Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTNFR52G45NHF BK337 is a 45% Glass Reinforced, Flame Retardant, High Performance Polyamide with improved flow. It is also a PPA resin and it uses a non-halogenated flame retardant.

Product information

Resin Identification	PA6T/66-GF45 FR(40)	ISO 1043
Part Marking Code	>PA6T/66-GF45 FR(40)<	ISO 11469
Part Marking Code	>PPA-GF45 FR<	SAE J1344
ISO designation	ISO 16396-PA6T/66,GF45 FR(40),M1CF1G,S10-160	
TGA curve	available	ISO 11358-1

Rheological properties

	dry/cond.		
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	2.26E6 / -	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	24700 / -	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.7 / -	%	ISO 527-1/-2
Flexural modulus	2.25E6 / -	psi	ISO 178
Flexural strength	37000 / -	psi	ISO 178
Charpy impact strength, 23°C	22.4 / -	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	21.4 / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	3.81 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	3.81 / -	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	590 / *	°F	ISO 11357-1/-3
Melting temperature, first heat	590 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	194 / 113	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	527 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.09 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.0833 / *	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	0.306 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.278 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, 55-160°C	0.528 / *	E-4/°F	ISO 11359-1/-2
RTI, electrical, 0.4mm	284	°F	UL 746B
RTI, electrical, 0.75mm	284	°F	UL 746B
RTI, electrical, 1.5mm	284	°F	UL 746B

Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

RTI, electrical, 3.0mm	284	°F	UL 746B
RTI, strength, 0.75mm	257	°F	UL 746B
RTI, strength, 1.5mm	257 / *	°F	UL 746B
RTI, strength, 3.0mm	266	°F	UL 746B

Flammability

	dry/cond.		
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.0157 / *	in	IEC 60695-11-10
UL recognition	yes / *		UL 94
Glow Wire Ignition Temperature, 3.0mm	1520 / -	°F	IEC 60695-2-13

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Comparative tracking index	600 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.2 / *[A]	%	Sim. to ISO 62
Water absorption, 2mm	3 / *[A]	%	Sim. to ISO 62
Density	0.0581 / -	lb/in³	ISO 1183

[A]: Assessed

Injection

Drying Recommended	yes	
Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	6 - 8	h
Processing Moisture Content	≤0.1	%
Min. melt temperature	608	°F
Max. melt temperature	617	°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
Stellantis	B62 0300 / 61/U4/225E/217M/C2B/C4	01378_20_04250

Characteristics

Processing	Injection Molding
Additives	Flame retardant, Non-halogenated/Red phosphorus free flame retardant
Special characteristics	Flame retardant, Lead-free soldering resistant

