

DuPont Performance Polymers Zytel® HTN FR52G30BL NC010 Polyphthalamide (PPA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 30% Glass Fiber Reinforced

Material Notes:

30% Glass Reinforced Flame Retardant PPA High Performance Polyamide Zytel HTNFR52G30BL NC010 is a 30% glass reinforced flame retardant lubricated high performance polyamide resin that has been developed for connector applications. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-HTN-FR52G30BL-NC010-Polyphthalamide-PPA-Unverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.62 g/cc	0.0585 lb/in ³	DAM; ISO 1183
Viscosity Test	120 cm ³ /g	120 cm ³ /g	DAM; ISO 307 1157 1628
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	DAM; ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	DAM; ISO 294-4 2577
Melt Flow	26 g/10 min @Load 2.16 kg, Temperature 325 °C	26 g/10 min @Load 4.76 lb, Temperature 617 °F	DAM; cm ³ /10min; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	150 MPa	21800 psi	50%RH; ISO 527-1/-2
	170 MPa	24700 psi	DAM; ISO 527-1/-2
Tensile Stress	18.83 MPa @Strain 0.330 %, Temperature 150 °C	2731 psi @Strain 0.330 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	20.45 MPa @Strain 0.290 %, Temperature 90.0 °C	2966 psi @Strain 0.290 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	21.71 MPa @Strain 0.180 %, Temperature 0.000 °C	3149 psi @Strain 0.180 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	22.15 MPa @Strain 0.350 %, Temperature 150 °C	3213 psi @Strain 0.350 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	22.19 MPa	3218 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 0.190 %, Temperature 40.0 °C	@Strain 0.190 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	22.3 MPa	3230 psi	
	@Strain 0.180 %, Temperature -20.0 °C	@Strain 0.180 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	22.54 MPa	3269 psi	
	@Strain 0.260 %, Temperature 90.0 °C	@Strain 0.260 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	22.73 MPa	3297 psi	
	@Strain 0.240 %, Temperature 40.0 °C	@Strain 0.240 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	22.8 MPa	3310 psi	
	@Strain 0.190 %, Temperature 0.000 °C	@Strain 0.190 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	23.63 MPa	3427 psi	
	@Strain 0.210 %, Temperature 23.0 °C	@Strain 0.210 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	25.24 MPa	3661 psi	
	@Strain 0.210 %, Temperature -20.0 °C	@Strain 0.210 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	25.57 MPa	3709 psi	
	@Strain 0.200 %, Temperature 23.0 °C	@Strain 0.200 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	52.02 MPa	7545 psi	
	@Strain 1.32 %, Temperature 150 °C	@Strain 1.32 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	60.09 MPa	8715 psi	
	@Strain 1.37 %, Temperature 150 °C	@Strain 1.37 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	62.98 MPa	9134 psi	
	@Strain 1.17 %, Temperature 90.0 °C	@Strain 1.17 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	65.3 MPa	9470 psi	
	@Strain 2.32 %, Temperature 150 °C	@Strain 2.32 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	69.2 MPa	10000 psi	
	@Strain 3.31 %, Temperature 150 °C	@Strain 3.31 %, Temperature 302 °F	50%RH; ISO 11403-1 -2

Mechanical Properties	Metric ^{Pa}	English ^{psi}	Comments
	@Strain 1.00 %, Temperature 90.0 °C	@Strain 1.00 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	75.91 MPa	11010 psi	
	@Strain 2.39 %, Temperature 150 °C	@Strain 2.39 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	78.74 MPa	11420 psi	
	@Strain 0.920 %, Temperature 40.0 °C	@Strain 0.920 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	80.8 MPa	11700 psi	
	@Strain 3.40 %, Temperature 150 °C	@Strain 3.40 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	82.4 MPa	12000 psi	
	@Strain 2.03 %, Temperature 90.0 °C	@Strain 2.03 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	82.87 MPa	12020 psi	
	@Strain 0.720 %, Temperature 40.0 °C	@Strain 0.720 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	85.18 MPa	12350 psi	
	@Strain 0.730 %, Temperature 0.000 °C	@Strain 0.730 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	87.81 MPa	12740 psi	
	@Strain 0.810 %, Temperature 23.0 °C	@Strain 0.810 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	88.7 MPa	12900 psi	
	@Strain 0.730 %, Temperature -20.0 °C	@Strain 0.730 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	88.9 MPa	12900 psi	
	@Strain 2.91 %, Temperature 90.0 °C	@Strain 2.91 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	91.67 MPa	13300 psi	
	@Strain 0.770 %, Temperature 0.000 °C	@Strain 0.770 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	91.76 MPa	13310 psi	
	@Strain 0.760 %, Temperature 23.0 °C	@Strain 0.760 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	97.54 MPa	14150 psi	
			DAM; ISO 11403-1 -2

