

DuPont Performance Polymers Zytel® HTN 51G35HSLR BK420 Polyphthalamide (PPA) (Unverified Data**)

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

Material Notes:

35% Glass Reinforced PPA High Performance Polyamide Zytel HTN51G35HSLR BK420 is a 35% glass reinforced heat stabilized lubricated high performance polyamide resin with improved hydrolysis resistance. It is also a PPA resin. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-HTN-51G35HSLR-BK420-Polyphthalamide-PPA-Unverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.47 g/cc	0.0531 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	0.0060 cm/cm	0.0060 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	310 MPa	45000 psi	DAM; H 961/30; ISO 2039-1
Tensile Strength at Break	190 MPa	27600 psi	50%RH; ISO 527-1/-2
	200 MPa	29000 psi	DAM; ISO 527-1/-2
Tensile Stress	11.35 MPa @Strain 0.100 %, Temperature 23.0 °C	1646 psi @Strain 0.100 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	17.63 MPa @Strain 0.300 %, Temperature 150 °C	2557 psi @Strain 0.300 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	43.48 MPa @Strain 0.800 %, Temperature 150 °C	6306 psi @Strain 0.800 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	54.0 MPa @Strain 1.10 %, Temperature 150 °C	7830 psi @Strain 1.10 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	64.12 MPa @Strain 0.500 %, Temperature -40.0 °C	9300 psi @Strain 0.500 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	65.54 MPa	9506 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 1.60 %, Temperature 150 °C	@Strain 1.60 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	66.07 MPa	9583 psi	
	@Strain 0.600 %, Temperature 23.0 °C	@Strain 0.600 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	96.19 MPa	13950 psi	
	@Strain 0.900 %, Temperature 23.0 °C	@Strain 0.900 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	96.76 MPa	14030 psi	
	@Strain 0.800 %, Temperature -40.0 °C	@Strain 0.800 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	130.11 MPa	18871 psi	
	@Strain 1.30 %, Temperature 23.0 °C	@Strain 1.30 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	144.37 MPa	20939 psi	
	@Strain 1.30 %, Temperature -40.0 °C	@Strain 1.30 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	176.86 MPa	25651 psi	
	@Strain 1.70 %, Temperature -40.0 °C	@Strain 1.70 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	190.97 MPa	27698 psi	
	@Strain 2.30 %, Temperature 23.0 °C	@Strain 2.30 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
Elongation at Break	2.0 %	2.0 %	50%RH; ISO 527-1/-2
	2.3 %	2.3 %	DAM; ISO 527-1/-2
Tensile Modulus	11.5 GPa	1670 ksi	DAM; ISO 527-1/-2
	11.5 GPa	1670 ksi	50%RH; ISO 527-1/-2
Flexural Modulus	10.5 GPa	1520 ksi	DAM; ISO 178
Secant Modulus	6.36 GPa	923 ksi	
	@Strain 2.30 %, Temperature 100 °C	@Strain 2.30 %, Temperature 212 °F	DAM; ISO 11403-1 -2
	7.10 GPa	1030 ksi	
	@Strain 1.90 %, Temperature 100 °C	@Strain 1.90 %, Temperature 212 °F	DAM; ISO 11403-1 -2
	7.774 GPa	1128 ksi	
	@Strain 1.50 %,	@Strain 1.50 %,	DAM; ISO 11403-1 -2

Mechanical Properties	Temperature 100 °C Metric	Temperature 212 °F English	Comments
	8.387 GPa	1216 ksi	
	@Strain 1.00 %, Temperature 100 °C	@Strain 1.00 %, Temperature 212 °F	DAM; ISO 11403-1 -2
	8.64 GPa	1250 ksi	
	@Strain 0.300 %, Temperature 100 °C	@Strain 0.300 %, Temperature 212 °F	DAM; ISO 11403-1 -2
	8.833 GPa	1281 ksi	
	@Strain 2.00 %, Temperature 23.0 °C	@Strain 2.00 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	9.2125 GPa	1336.2 ksi	
	@Strain 2.40 %, Temperature -40.0 °C	@Strain 2.40 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	9.67 GPa	1400 ksi	
	@Strain 1.50 %, Temperature 23.0 °C	@Strain 1.50 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	9.898 GPa	1436 ksi	
	@Strain 2.00 %, Temperature -40.0 °C	@Strain 2.00 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	10.527 GPa	1526.8 ksi	
	@Strain 1.00 %, Temperature 23.0 °C	@Strain 1.00 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	10.9 GPa	1580 ksi	
	@Strain 1.40 %, Temperature -40.0 °C	@Strain 1.40 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	11.0 GPa	1600 ksi	
	@Strain 0.600 %, Temperature 23.0 °C	@Strain 0.600 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	11.35 GPa	1646 ksi	
	@Strain 0.100 %, Temperature 23.0 °C	@Strain 0.100 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	12.095 GPa	1754.3 ksi	
	@Strain 0.800 %, Temperature -40.0 °C	@Strain 0.800 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	12.824 GPa	1860.0 ksi	
	@Strain 0.500 %, Temperature -40.0 °C	@Strain 0.500 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	3.50 J/cm ²	16.7 ft-lb/in ²	

Charpy Impact Unnotched Mechanical Properties	Metric 8.00 J/cm²	English 23.8 ft-lb/in²	50%RH; ISO 179/1eU Comments DAM; ISO 179/1eU
Charpy Impact, Notched	0.800 J/cm²	3.81 ft-lb/in²	50%RH; ISO 179/1eA
	0.900 J/cm²	4.28 ft-lb/in²	DAM; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	20.0 µm/m-°C	11.1 µin/in-°F	DAM; ISO 11359-1/-2
	20.0 µm/m-°C	11.1 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
CTE, linear, Transverse to Flow	58.0 µm/m-°C	32.2 µin/in-°F	DAM; ISO 11359-1/-2
	55.0 µm/m-°C	30.6 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
Melting Point	300 °C	572 °F	DAM; first heat; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	276 °C	529 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	262 °C	504 °F	DAM; ISO 75-1/-2
Flame Spread	28 mm/min	1.1 in/min	ISO 3795 (FMVSS 302)
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	DAM; IEC 60093
Dielectric Strength	33.0 kV/mm	838 kV/in	50%RH; IEC 60243-1
	34.0 kV/mm	864 kV/in	DAM; IEC 60243-1

Descriptive Properties	Value	Comments
Additives	Lubricants	
	Release agent	
Delivery Form	Pellets	
Part Marking Code	>PA6T/XT-GF35<	ISO 11469
	>PPA-GF35<	SAE J1344

Processing Descriptive Properties	Injection Moulding Value	Comments
Regional Availability	Asia Pacific	
	Europe	
	Global	
	Near East/Africa	
	North America	
	South and Central America	
Special Characteristics	Heat stabilised or stable to heat	

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