

## DuPont Performance Polymers Zytel® HTN FR52G30NH BK337 Polyphthalamide (PPA) (Unverified Data\*\*)

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

### Material Notes:

30% Glass Reinforced Flame Retardant Non-Halogenated PPA High Performance Polyamide Zytel HTNFR52G30NH BK337 is a 30% 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-FR52G30NH-BK337-Polyphthalamide-PPA-Unverified-Data.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-HTN-FR52G30NH-BK337-Polyphthalamide-PPA-Unverified-Data.php)

Physical Properties	Metric	English	Comments
Density	1.44 g/cc	0.0520 lb/in <sup>3</sup>	DAM; ISO 1183
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	DAM; ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	150 MPa	21800 psi	DAM; ISO 527-1/-2
Tensile Stress	0.150 MPa	21.8 psi	DAM; ISO 11403-1 -2
	@Strain 0.000 %, Temperature 175 °C	@Strain 0.000 %, Temperature 347 °F	
	0.180 MPa	26.1 psi	DAM; ISO 11403-1 -2
	@Strain 0.000 %, Temperature 150 °C	@Strain 0.000 %, Temperature 302 °F	
	10.49 MPa	1521 psi	50%RH; ISO 11403-1 -2
	@Strain 0.200 %, Temperature 150 °C	@Strain 0.200 %, Temperature 302 °F	
	12.22 MPa	1772 psi	50%RH; ISO 11403-1 -2
	@Strain 0.110 %, Temperature 40.0 °C	@Strain 0.110 %, Temperature 104 °F	
	13.56 MPa	1967 psi	50%RH; ISO 11403-1 -2
	@Strain 0.110 %, Temperature 23.0 °C	@Strain 0.110 %, Temperature 73.4 °F	
	13.67 MPa	1983 psi	50%RH; ISO 11403-1 -2
	@Strain 0.110 %, Temperature -40.0 °C	@Strain 0.110 %, Temperature -40.0 °F	
	15.62 MPa	2265 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 0.130 %, Temperature 23.0 °C	@Strain 0.130 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	18.0 MPa	2610 psi	
	@Strain 0.150 %, Temperature -40.0 °C	@Strain 0.150 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	30.39 MPa	4408 psi	
	@Strain 0.760 %, Temperature 175 °C	@Strain 0.760 %, Temperature 347 °F	DAM; ISO 11403-1 -2
	33.24 MPa	4821 psi	
	@Strain 0.680 %, Temperature 150 °C	@Strain 0.680 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	33.35 MPa	4837 psi	
	@Strain 0.830 %, Temperature 150 °C	@Strain 0.830 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	44.64 MPa	6474 psi	
	@Strain 0.450 %, Temperature 40.0 °C	@Strain 0.450 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	45.48 MPa	6596 psi	
	@Strain 1.46 %, Temperature 175 °C	@Strain 1.46 %, Temperature 347 °F	DAM; ISO 11403-1 -2
	47.11 MPa	6833 psi	
	@Strain 1.49 %, Temperature 150 °C	@Strain 1.49 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	47.7 MPa	6920 psi	
	@Strain 0.420 %, Temperature 23.0 °C	@Strain 0.420 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	48.18 MPa	6988 psi	
	@Strain 0.440 %, Temperature 23.0 °C	@Strain 0.440 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	49.15 MPa	7129 psi	
	@Strain 1.26 %, Temperature 150 °C	@Strain 1.26 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	55.18 MPa	8003 psi	
	@Strain 2.30 %, Temperature 175 °C	@Strain 2.30 %, Temperature 347 °F	DAM; ISO 11403-1 -2
	55.38 MPa	8032 psi	
	@Strain 2.19 %, Temperature 150 °C	@Strain 2.19 %, Temperature 302 °F	50%RH; ISO 11403-1 -2

Mechanical Properties	Metric MPa	English	Comments
	@Strain 0.490 %, Temperature -40.0 °C	@Strain 0.490 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	<b>61.01 MPa</b>	<b>8849 psi</b>	
	@Strain 1.99 %, Temperature 150 °C	@Strain 1.99 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	<b>61.84 MPa</b>	<b>8969 psi</b>	
	@Strain 0.550 %, Temperature -40.0 °C	@Strain 0.550 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	<b>64.29 MPa</b>	<b>9324 psi</b>	
	@Strain 4.64 %, Temperature 150 °C	@Strain 4.64 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	<b>66.07 MPa</b>	<b>9583 psi</b>	
	@Strain 5.37 %, Temperature 175 °C	@Strain 5.37 %, Temperature 347 °F	DAM; ISO 11403-1 -2
	<b>67.98 MPa</b>	<b>9860 psi</b>	
	@Strain 0.760 %, Temperature 40.0 °C	@Strain 0.760 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	<b>71.24 MPa</b>	<b>10330 psi</b>	
	@Strain 0.660 %, Temperature 23.0 °C	@Strain 0.660 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	<b>74.37 MPa</b>	<b>10790 psi</b>	
	@Strain 4.87 %, Temperature 150 °C	@Strain 4.87 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	<b>74.82 MPa</b>	<b>10850 psi</b>	
	@Strain 0.740 %, Temperature 23.0 °C	@Strain 0.740 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	<b>85.4 MPa</b>	<b>12400 psi</b>	
	@Strain 1.06 %, Temperature 40.0 °C	@Strain 1.06 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	<b>90.43 MPa</b>	<b>13120 psi</b>	
	@Strain 0.830 %, Temperature -40.0 °C	@Strain 0.830 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	<b>91.62 MPa</b>	<b>13290 psi</b>	
	@Strain 0.860 %, Temperature -40.0 °C	@Strain 0.860 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	<b>93.25 MPa</b>	<b>13520 psi</b>	
			50%RH; ISO 11403-1 -2

