

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 stabilised high performance polyamide resin. It is also a PPA resin.

Product information

Resin Identification	PA-IGF35	ISO 1043
Part Marking Code	>PA-IGF35<	ISO 11469
Part Marking Code	>PPA-IGF35<	SAE J1344
ISO designation	ISO 16396-PA-I,GF35,M1GHNRW,S10-100	

Rheological properties

	dry/cond.		
Viscosity number	105 / *	cm ³ /g	ISO 307, 1628
Moulding shrinkage, parallel	0.2 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.6 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	10000 / -	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	180 / -	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 / -	%	ISO 527-1/-2
Flexural modulus	9000 / -	MPa	ISO 178
Tensile creep modulus, 1h	* / 11000	MPa	ISO 899-1
Tensile creep modulus, 1000h	* / 10000	MPa	ISO 899-1
Charpy impact strength, 23°C	75 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	12 / 11	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -40°C	9 / -	kJ/m ²	ISO 179/1eA
Poisson's ratio	0.34 / -		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	304 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	120 / 65	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	255 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	285 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	20 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	20 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	75 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	72 / *	E-6/K	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)
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Electrical properties

	dry/cond.		
Surface resistivity	* / 1E14	Ohm	IEC 62631-3-2
Electric strength	43 / 42	kV/mm	IEC 60243-1
Comparative tracking index	600 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.8 / *	%	Sim. to ISO 62
Density	1420 / -	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
Min. melt temperature	320 °C
Max. melt temperature	330 °C
Min. mould temperature	90 °C
Max. mould temperature	130 °C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	Heat stabilised 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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Automotive

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

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