DuPont™ Zytel® HTN51G35HSLR BK420

HIGH PERFORMANCE POLYAMIDE RESIN

Product Information

Zytel® HTN high performance polyamide resins feature high retention of properties upon exposure to elevated temperature, to high moisture and to harsh chemical environments. Polymer families and grades of Zytel® HTN are tailored to optimize performance as well as processability.

Typical applications with Zytel® HTN include demanding applications in the automotive, electrical and electronics, domestic appliances, and construction industries.

Zytel® HTN51G35HSLR BK420 is a 35% glass reinforced, heat stabilised, lubricated, hydrolysis resistant high performance polyamide resin. It is also a PPA resin.

General information	Value	Unit	Test Standard
Resin Identification	PA6T/XT-GF35	-	ISO 1043
Part Marking Code	PA6T/XT-GF35	-	ISO 11469
Part Marking Code	>PPA-GF35<	-	SAE J1344
Rheological properties	**dry / cond**	**Unit**	**Test Standard**
Viscosity number	100[1] / *	cm³/g	ISO 307, 1157, 1628
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / -	%	ISO 294-4, 2577
1: sulfuric acid 96%			
Mechanical properties	**dry / cond**	**Unit**	**Test Standard**
Tensile Modulus	12000 / 12000	MPa	ISO 527-1/-2
Stress at break	200 / 190	MPa	ISO 527-1/-2
Strain at break	2.3 / 2	%	ISO 527-1/-2
Flexural Modulus	10500 / -	MPa	ISO 178
Charpy impact strength, 73°F	50 / 40	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 73°F	9 / 8	kJ/m²	ISO 179/1eA
Ball indentation hardness, H 961/30	310 / -	MPa	ISO 2039-1
Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature, first heat	300 / *	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
260 psi	262 / *	°C	
65 psi	276 / *	°C	
Coeff. of linear therm. expansion, parallel	20 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion			ISO 11359-1/-2
normal	58 / *	E-6/K	
Normal, -40-23°C	55 / *	E-6/K	
Parallel, -40-23°C	20 / *	E-6/K	
Flammability	**Value**	**Unit**	**Test Standard**
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	28	mm/min	ISO 3795 (FMVSS 302)
Electrical properties	**dry / cond**	**Unit**	**Test Standard**
Volume resistivity	1E13 / -	Ohm*m	IEC 60093
Electric strength	34 / 33	kV/mm	IEC 60243-1
Other properties	**dry / cond**	**Unit**	**Test Standard**
Density	1470 / -	kg/m³	ISO 1183
VDA Properties	**Value**	**Unit**	**Test Standard**
Odor test	4	class	VDA 270
Injection	**Value**	**Unit**	**Test Standard**
Drying Recommended	yes	-	-
Drying Temperature	100	°C	-
Drying Time, Dehumidified Dryer	6 - 8	h	-
Processing Moisture Content	≤0.1	%	-
Melt Temperature Optimum	325	°C	-

To find out more, visit DuPont Performance Polymers or contact nearest DuPont location.

North America
Tel: +1 302 999-4592
Toll-Free (USA): 800 441-0575

Asia Pacific
Tel: +81 3 5521 8600

Europe/Middle East/Africa
Tel: +41 22 717 51 11

Min. melt temperature	320	°C	-
Max. melt temperature	330	°C	-
Mold Temperature Optimum	150	°C	-
Min. mold temperature	140[2]	°C	-
Max. mold temperature	180	°C	-

2: Higher temperature needed for thinner sections.

Characteristics			
Processing	• Injection Molding		
Delivery form	• Pellets		
Additives	• Lubricants	• Release agent	
Special characteristics	• Heat stabilized or stable to heat		
Regional Availability	• North America • Europe	• Asia Pacific • South and Central America	• Near East/Africa • Global

Processing Texts

Injection molding

During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE.

When lower mold temperatures are used, the initial warpage and shrinkage may be lower, but the surface appearance and chemical resistance may be reduced, and the dimensional change may be greater when parts are subsequently heated.

