Zytel® HTN54G35HSLR NC010

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® HTN54G35HSLR NC010 is a 35% glass reinforced, toughened, heat stabilized high performance polyamide resin. It is also a PPA resin.

Product information

Resin Identification	PA-I-GF35	ISO 1043
Part Marking Code	>PA-I-GF35<	ISO 11469
Part Marking Code	>PPA-I-GF35<	SAE J1344
ISO designation	ISO 16396-PA-I,GF35,M1GHNRW,S10-100	
Infrared spectrum	available	

Rheological properties

	dry/cond.		
Viscosity number	2910 / *	in³/lb	ISO 307, 1628
Molding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	1.45E6 / -	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	26100 / -	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 / -	%	ISO 527-1/-2
Flexural modulus	1.31E6 / -	psi	ISO 178
Tensile creep modulus, 1h	* / 1.6E6	psi	ISO 899-1
Tensile creep modulus, 1000h	* / 1.45E6	psi	ISO 899-1
Charpy impact strength, 23°C	35.7 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	5.71 / 5.23	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -40°C	4.28 / -	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	579 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	239 / 149	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	491 / *	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	545 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.11 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.111 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.4 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.417 / *	E-4/°F	ISO 11359-1/-2
Thermal conductivity, flow	0.35	W/(m K)	ISO 22007-2

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Flammability

FMVSS Class	SE	ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Surface resistivity	* / 1E14	Ohm	IEC 62631-3-2
Electric strength	1090 / 1070	kV/in	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.8 / *	%	Sim. to ISO 62
Density	0.0513 / -	lb/in^3	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	6 - 8	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	617	°F
Min. melt temperature	608	°F
Max. melt temperature	626	°F
Min. mold temperature	194	°F
Max. mold temperature	266	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Bosch	N28 BN05-OX089	
Ford	WSS-M98P14-A3	
General Motors	GMW18066P-PPA-GF35	Natural
Hyundai	MS211-80 Type B	

Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	Heat stabilized or stable to heat, Hydrolysis resistant

Additional information

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

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