

DuPont™ Zytel® HTN51G35EF BK083

HIGH PERFORMANCE POLYAMIDE RESIN

Product Information

Zytel® HTN51G35EF BK083 is a 35% glass reinforced, heat stabilized, lubricated, hydrolysis resistant high performance polyamide resin developed for electrical and electronics applications. 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
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / -	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	12100 / -	MPa	ISO 527-1/-2
Stress at break	220 / -	MPa	ISO 527-1/-2
Strain at break	2.4 / -	%	ISO 527-1/-2
Flexural Modulus	11000 / -	MPa	ISO 178
Flexural Strength	300 / -	MPa	ISO 178
Charpy impact strength, 73°F	57 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 73°F	10 / -	kJ/m ²	ISO 179/1eA
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, first heat	300 / *	°C	ISO 11357-1/-3
Temp. of deflection under load, 260 psi	264 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	18 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion normal	57 / *	E-6/K	ISO 11359-1/-2
Normal, -40-23°C	53 / *	E-6/K	
Parallel, -40-23°C	20 / *	E-6/K	
Flammability	dry / cond	Unit	Test Standard
Oxygen index	23 / *	%	ISO 4589-1/-2
Glow Wire Flammability Index, 40mil	750 / -	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 120mil	800 / -	°C	IEC 60695-2-13
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)
Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity			IEC 62631-2-1
100Hz	4.4 / -	-	
1MHz	4.3 / -	-	
Dissipation factor			IEC 62631-2-1
100Hz	160 / -	E-4	
1MHz	190 / -	E-4	
Volume resistivity	>1E13 / -	Ohm*m	IEC 62631-3-1
Electric strength	32 / 31	kV/mm	IEC 60243-1
Comparative tracking index	525 / -	-	IEC 60112
Other properties	dry / cond	Unit	Test Standard
Density	1470 / -	kg/m ³	ISO 1183
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	-
Min. melt temperature	320	°C	-
Max. melt temperature	330	°C	-
Mold Temperature Optimum	150	°C	-

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

Asia Pacific

Europe/Middle East/Africa

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Min. mold temperature	140 ^[1]	°C	-
Max. mold temperature	180	°C	-

1: Higher temperature needed for thinner sections.

Characteristics

Processing	• Injection Molding		
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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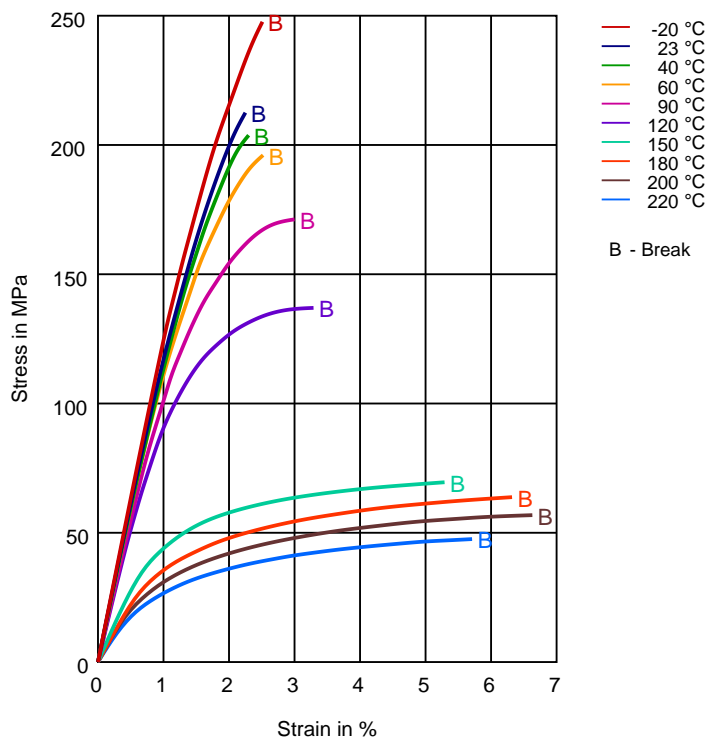


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Diagrams

Stress-strain (dry)



