

DuPont Performance Polymers Zytel® HTN FR52G20NH NC010 Polyphthalamide (PPA) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 20% Glass Fiber Reinforced

Material Notes:

20% Glass Reinforced Flame Retardant Non-Halogenated PPA High Performance Polyamide Zytel HTNFR52G20NH NC010 is a 20% glass reinforced flame retardant lubricated high performance polyamide resin. It is also a PPA resin and it uses a non-halogenated flammability information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-HTN-FR52G20NH-NC010-Polyphthalamide-PPA-Unverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.36 g/cc	0.0491 lb/in ³	DAM; ISO 1183
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	DAM; ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.011 cm/cm	0.011 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	120 MPa	17400 psi	50%RH; ISO 527-1/-2
	135 MPa	19600 psi	DAM; ISO 527-1/-2
Tensile Stress	4.29 MPa	622 psi	50%RH; ISO 11403-1 -2
	@Strain 0.100 %, Temperature 150 °C	@Strain 0.100 %, Temperature 302 °F	
	4.34 MPa	629 psi	DAM; ISO 11403-1 -2
	@Strain 0.100 %, Temperature 150 °C	@Strain 0.100 %, Temperature 302 °F	
	8.65 MPa	1250 psi	50%RH; ISO 11403-1 -2
	@Strain 0.100 %, Temperature 40.0 °C	@Strain 0.100 %, Temperature 104 °F	
	8.95 MPa	1300 psi	DAM; ISO 11403-1 -2
	@Strain 0.100 %, Temperature 40.0 °C	@Strain 0.100 %, Temperature 104 °F	
	9.02 MPa	1310 psi	DAM; ISO 11403-1 -2
	@Strain 0.100 %, Temperature -40.0 °C	@Strain 0.100 %, Temperature -40.0 °F	
	9.15 MPa	1330 psi	DAM; ISO 11403-1 -2
	@Strain 0.100 %,	@Strain 0.100 %,	

Mechanical Properties	Temperature 23.0 °C Metric	Temperature 73.4 °F English	Comments
	9.22 MPa @Strain 0.100 %, Temperature 23.0 °C	1340 psi @Strain 0.100 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	10.24 MPa @Strain 0.100 %, Temperature -40.0 °C	1485 psi @Strain 0.100 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	15.28 MPa @Strain 0.400 %, Temperature 150 °C	2216 psi @Strain 0.400 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	15.8 MPa @Strain 0.400 %, Temperature 150 °C	2290 psi @Strain 0.400 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	24.44 MPa @Strain 0.700 %, Temperature 150 °C	3545 psi @Strain 0.700 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	24.97 MPa @Strain 0.700 %, Temperature 150 °C	3622 psi @Strain 0.700 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	31.73 MPa @Strain 0.400 %, Temperature 40.0 °C	4602 psi @Strain 0.400 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	31.91 MPa @Strain 1.00 %, Temperature 150 °C	4628 psi @Strain 1.00 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	32.5 MPa @Strain 1.00 %, Temperature 150 °C	4710 psi @Strain 1.00 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	33.65 MPa @Strain 0.400 %, Temperature 40.0 °C	4881 psi @Strain 0.400 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	33.98 MPa @Strain 0.400 %, Temperature -40.0 °C	4928 psi @Strain 0.400 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	34.51 MPa @Strain 0.400 %, Temperature 23.0 °C	5005 psi @Strain 0.400 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	34.75 MPa	5040 psi	

Mechanical Properties	Metric	English	50%RH; ISO 11403-1 -2 Comments
	@Strain 0.400 %, Temperature 23.0 °C	@Strain 0.400 %, Temperature 73.4 °F	
	38.69 MPa	5612 psi	
	@Strain 0.400 %, Temperature -40.0 °C	@Strain 0.400 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	47.07 MPa	6827 psi	
	@Strain 1.90 %, Temperature 150 °C	@Strain 1.90 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	48.61 MPa	7050 psi	
	@Strain 1.90 %, Temperature 150 °C	@Strain 1.90 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	51.63 MPa	7488 psi	
	@Strain 2.40 %, Temperature 150 °C	@Strain 2.40 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	51.88 MPa	7525 psi	
	@Strain 0.700 %, Temperature 40.0 °C	@Strain 0.700 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	54.51 MPa	7906 psi	
	@Strain 3.00 %, Temperature 150 °C	@Strain 3.00 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	54.56 MPa	7913 psi	
	@Strain 2.40 %, Temperature 150 °C	@Strain 2.40 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	54.79 MPa	7947 psi	
	@Strain 0.700 %, Temperature 40.0 °C	@Strain 0.700 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	55.59 MPa	8063 psi	
	@Strain 3.40 %, Temperature 150 °C	@Strain 3.40 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	56.37 MPa	8176 psi	
	@Strain 0.700 %, Temperature 23.0 °C	@Strain 0.700 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	56.42 MPa	8183 psi	
	@Strain 3.90 %, Temperature 150 °C	@Strain 3.90 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	56.61 MPa	8211 psi	
	@Strain 0.700 %, Temperature 23.0 °C	@Strain 0.700 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2

