

Zytel® HTNFR55G55NHLW BK337 (DEVELOPMENTAL)

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTNFR55G55NHLW BK337 is a 57% glass reinforced, flame retardant high performance polyamide resin with improved flow and low warpage in structural applications. It is also a PPA resin and uses a non-halogenated flame retardant.

Product information

Part Marking Code	>PPA-GF57FR<	SAE J1344
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Rheological properties

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

Typical mechanical properties

	dry/cond.		
Tensile modulus	21000 / -	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	220 / -	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.5 / -	%	ISO 527-1/-2
Flexural modulus	19500 / -	MPa	ISO 178
Flexural strength	330 / -	MPa	ISO 178
Charpy impact strength, 23°C	60 / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	15 / -	kJ/m ²	ISO 179/1eA
Poisson's ratio	0.33 / -		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	296 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	227 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	255 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	12.8 / *	E-6/K	ISO 11359-1/-2
CLTE, Parallel, 23-55°C (73-130°F)	13.4 / -	E-6/K	ASTM E 831
Coeff. of linear therm. expansion, parallel, 55-160°C	12.2 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	28 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	52.3 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, Normal, 23-55°C (73-130°F)	30.7 / -	E-6/K	ASTM E 831

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.75 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94

Physical/Other properties

	dry/cond.		
Density	1720 / -	kg/m ³	ISO 1183

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Injection

Drying Recommended	yes
Drying Temperature	100 °C
Drying Time, Dehumidified Dryer	6 - 8 h
Processing Moisture Content	≤0.1 %
Min. melt temperature	300 °C
Max. melt temperature	315 °C
Min. mould temperature	70 °C
Max. mould temperature	130 °C

Characteristics

Processing	Injection Moulding
Additives	Flame retardant, Non-halogenated/Red phosphorous free flame retardant
Special characteristics	Flame retardant

Additional information

Injection molding	For molding machine components, use corrosion resistant and wear resistant steel. For details please contact our representative. Limit the residence time of the resin in the machine. Use proper protective equipment and adequate ventilation.
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The above data are for the developmental sample and are subject to change as the product is scaled up.

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

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