

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® HTN52G35HSL BK083 is a 35% glass reinforced, heat stabilized, lubricated high performance polyamide resin that can be molded in water heated molds. It is also a PPA resin.

Product information

Resin Identification Part Marking Code Part Marking Code ISO designation	PA6T/66-GF35 >PA6T/66-GF35- >PPA-GF35< ISO 16396-PA6T	<	ISO 1043 ISO 11469 SAE J1344
Rheological properties Viscosity number Moulding shrinkage, parallel Moulding shrinkage, normal [1]: formic acid 90%	dry/cond. 110 ^[1] /* 0.3 / - 0.9 / -	cm³/g % %	ISO 307, 1628 ISO 294-4, 2577 ISO 294-4, 2577
Typical mechanical properties Tensile modulus Tensile stress at break, 5mm/min Tensile strain at break, 5mm/min Flexural modulus Charpy impact strength, 23°C Charpy impact strength, -30°C Charpy notched impact strength, -30°C Poisson's ratio	dry/cond. 12000/12000 200/180 2.3/2.6 10300/10300 45/- 40/35 9/9 7/6 0.33/0.33	MPa MPa % MPa kJ/m ² kJ/m ² kJ/m ²	ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 179/1eU ISO 179/1eU ISO 179/1eA ISO 179/1eA
Thermal properties Melting temperature, 10°C/min Melting temperature, first heat Glass transition temperature, 10°C/min Temperature of deflection under load, 1.8 MPa Coeff. of linear therm. expansion, parallel, -40-23°C Coefficient of linear thermal expansion (CLTE), parallel Coeff. of linear therm. expansion, parallel, 55-160°C Coeff. of linear therm. expansion, normal, -40-23°C Coefficient of linear thermal expansion (CLTE), normal Coeff. of linear therm. expansion, normal, 55-160°C RTI, electrical, 0.75mm RTI, electrical, 1.5mm	dry/cond. 314/* 310/* 90/45 285/* 21/* 21/* 11/* 61/* 67/* 80/* 150 150	°C °C °C E-6/K E-6/K E-6/K E-6/K E-6/K °C °C	ISO 11357-1/-3 ISO 11357-1/-3 ISO 11357-1/-3 ISO 75-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 UL 746B UL 746B

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Zytel[®] HTN52G35HSL BK083

HIGH PERFORMANCE POLYAMIDE RESIN

Flammability dry/cond. Burning Behav. at 1.5mm nom. thickn. HB/* class IEC 60695-11-10 Thickness tested 1.5/* mm IEC 60695-11-10 UL recognition yes/* UL 94 Burning Behav. at thickness h HB/* class IEC 60695-11-10 Thickness tested 0.75/* mm IEC 60695-21-2 Glow Wire Flammability Index, 0.75mm 750/- °C IEC 60695-2-12 Glow Wire Flammability Index, 3.0mm 750/- °C IEC 60695-2-12 Glow Wire Flammability Index, 3.0mm 750/- °C IEC 60695-2-12 Glow Wire Ignition Temperature, 0.75mm 775/- °C IEC 60695-2-13 Glow Wire Ignition Temperature, 0.75mm 775/- °C IEC 60695-2-13 Glow Wire Ignition Temperature, 3.0mm 775/- °C IEC 60695-2-13 Glow Wire Ignition Temperature, 3.0mm 775/- °C IEC 60695-2-13 Glow Wire Ignition Temperature, 3.0mm 44 mm/min ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm 44 Miccond. IEC 60243	RTI, electrical, 3.0mm RTI, impact, 0.75mm RTI, impact, 1.5mm RTI, impact, 3.0mm RTI, strength, 0.75mm RTI, strength, 1.5mm RTI, strength, 3.0mm	150 125 125 125 130 125/* 150	°C °C °C °C °C °C	UL 746B UL 746B UL 746B UL 746B UL 746B UL 746B UL 746B UL 746B
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Processing Moisture Content ≤0.1 %				
Melt Temperature Optimum 325 °C	-			
Min. melt temperature320 °CMax. melt temperature330 °C				
Mold Temperature Optimum 100 °C	Mold Temperature Optimum	100	°C	
Min. mould temperature 90 °C	Min. mould temperature	90	°C	

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Zytel[®] HTN52G35HSL BK083

Max mould temperature 110 °C

Max. mouid temperature	110	-0	
Ejection temperature	268	°C	

Characteristics

Processing	Injection Moulding
Special characteristics	Heat stabilised or stable to heat, Laser Markable

Additional information

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.