Mechanical Properties	Metric MPa	English ¹	Comments
	@Strain 4.70 %, Temperature 150 °C	@Strain 4.70 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	57.08 MPa	8279 psi	
	@Strain 4.80 %, Temperature 150 °C	@Strain 4.80 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	57.23 MPa	8301 psi	
	@Strain 0.700 %, Temperature -40.0 °C	@Strain 0.700 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	58.99 MPa	8556 psi	
	@Strain 3.00 %, Temperature 150 °C	@Strain 3.00 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	60.71 MPa	8805 psi	
	@Strain 3.40 %, Temperature 150 °C	@Strain 3.40 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	62.07 MPa	9003 psi	
	@Strain 3.90 %, Temperature 150 °C	@Strain 3.90 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	63.26 MPa	9175 psi	
	@Strain 4.70 %, Temperature 150 °C	@Strain 4.70 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	63.36 MPa	9190 psi	
	@Strain 4.80 %, Temperature 150 °C	@Strain 4.80 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	63.85 MPa	9261 psi	
	@Strain 0.700 %, Temperature -40.0 °C	@Strain 0.700 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	68.6 MPa	9950 psi	
	@Strain 1.00 %, Temperature 40.0 °C	@Strain 1.00 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	73.39 MPa	10640 psi	
	@Strain 1.00 %, Temperature 40.0 °C	@Strain 1.00 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	74.94 MPa	10870 psi	
	@Strain 1.00 %, Temperature 23.0 °C	@Strain 1.00 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	75.79 MPa	10990 psi	

Mechanical Properties	@Strain 1.00 %, Metric Temperature 23.0 °C	@Strain 1.00 %, English Temperature 73.4 °F	DAM; ISO 11403-1 -2 Comments
	78.11 MPa	11330 psi	
	@Strain 1.00 %, Temperature -40.0 °C	@Strain 1.00 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	86.01 MPa	12470 psi	
	@Strain 1.00 %, Temperature -40.0 °C	@Strain 1.00 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	102.8 MPa	14910 psi	
	@Strain 1.90 %, Temperature 40.0 °C	@Strain 1.90 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	113.44 MPa	16453 psi	
	@Strain 1.90 %, Temperature 23.0 °C	@Strain 1.90 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	116.15 MPa	16846 psi	
	@Strain 1.90 %, Temperature 40.0 °C	@Strain 1.90 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	120.9 MPa	17540 psi	
	@Strain 1.90 %, Temperature 23.0 °C	@Strain 1.90 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	129.83 MPa	18830 psi	
	@Strain 1.90 %, Temperature -40.0 °C	@Strain 1.90 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	130.27 MPa	18894 psi	
	@Strain 2.40 %, Temperature 40.0 °C	@Strain 2.40 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	137.15 MPa	19892 psi	
	@Strain 2.40 %, Temperature 23.0 °C	@Strain 2.40 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	139.65 MPa	20255 psi	
	@Strain 1.90 %, Temperature -40.0 °C	@Strain 1.90 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	152.75 MPa	22155 psi	
	@Strain 2.40 %, Temperature -40.0 °C	@Strain 2.40 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
Elongation at Break	2.2 %	2.2 %	50%RH; ISO 527-1/-2
	2.4 %	2.4 %	DAM; ISO 527-1/-2

Tensile Modulus Mechanical Properties	8.20 GPa Metric	1190 ksi English	DAM: ISO 527-1/-2 Comments
	8.60 GPa	1250 ksi	50%RH; ISO 527-1/-2
Flexural Strength	180 MPa	26100 psi	50%RH; ISO 178

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