Mechanical Properties	@Strain 1.00 %, Metric Temperature 23.0 °C	@Strain 1.00 %, English Temperature 73.4 °F	Comments
	95.43 MPa	13840 psi	
	@Strain 0.950 %, Temperature 23.0 °C	@Strain 0.950 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	116.94 MPa	16961 psi	
	@Strain 1.15 %, Temperature -40.0 °C	@Strain 1.15 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	118.43 MPa	17177 psi	
	@Strain 2.11 %, Temperature 40.0 °C	@Strain 2.11 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	119.69 MPa	17360 psi	
	@Strain 1.18 %, Temperature -40.0 °C	@Strain 1.18 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	135.95 MPa	19718 psi	
	@Strain 1.94 %, Temperature 23.0 °C	@Strain 1.94 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	156.87 MPa	22752 psi	
	@Strain 2.06 %, Temperature 23.0 °C	@Strain 2.06 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	178.43 MPa	25879 psi	
	@Strain 2.12 %, Temperature -40.0 °C	@Strain 2.12 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	196.69 MPa	28528 psi	
	@Strain 2.46 %, Temperature -40.0 °C	@Strain 2.46 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
Elongation at Break	2.2 %	2.2 %	DAM; ISO 527-1/-2
Tensile Modulus	10.0 GPa	1450 ksi	DAM; ISO 527-1/-2
Flexural Strength	230 MPa	33400 psi	DAM; ISO 178
Flexural Modulus	8.70 GPa	1260 ksi	DAM; ISO 178
	2.27 GPa	329 ksi	
Secant Modulus	@Strain 3.27 %, Temperature 100 °C	@Strain 3.27 %, Temperature 212 °F	50%RH; ISO 11403-1 -2
	3.04 GPa	441 ksi	
	@Strain 2.27 %, Temperature 100 °C	@Strain 2.27 %, Temperature 212 °F	50%RH; ISO 11403-1 -2
	3.38 GPa	491 ksi	

Mechanical Properties	Metric	English	Comments
	@Strain 2.84 %, Temperature 100 °C	@Strain 2.84 %, Temperature 212 °F	511, ISO 11403-1 -2
	3.90 GPa	565 ksi	50%RH; ISO 11403-1 -2
	@Strain 1.47 %, Temperature 100 °C	@Strain 1.47 %, Temperature 212 °F	
	4.38 GPa	636 ksi	DAM; ISO 11403-1 -2
	@Strain 1.95 %, Temperature 100 °C	@Strain 1.95 %, Temperature 212 °F	
	5.2029 GPa	754.63 ksi	50%RH; ISO 11403-1 -2
	@Strain 0.690 %, Temperature 100 °C	@Strain 0.690 %, Temperature 212 °F	
	5.36 GPa	777 ksi	DAM; ISO 11403-1 -2
	@Strain 1.24 %, Temperature 100 °C	@Strain 1.24 %, Temperature 212 °F	
	5.55 GPa	804 ksi	DAM; ISO 11403-1 -2
	@Strain 2.07 %, Temperature 80.0 °C	@Strain 2.07 %, Temperature 176 °F	
	6.46 GPa	937 ksi	50%RH; ISO 11403-1 -2
	@Strain 1.73 %, Temperature 40.0 °C	@Strain 1.73 %, Temperature 104 °F	
	6.56 GPa	951 ksi	DAM; ISO 11403-1 -2
	@Strain 0.660 %, Temperature 100 °C	@Strain 0.660 %, Temperature 212 °F	
	6.68 GPa	969 ksi	50%RH; ISO 11403-1 -2
	@Strain 0.120 %, Temperature 100 °C	@Strain 0.120 %, Temperature 212 °F	
	6.70 GPa	971 ksi	DAM; ISO 11403-1 -2
	@Strain 1.46 %, Temperature 80.0 °C	@Strain 1.46 %, Temperature 176 °F	
	7.4937 GPa	1086.9 ksi	50%RH; ISO 11403-1 -2
	@Strain 1.27 %, Temperature 40.0 °C	@Strain 1.27 %, Temperature 104 °F	
	7.88 GPa	1140 ksi	50%RH; ISO 11403-1 -2
	@Strain 1.57 %, Temperature 23.0 °C	@Strain 1.57 %, Temperature 73.4 °F	
	7.90 GPa	1150 ksi	DAM; ISO 11403-1 -2
	@Strain 0.950 %, Temperature 80.0 °C	@Strain 0.950 %, Temperature 176 °F	

Mechanical Properties	Metric	English	Comments
	8.07 GPa	1170 ksi	
	@Strain 0.180 %, Temperature 100 °C	@Strain 0.180 %, Temperature 212 °F	DAM; ISO 11403-1 -2

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