Celanese
The chemistry inside innovation™

Zytel® HTNFE8200 BK431

HIGH PERFORMANCE POLYAMIDE RESIN

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® HTNFE8200 BK431 is an unreinforced, toughened, heat stabilised high performance polyamide resin for injection moulding. It is also a PPA resin.

Product information

Resin Identification	PA6T/XT-HI	ISO 1043
Part Marking Code	>PA6T/XT-HI<	ISO 11469
Part Marking Code	>PPA-I<	SAE J1344
ISO designation	ISO 16396-PA6T/XT-I,,M1CG1HR,S10-020	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	1.0 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.0 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	2200 / -	MPa	ISO 527-1/-2
Yield stress, 50mm/min	69 / -	MPa	ISO 527-1/-2
Yield strain, 50mm/min	5.5 / -	%	ISO 527-1/-2
Nominal strain at break	14 / -	%	ISO 527-1/-2
Flexural Modulus	2100 / -	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	80 / -	kJ/m²	ISO 179/1eA
Poisson's ratio	0.39 / -		

Thermal properties

	dry/cond.		
Melting temperature, first heat	300 / *	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	120 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	140 / *	°C	ISO 75-1/-2
Thermal conductivity	0.27	W/(m K)	ISO 22007-2
Spec. heat capacity of melt	2900	J/(kg K)	Internal
Spec. heat capacity solid	1520	J/(kg K)	Internal

Zytel® HTNFE8200 BK431

HIGH PERFORMANCE POLYAMIDE RESIN

Flammability

	dry/cond.		
Burning Behav. at thickness h	HB / *	class	UL 94
Thickness tested	0.75 / *	mm	UL 94
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80[DS]	mm/min	ISO 3795 (FMVSS 302)

[DS]: Derived from similar grade

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1

Other properties

	dry/cond.		
Density	1130 / -	kg/m³	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	Internal
Min. melt temperature	320	°C	
Max. melt temperature	330	°C	
Min. mould temperature	80	°C	
Max. mould temperature	120	°C	

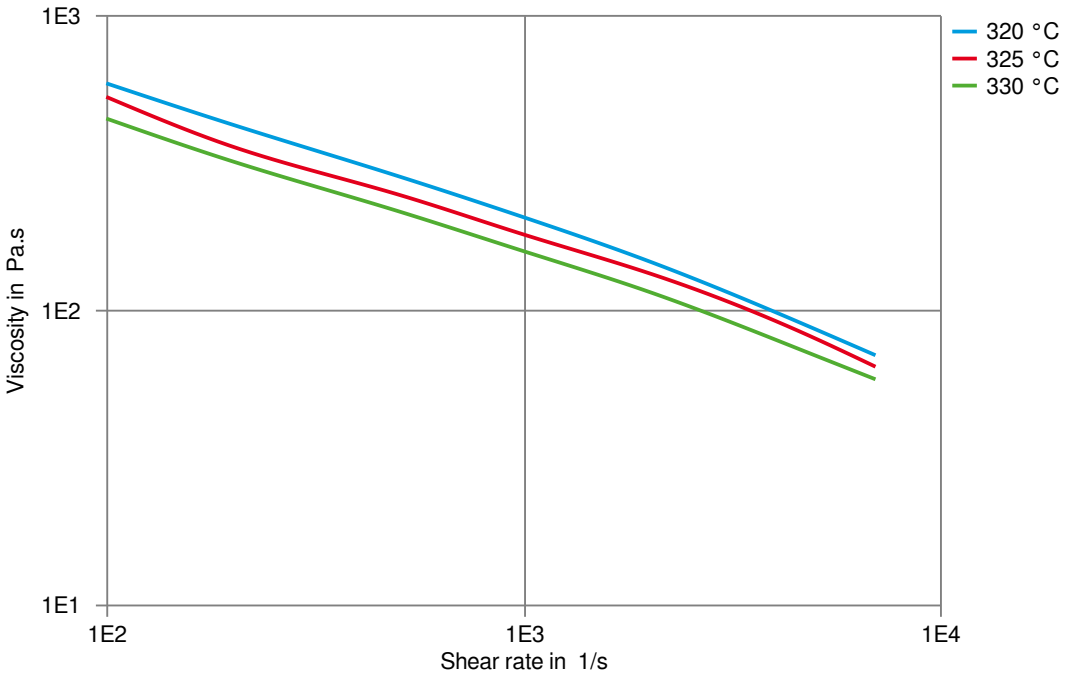
Additional information

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.

Zytel® HTNFE8200 BK431

HIGH PERFORMANCE POLYAMIDE RESIN

Viscosity-shear rate



Zytel® HTNFE8200 BK431

HIGH PERFORMANCE POLYAMIDE RESIN

Shearstress-shear rate