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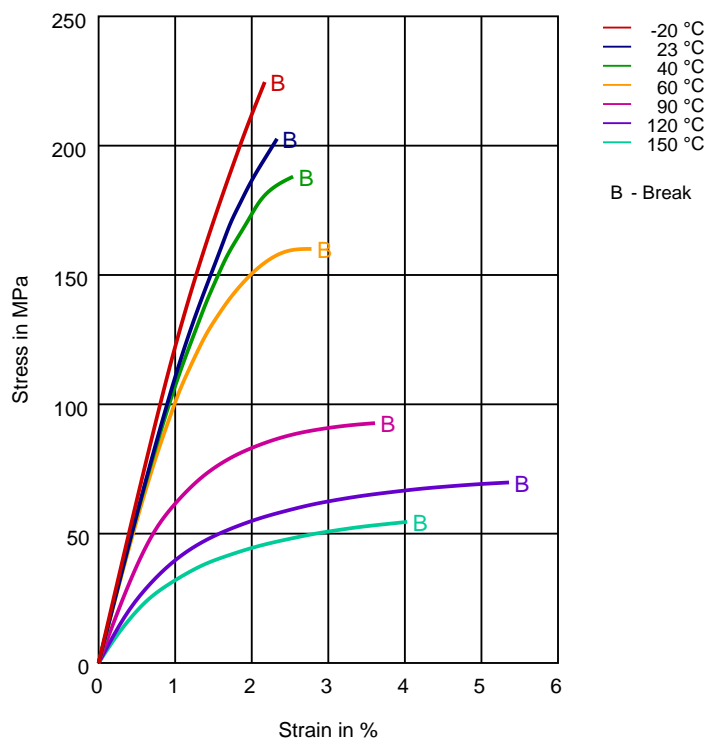
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Stress-strain (cond.)



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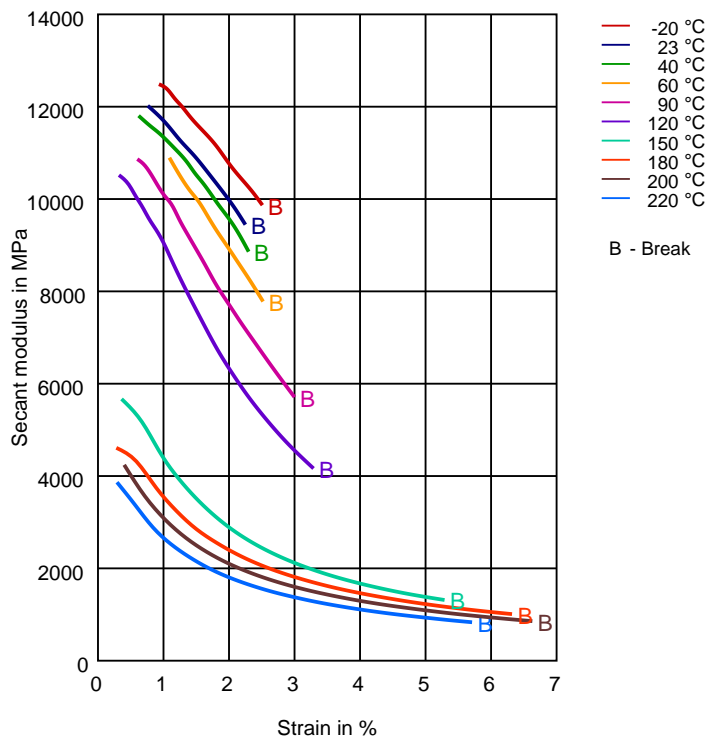
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DuPont™ Zytel® HTN51G35EF BK083

HIGH PERFORMANCE POLYAMIDE RESIN

Secant modulus-strain (dry)



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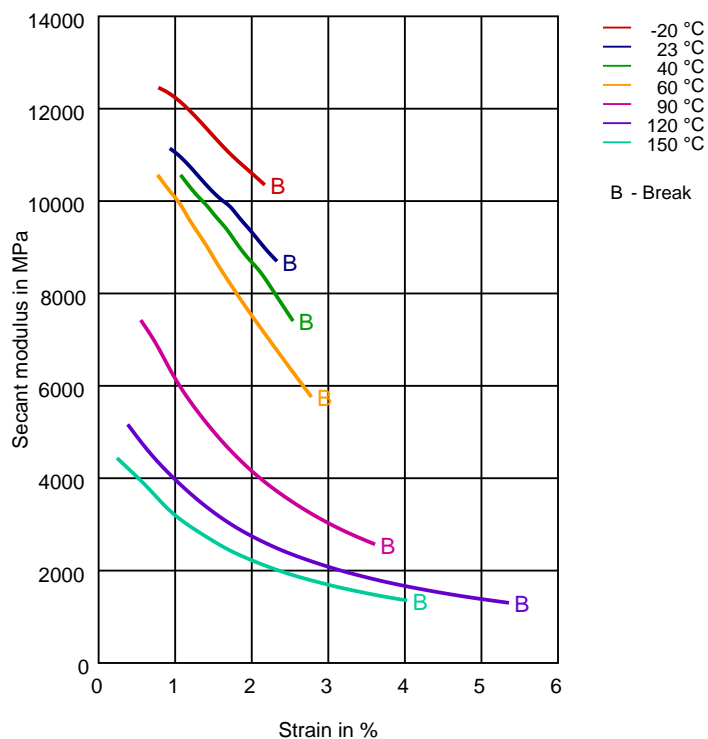
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Secant modulus-strain (cond.)



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Chemical Media Resistance

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).

- X 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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