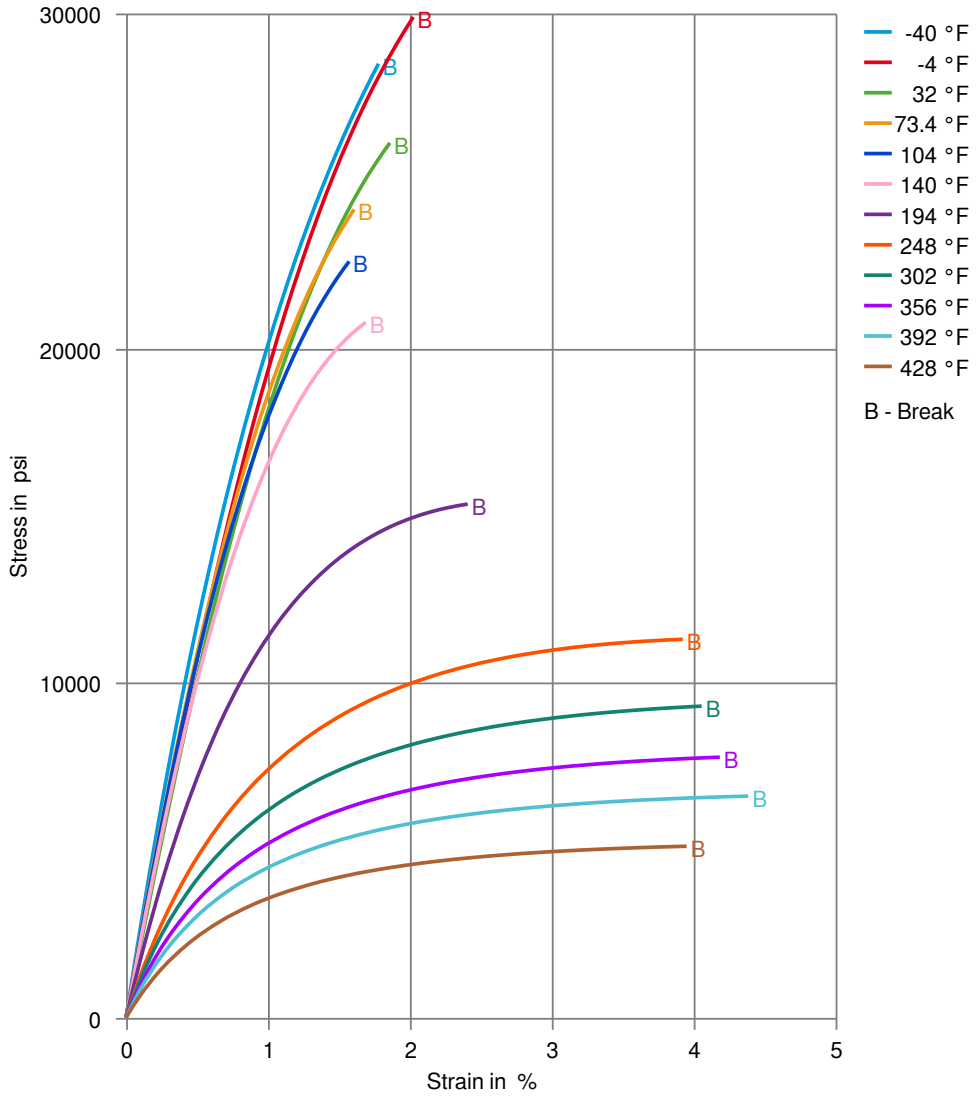
Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

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.

Stress-strain (dry)