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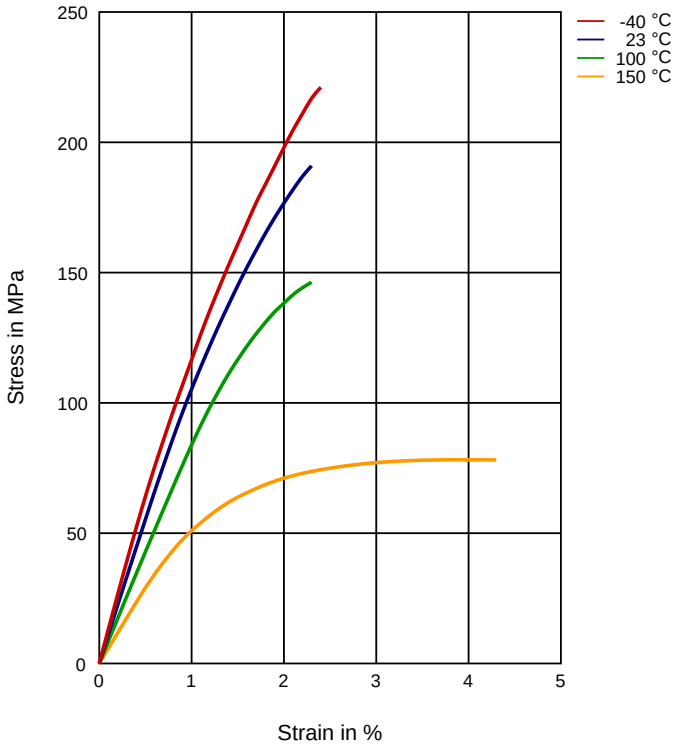
Diagrams

Stress-strain (dry)



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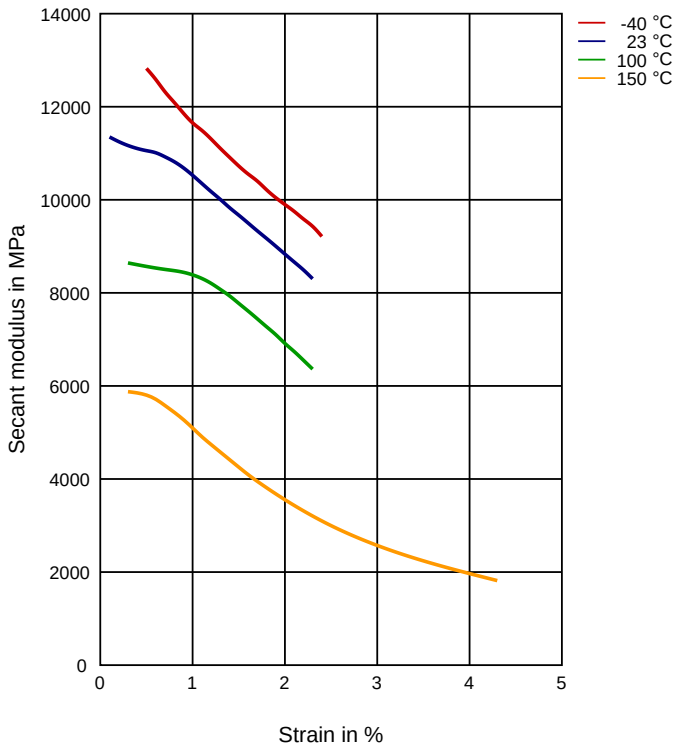
Secant modulus-strain (dry)



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Chemical Media Resistance

Standard Fuels

- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (90°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)
- ✓ Diesel EN 590 (100°C)

Other

- ✓ Ethylene Glycol (50% by mass) in water (108°C)
- ✓ Water (23°C)
- ✓ Water (90°C)
- ✓ Coolant Glysantin G48, 1:1 in water (125°C)

Symbols used:

✓ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✗ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 160 mil (Hytrel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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