Mechanical Properties	Metric @Strain 0.800 %, Temperature -20.0 °C	English @Strain 0.800 %, Temperature -4.00 °F	Comments
	104.12 MPa	15101 psi	
	@Strain 1.76 %, Temperature 90.0 °C	@Strain 1.76 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	112.47 MPa	16312 psi	
	@Strain 1.62 %, Temperature 40.0 °C	@Strain 1.62 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	118.53 MPa	17191 psi	
	@Strain 2.50 %, Temperature 90.0 °C	@Strain 2.50 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	128.53 MPa	18642 psi	
	@Strain 1.27 %, Temperature 40.0 °C	@Strain 1.27 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	129.37 MPa	18764 psi	
	@Strain 1.40 %, Temperature 23.0 °C	@Strain 1.40 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	130.1 MPa	18870 psi	
	@Strain 2.30 %, Temperature 40.0 °C	@Strain 2.30 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	132.82 MPa	19264 psi	
	@Strain 1.26 %, Temperature 0.000 °C	@Strain 1.26 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	140.43 MPa	20368 psi	
	@Strain 1.34 %, Temperature 23.0 °C	@Strain 1.34 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	141.24 MPa	20485 psi	
	@Strain 1.27 %, Temperature -20.0 °C	@Strain 1.27 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	143.2 MPa	20770 psi	
	@Strain 1.33 %, Temperature 0.000 °C	@Strain 1.33 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	153.44 MPa	22255 psi	
	@Strain 2.00 %, Temperature 23.0 °C	@Strain 2.00 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	154.25 MPa	22372 psi	
	@Strain 1.41 %, Temperature -20.0 °C	@Strain 1.41 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	157.6 MPa	22860 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 1.80 %, Temperature 40.0 °C	@Strain 1.80 %, Temperature 104 °F	ISO 11403-1 -2
	163.4 MPa	23700 psi	50%RH; ISO 11403-1 -2
	@Strain 1.80 %, Temperature 0.000 °C	@Strain 1.80 %, Temperature 32.0 °F	
	165.5 MPa	24000 psi	DAM; ISO 11403-1 -2
	@Strain 1.80 %, Temperature 23.0 °C	@Strain 1.80 %, Temperature 73.4 °F	
	176.85 MPa	25650 psi	DAM; ISO 11403-1 -2
	@Strain 1.91 %, Temperature 0.000 °C	@Strain 1.91 %, Temperature 32.0 °F	
	177.53 MPa	25749 psi	50%RH; ISO 11403-1 -2
	@Strain 1.80 %, Temperature -20.0 °C	@Strain 1.80 %, Temperature -4.00 °F	
	188.54 MPa	27345 psi	DAM; ISO 11403-1 -2
	@Strain 2.00 %, Temperature -20.0 °C	@Strain 2.00 %, Temperature -4.00 °F	
Elongation at Break	2.0 %	2.0 %	DAM; ISO 527-1/-2
	2.0 %	2.0 %	50%RH; ISO 527-1/-2
Tensile Modulus	11.0 GPa	1600 ksi	50%RH; ISO 527-1/-2
	12.0 GPa	1740 ksi	DAM; ISO 527-1/-2
Flexural Strength	225 MPa	32600 psi	50%RH; ISO 178
	250 MPa	36300 psi	DAM; ISO 178
Flexural Modulus	10.5 GPa	1520 ksi	DAM; ISO 178
	6.52 GPa	945 ksi	50%RH; ISO 11403-1 -2
Secant Modulus	@Strain 1.84 %, Temperature 40.0 °C	@Strain 1.84 %, Temperature 104 °F	
	8.5587 GPa	1241.4 ksi	50%RH; ISO 11403-1 -2
	@Strain 0.920 %, Temperature 40.0 °C	@Strain 0.920 %, Temperature 104 °F	
	8.69 GPa	1260 ksi	50%RH; ISO 11403-1 -2
	@Strain 1.60 %, Temperature 23.0 °C	@Strain 1.60 %, Temperature 73.4 °F	

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