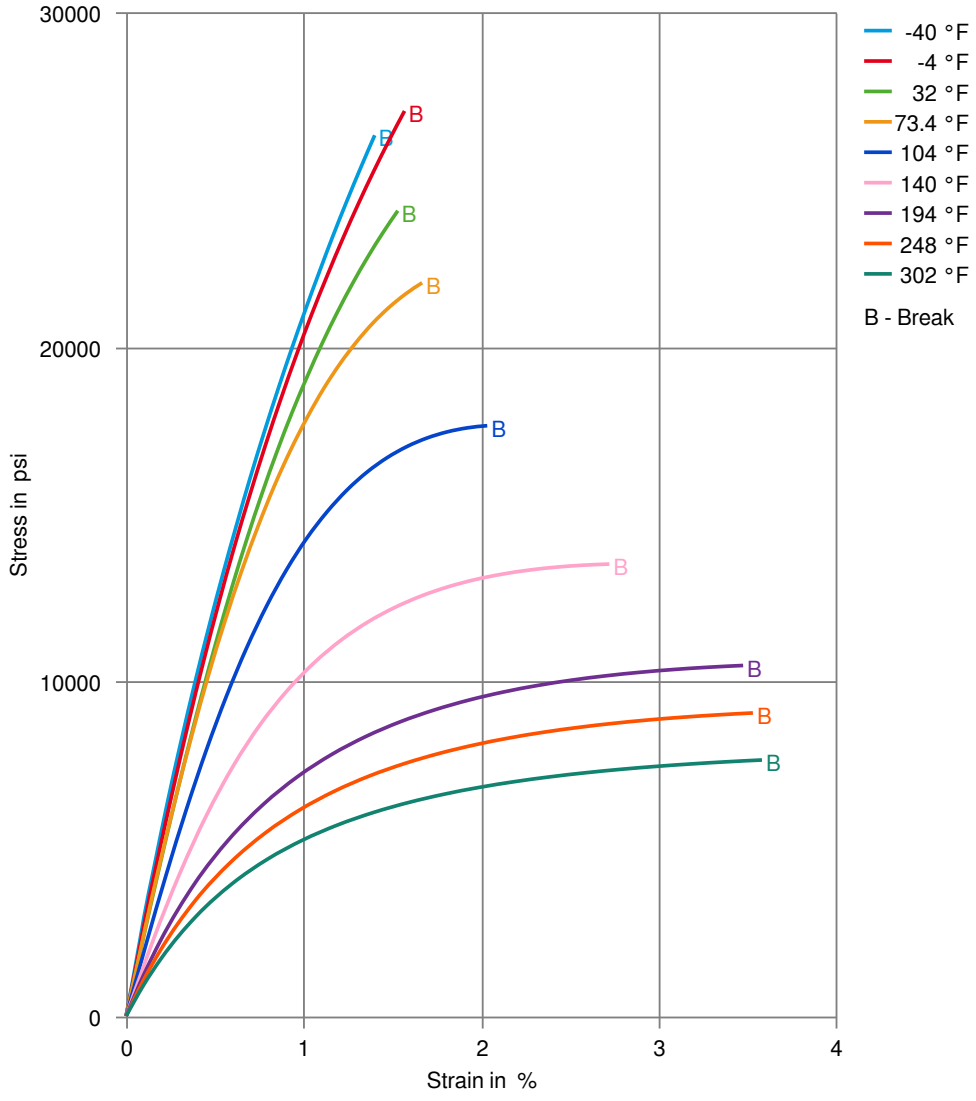


Revised: 2025-07-08 Source: Celanese Materials Database

Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

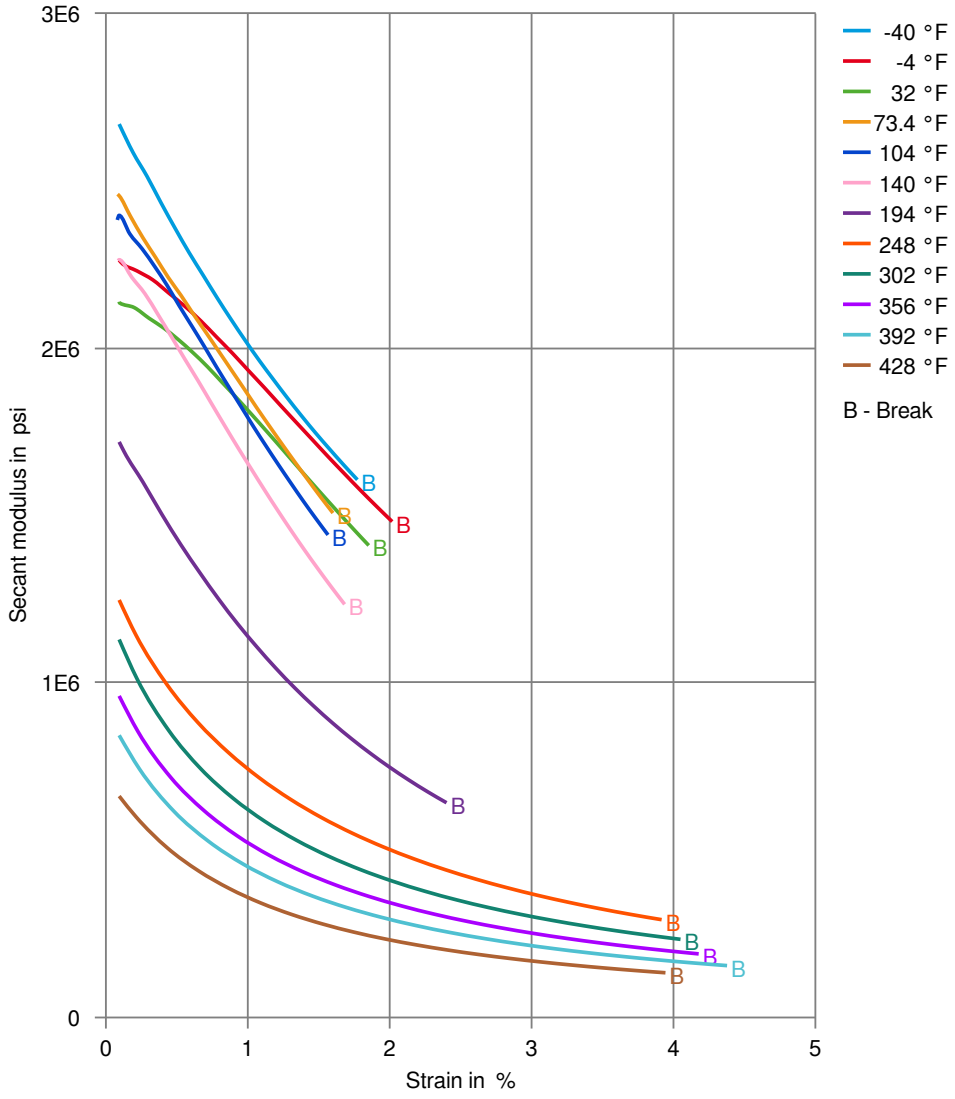
Stress-strain (cond.)



Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

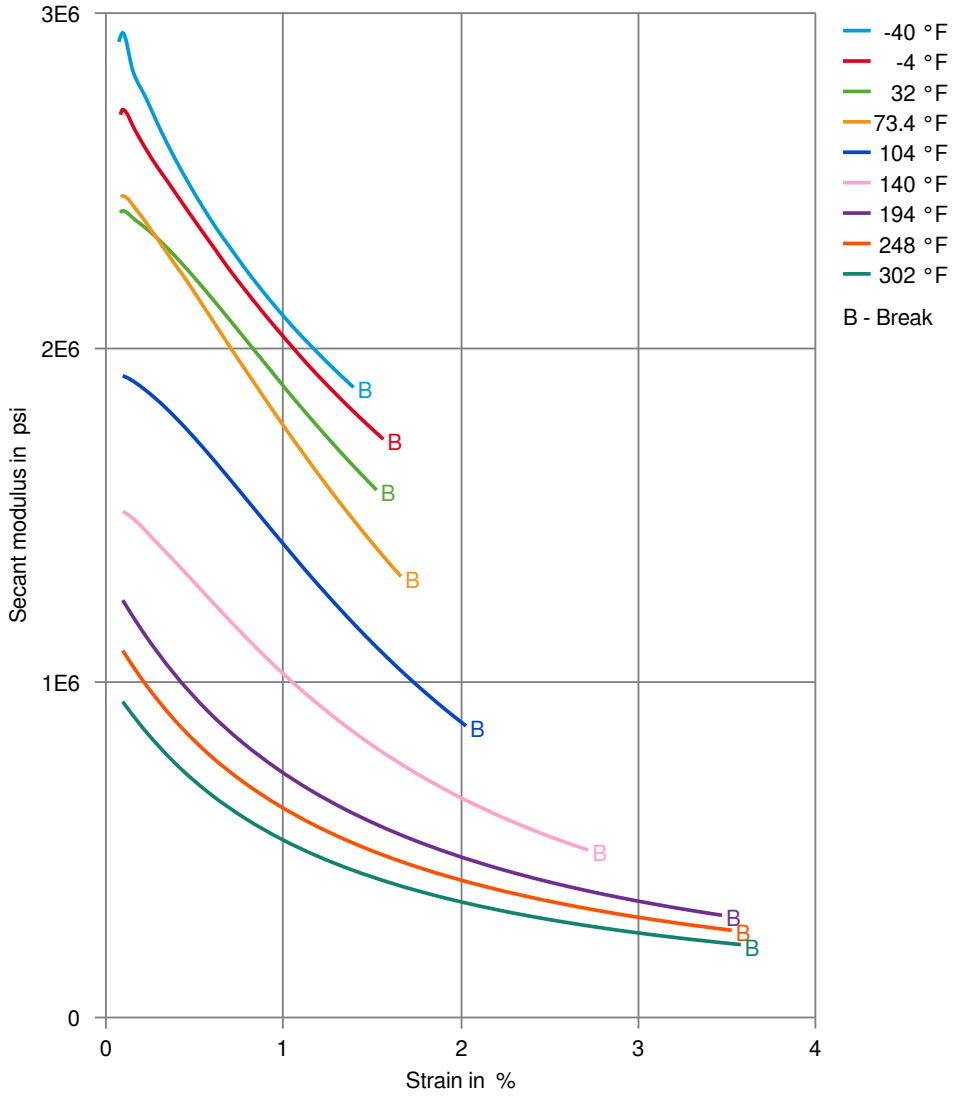
Secant modulus-strain (dry)



Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

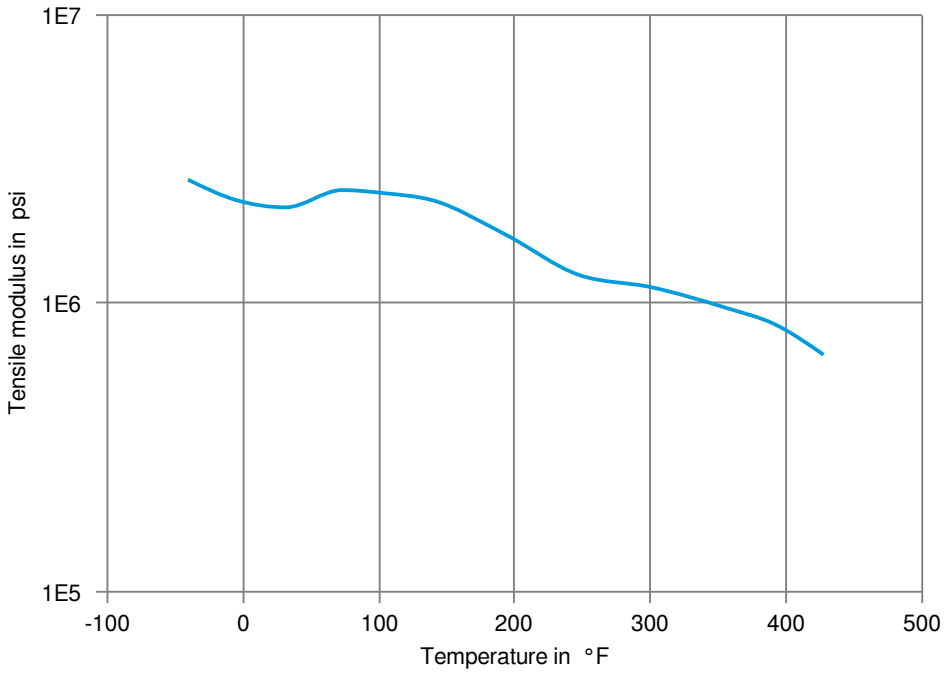
Secant modulus-strain (cond.)



Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

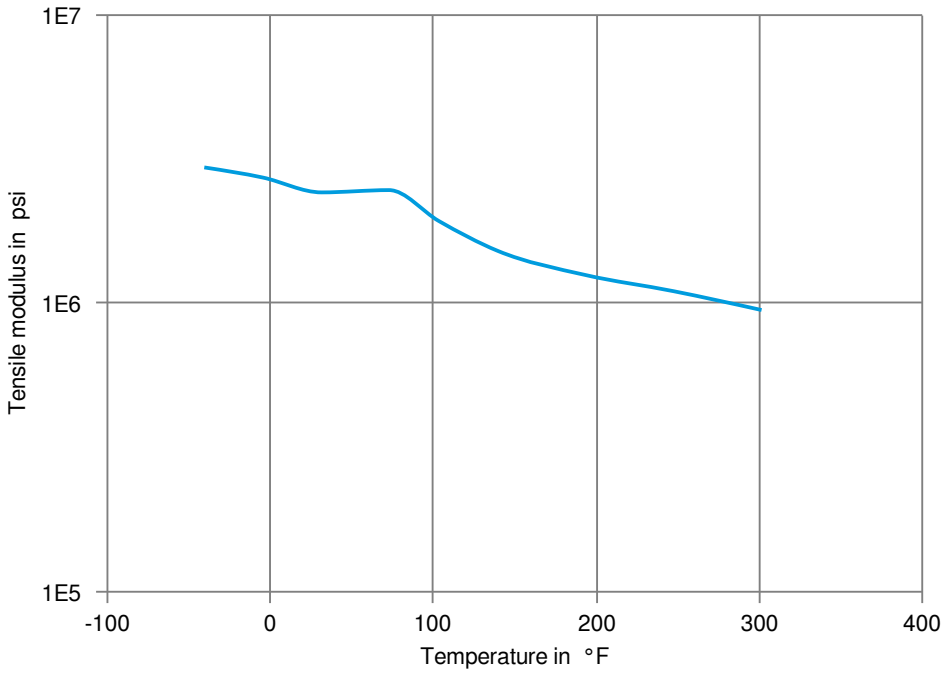
Tensile modulus-temperature (dry)



Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

Tensile modulus-temperature (cond.)



Revised: 2025-07-08 Source: Celanese Materials Database

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.
Copyright © 2026 Celanese or its affiliates. All rights reserved.
Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates.