Zytel® RS HTN59G55LWSF BK083

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® RS HTN59G55LWSF BK083 is a 55% glass reinforced, biobased high performance polyamide with low warpage and high stiffness.

Product information

Resin Identification	PA-GF55		ISO 1043
Part Marking Code	>PA-GF55<		ISO 11469
Part Marking Code	>PA-GF55<		SAE J1344
ISO designation	ISO 16396-PA,GF55,M1CG,S10-160		
Biobased carbon content	≥70[C]	%	ISO 16620-2

[C]: Calculated

Rheological properties

	dry/cond.		
Molding shrinkage, parallel	0.1 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.2 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	2.47E6 / -	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	34100 / -	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5 / -	%	ISO 527-1/-2
Flexural modulus	2.09E6 / -	psi	ISO 178
Flexural strength	49300 / -	psi	ISO 178
Charpy impact strength, 23°C	45.2 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	11.4 / -	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	392 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	131 / 122	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	374 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.08 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.0556 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, 55-160°C	0.0833 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.261 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.167 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, 55-160°C	0.411 / *	E-4/°F	ISO 11359-1/-2

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Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	in/min	ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Comparative tracking index	600 / -		IEC 60112
Dielectric Constant, 1 GHz	4.1 / -		ASTM D 2520 B
Dielectric Constant, 23 °C, 10 GHz	4.2 / -		ASTM D 2520 B / IPC-TM-650
Dissipation Factor, 1 GHz	125 / -	E-4	ASTM D 2520 B
Dissipation Factor, 23 °C, 10 GHz	119 / -	E-4	ASTM D 2520 B / IPC-TM-650

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	0.6 / *	%	Sim. to ISO 62
Water absorption, 2mm	1.3 / *	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.3 / *	%	Sim. to ISO 62
Density	0.0567 / -	lb/in³	ISO 1183

Injection

Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	6 - 8	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	482	°F
Min. melt temperature	464	°F
Max. melt temperature	500	°F
Mold Temperature Optimum	194	°F
Min. mold temperature	140	°F
Max. mold temperature	230	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h²+2	s
Ejection temperature	327	°F

Characteristics

Processing	Injection Molding
Special characteristics	Low Warpage
Sustainability	Bio-Content

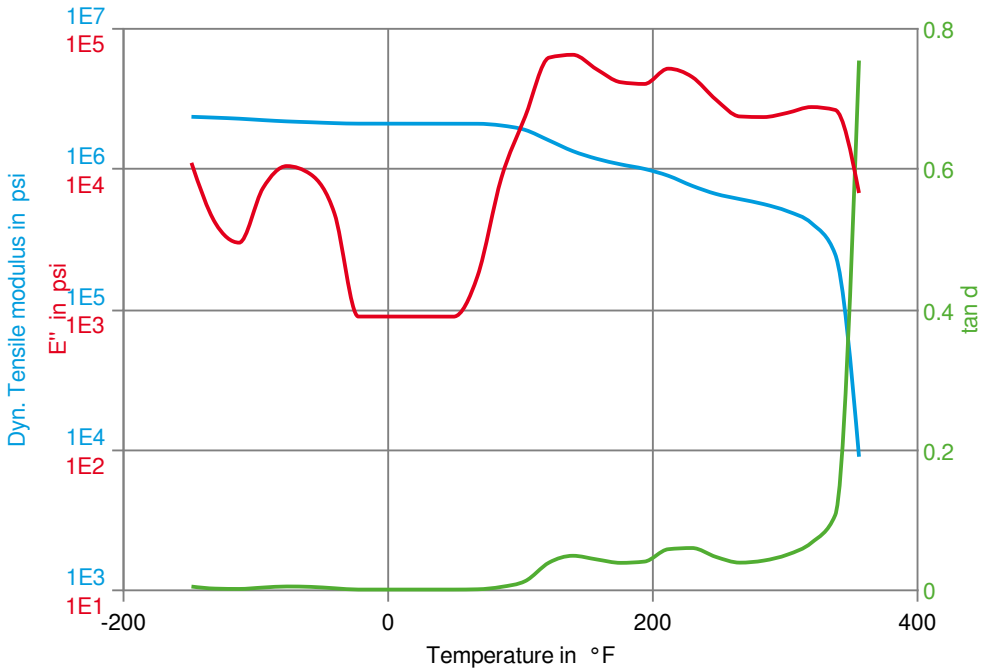
Additional information

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.

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Dynamic Tensile modulus-temperature (dry)

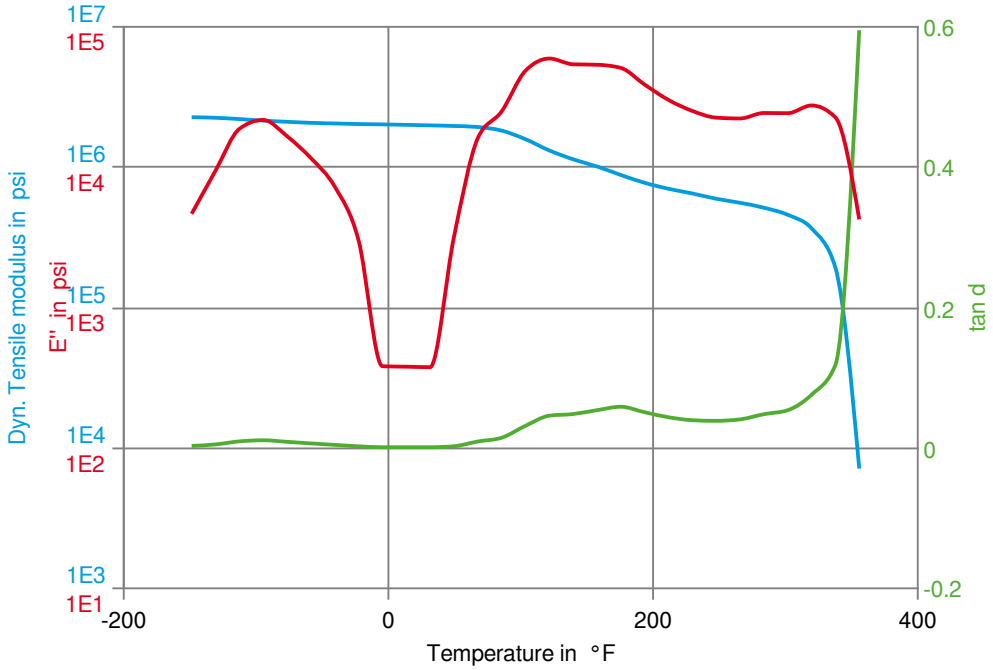


Revised: 2026-06-18 Source: Celanese Materials Database

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Dynamic Tensile modulus-temperature (cond.)



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