

### HIGH PERFORMANCE POLYAMIDE RESIN

Prod	luct	info	rma	tion

Resin Identification	PA6T/XT-HI		ISO 1043
Part Marking Code	>PA6T/XT-HI<		ISO 11469
Part Marking Code	>PPA-I<	-	SAE J1344
ISO designation		` Γ/XT-I,,M1G1HNR,S10-020	G/ 12 0 10 1 1
100 designation	100 100001 70	1/X1-1,,W114111W11,010 020	
Rheological properties	dry/cond.		
Moulding shrinkage, parallel	0.8/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.9/-	%	ISO 294-4, 2577
Typical mechanical properties	dry/cond.		
Tensile modulus	2200/2300	MPa	ISO 527-1/-2
			ISO 527-1/-2
Tensile stress at yield, 50mm/min	68/68	MPa	
Tensile strain at yield, 50mm/min	5.5/4.4	%	ISO 527-1/-2
Nominal strain at break	14/10	%	ISO 527-1/-2
Flexural modulus	2100/2200	MPa	ISO 178
Charpy impact strength, 23°C	N/N	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	N/N	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	75/-	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	75/-	kJ/m²	ISO 180/1A
Izod notched impact strength, -40°C	18.0/-	kJ/m²	ISO 180/1A
Poisson's ratio	0.39/0.39		
	0.00, 0.00		
Tribological properties	dry/cond.		
Coefficient of sliding friction, 1h against steel	-/0.4		ASTM 1894
Thermal properties	dry/cond.		
Melting temperature, 10 ° C/min	300/*	°C	ISO 11357-1/-3
Melting temperature, first heat	300/*	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	126/*	°C	ISO 75-1/-2
Temperature of deflection under load, 7.5 MPa	138/*	°C	ISO 75-1/-2
·	90/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C			
Coefficient of linear thermal expansion	90/*	E-6/K	ISO 11359-1/-2
(CLTE), parallel	04 /*	F 0/1/	100 44050 4/0
Coeff. of linear therm. expansion, parallel, 55-160°C	91/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	72/*	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	84/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	86/*	E-6/K	ISO 11359-1/-2
Thermal conductivity, flow	0.27	W/(m K)	ISO 22007-2
Thermal conductivity, new  Thermal conductivity of melt	0.18	W/(m K)	ISO 22007-2
Specific heat capacity of melt	2220	J/(kg K)	ISO 22007-2
· · · · · · · · · · · · · · · · · · ·			
RTI, electrical, 0.75mm	85 85	°C	UL 746B
RTI, electrical, 1.5mm	85	°C	UL 746B
RTI, electrical, 3.0mm	85	°C	UL 746B
RTI, impact, 0.75mm	85	°C	UL 746B

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RTI, impact, 1.5mm RTI, impact, 3.0mm RTI, strength, 0.75mm RTI, strength, 1.5mm RTI, strength, 3.0mm	85 85 85 85/* 85	.0 .0 .0 .0 .0	UL 746B UL 746B UL 746B UL 746B UL 746B
Flammability	dry/cond.		
Burning Behav. at 1.5mm nom. thickn. Thickness tested UL recognition Burning Behav. at thickness h Thickness tested UL recognition FMVSS Class Burning rate, Thickness 1 mm	HB/* 1.5/* yes/* HB/* 0.75/* yes/* B <80	class mm class mm	IEC 60695-11-10 IEC 60695-11-10 UL 94 IEC 60695-11-10 IEC 60695-11-10 UL 94 ISO 3795 (FMVSS 302) ISO 3795 (FMVSS 302)
Electrical properties	dry/cond.		
Volume resistivity Surface resistivity Comparative tracking index	1E13/- */>1E15 600/-	Ohm.m Ohm	IEC 62631-3-1 IEC 62631-3-2 IEC 60112
Physical/Other properties	dry/cond.		
Humidity absorption, 2mm Water absorption, 2mm Density Density of melt	1.9/* 6.3/* 1130/- 970	% % kg/m³ kg/m³	Sim. to ISO 62 Sim. to ISO 62 ISO 1183

### Injection

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	80	°C
Min. mould temperature	60	°C
Max. mould temperature	100	°C
Ejection temperature	245	°C

### Characteristics

Processing Injection Moulding

Delivery form Pellets

Additives Release agent

Special characteristics Heat stabilised or stable to heat

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#### Additional information

Injection molding

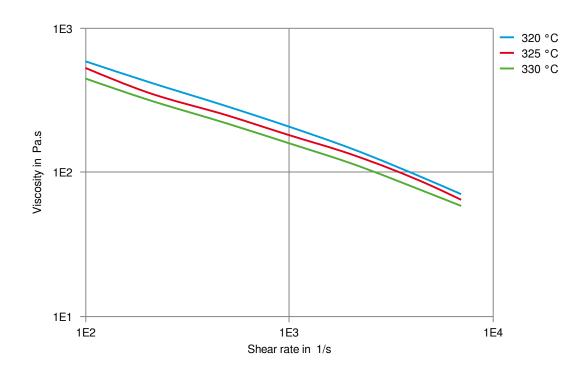
During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE.

### **Automotive**

OEM General Motors Stellantis - Chrysler STANDARD GMW16799P-PPA-T2 MS.50103 / CPN-5292 ADDITIONAL INFORMATION

Natural Natural

### Viscosity-shear rate

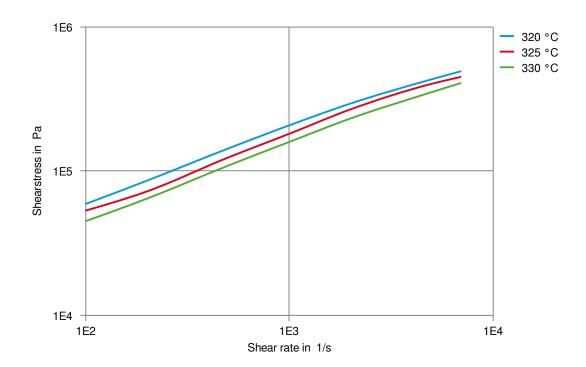


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# Zytel® HTNFE8200 NC010 HIGH PERFORMANCE POLYAMIDE RESIN

Shearstress-shear rate

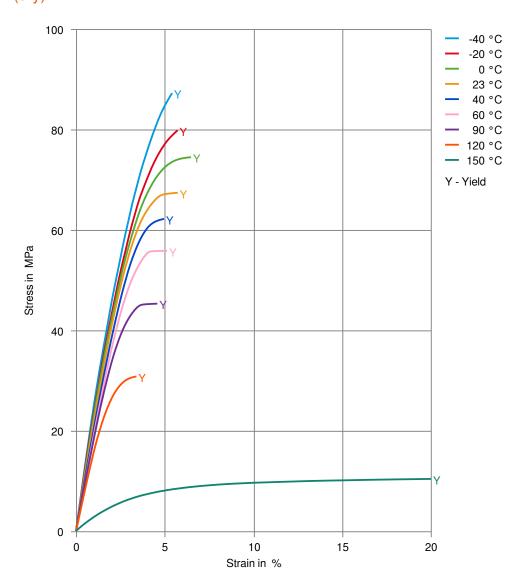


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# HIGH PERFORMANCE POLYAMIDE RESIN

Stress-strain (dry)

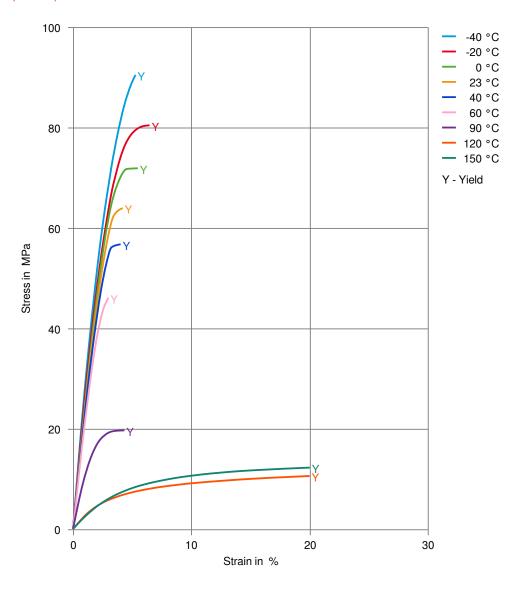


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# HIGH PERFORMANCE POLYAMIDE RESIN

Stress-strain (cond.)