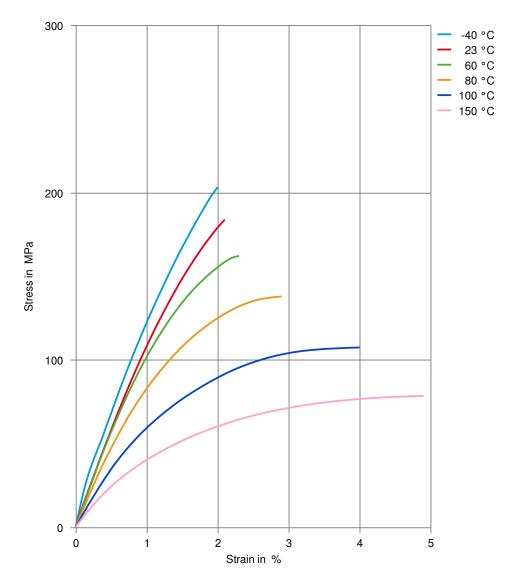
Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Bosch	N28 BN05-OX049	
Ford	WSS-M4D861-A4	
General Motors	GMW16357P-PPA-GF35	
Stellantis	B62 0300 / 61/213M+/217E+/13/C1B	CPN4178, CPN3972, 01994_10_00121
Stellantis - Chrysler	MS.50091 / CPN-4178	Black

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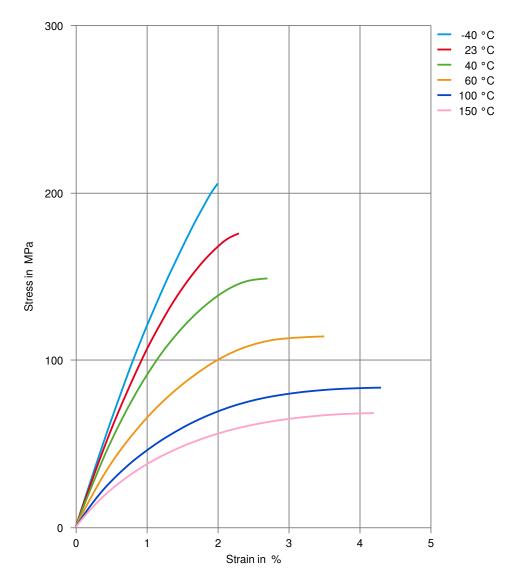


Stress-strain (dry)



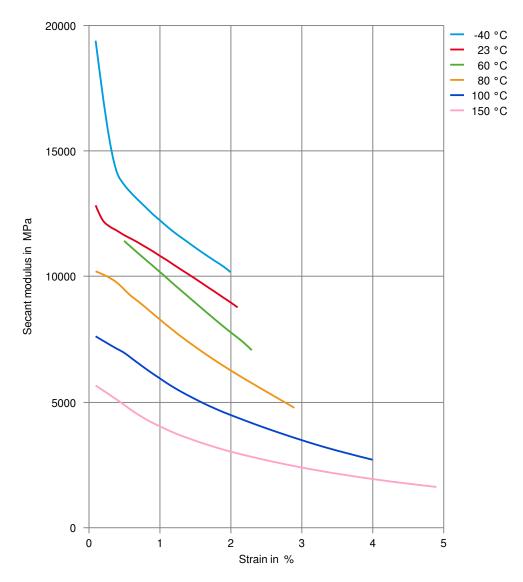


Stress-strain (cond.)



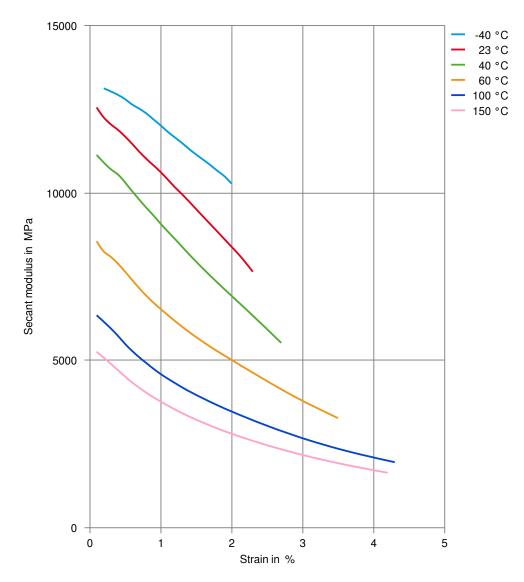


Secant modulus-strain (dry)





Secant modulus-strain (cond.)





Zytel[®] HTN52G35HSL BK083

Chemical Media Resistance

Acids

- Acetic Acid (5% by mass), 23°C
- ✓ Citric Acid solution (10% by mass), 23°C
- ✓ Lactic Acid (10% by mass), 23°C

Other

✓ Urea solution (32.5% by mass), 23°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).

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Revised: 2024-08-12 Source: Celanese Materials Database

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