150 °C	14070 psi @Strain 4.74 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	112.3 MPa @Strain 2.00 %, Temperature 90.0 °C	16290 psi @Strain 2.00 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	131.75 MPa @Strain 3.39 %, Temperature 90.0 °C	19109 psi @Strain 3.39 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	156.79 MPa @Strain 1.32 %, Temperature 40.0 °C	22741 psi @Strain 1.32 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	173.51 MPa	25166 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 1.39 %, Temperature 23.0 °C	@Strain 1.39 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	176.09 MPa	25540 psi	
	@Strain 1.34 %, Temperature 0.000 °C	@Strain 1.34 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	198.25 MPa	28754 psi	
	@Strain 2.06 %, Temperature 40.0 °C	@Strain 2.06 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	218.51 MPa	31692 psi	
	@Strain 2.10 %, Temperature 23.0 °C	@Strain 2.10 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	237.87 MPa	34500 psi	
	@Strain 2.20 %, Temperature 0.000 °C	@Strain 2.20 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
Elongation at Break	2.2 %	2.2 %	DAM; ISO 527-1/-2
	2.5 %	2.5 %	50%RH; ISO 527-1/-2
Tensile Modulus	12.5 GPa	1810 ksi	50%RH; ISO 527-1/-2
	15.0 GPa	2180 ksi	DAM; ISO 527-1/-2
Flexural Strength	300 MPa	43500 psi	DAM; ISO 178
Flexural Modulus	13.0 GPa	1890 ksi	DAM; ISO 178
Secant Modulus	1.71 GPa	248 ksi	
	@Strain 4.13 %, Temperature 200 °C	@Strain 4.13 %, Temperature 392 °F	DAM; ISO 11403-1 -2
	2.26 GPa	327 ksi	
	@Strain 2.82 %, Temperature 200 °C	@Strain 2.82 %, Temperature 392 °F	DAM; ISO 11403-1 -2
	3.04 GPa	441 ksi	
	@Strain 1.74 %, Temperature 200 °C	@Strain 1.74 %, Temperature 392 °F	DAM; ISO 11403-1 -2
	4.12 GPa	598 ksi	
	@Strain 0.910 %, Temperature 200 °C	@Strain 0.910 %, Temperature 392 °F	DAM; ISO 11403-1 -2
	5.605 GPa	812.9 ksi	
	@Strain 0.200 %, Temperature 200 °C	@Strain 0.200 %, Temperature 392 °F	DAM; ISO 11403-1 -2

Mechanical Properties	7.10 GPa Metric	1030 ksi English	Comments 1403-1 -2
	@Strain 0.0500 %, Temperature 200 °C	@Strain 0.0500 %, Temperature 392 °F	
	9.56 GPa	1390 ksi	DAM; ISO 11403-1 -2
	@Strain 0.0500 %, Temperature 0.000 °C	@Strain 0.0500 %, Temperature 32.0 °F	
	11.5 GPa	1660 ksi	DAM; ISO 11403-1 -2
	@Strain 1.45 %, Temperature 40.0 °C	@Strain 1.45 %, Temperature 104 °F	
	12.1 GPa	1750 ksi	DAM; ISO 11403-1 -2
	@Strain 1.52 %, Temperature 23.0 °C	@Strain 1.52 %, Temperature 73.4 °F	
	12.7 GPa	1850 ksi	DAM; ISO 11403-1 -2
	@Strain 1.49 %, Temperature 0.000 °C	@Strain 1.49 %, Temperature 32.0 °F	
	12.9 GPa	1870 ksi	DAM; ISO 11403-1 -2
	@Strain 0.980 %, Temperature 40.0 °C	@Strain 0.980 %, Temperature 104 °F	
	13.2 GPa	1920 ksi	DAM; ISO 11403-1 -2
	@Strain 0.170 %, Temperature 0.000 °C	@Strain 0.170 %, Temperature 32.0 °F	
	13.4 GPa	1950 ksi	DAM; ISO 11403-1 -2
	@Strain 1.05 %, Temperature 23.0 °C	@Strain 1.05 %, Temperature 73.4 °F	
	13.4 GPa	1950 ksi	DAM; ISO 11403-1 -2
	@Strain 0.240 %, Temperature 0.000 °C	@Strain 0.240 %, Temperature 32.0 °F	
	13.7 GPa	1980 ksi	DAM; ISO 11403-1 -2
	@Strain 0.610 %, Temperature 40.0 °C	@Strain 0.610 %, Temperature 104 °F	
	13.9 GPa	2010 ksi	DAM; ISO 11403-1 -2
	@Strain 0.330 %, Temperature 40.0 °C	@Strain 0.330 %, Temperature 104 °F	
	14.0 GPa	2030 ksi	DAM; ISO 11403-1 -2
	@Strain 0.950 %, Temperature 0.000 °C	@Strain 0.950 %, Temperature 32.0 °F	
	14.1 GPa	2050 ksi	DAM; ISO 11403-1 -2
	@Strain 0.680 %, Temperature 23.0 °C	@Strain 0.680 %, Temperature 73.4 °F	

Mechanical Properties

Metric

English

Comments

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