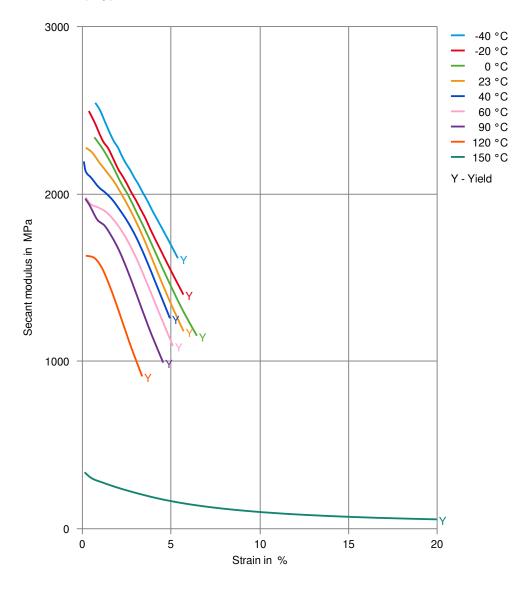


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# HIGH PERFORMANCE POLYAMIDE RESIN

Secant modulus-strain (dry)

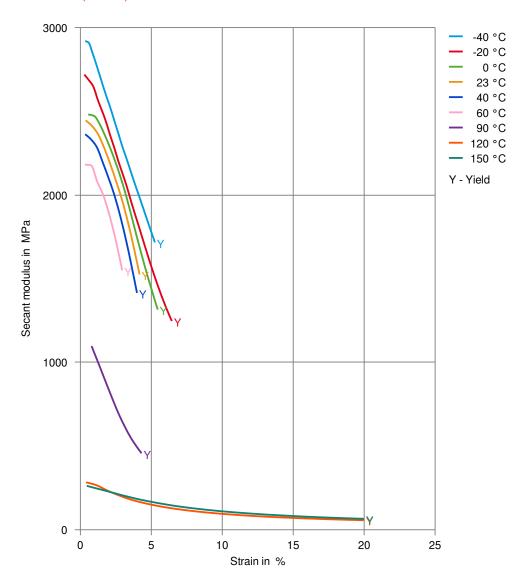


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# HIGH PERFORMANCE POLYAMIDE RESIN

Secant modulus-strain (cond.)

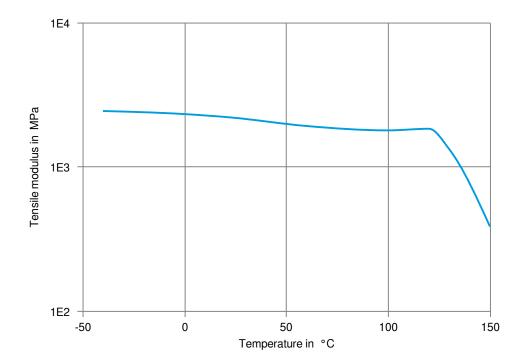


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# Zytel® HTNFE8200 NC010 HIGH PERFORMANCE POLYAMIDE RESIN

Tensile modulus-temperature (dry)

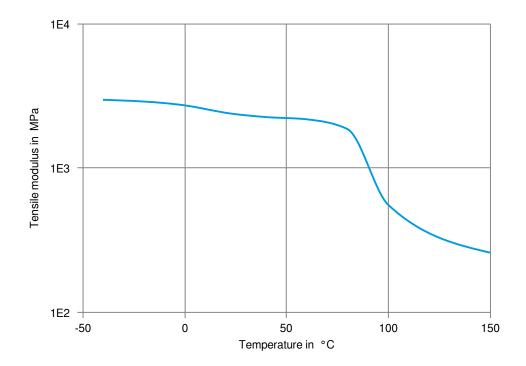


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# Zytel® HTNFE8200 NC010 HIGH PERFORMANCE POLYAMIDE RESIN

Tensile modulus-temperature (cond.)



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#### Chemical Media Resistance

#### Mineral oils

- ✓ SAE 10W40 multigrade motor oil, 23°C
- ✓ SAE 10W40 multigrade motor oil, 130°C

#### Other

✓ Ethylene Glycol (50% by mass) in water, 108°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).

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Revised: 2024-08-09 Source: Celanese Materials Database

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