Celanese
The chemistry inside innovation™

Crastin® TC1050 BK101

THERMOPLASTIC POLYESTER RESIN

Crastin® TC1050 BK101 is a 50% glass/mineral polybutylene terephthalate (PBT) with excellent dimensional stability and improved thermal conductivity.

Product information

Resin Identification	PBT-(GF+MD)50	ISO 1043
Part Marking Code	>PBT-(GF+MD)50<	ISO 11469

Rheological properties

Melt volume-flow rate	7	cm^3/10min	ISO 1133
Temperature	482	°F	
Load	4.76	lb	
Molding shrinkage range, parallel	0.4 - 0.6	%	ISO 294-4, 2577
Molding shrinkage range, normal	0.9 - 1.3	%	ISO 294-4, 2577
Melt viscosity, @ 1000 sec-1, 250°C	3100	P	ISO 11443

Typical mechanical properties

Tensile modulus	1.67E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	12300	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.4	%	ISO 527-1/-2
Flexural modulus	1.74E6	psi	ISO 178
Flexural strength	20300	psi	ISO 178
Charpy impact strength, 23°C	11.9	ftlb/in^2	ISO 179/1eU
Charpy notched impact strength, 23°C	2.38	ftlb/in^2	ISO 179/1eA
Izod notched impact strength, 23°C	2.38	ftlb/in^2	ISO 180/1A

Thermal properties

Melting temperature, 10°C/min	435	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	410	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	432	°F	ISO 75-1/-2
Thermal conductivity, flow	1.8	W/(m K)	ISO 22007-2
Thermal conductivity, crossflow	1.6	W/(m K)	ISO 22007-2
Thermal conductivity, through plane	0.7	W/(m K)	ISO 22007-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	0.0591	in	IEC 60695-11-10
Glow Wire Flammability Index, 1.0mm	1430	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.0mm	1470	°F	IEC 60695-2-13
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	0.866	in/min	ISO 3795 (FMVSS 302)
Burning rate, Thickness 2 mm	0.63	in/min	ISO 3795 (FMVSS 302)

Crastin® TC1050 BK101

THERMOPLASTIC POLYESTER RESIN

Electrical properties

Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	864	kV/in	IEC 60243-1
Comparative tracking index	600		IEC 60112

Physical/Other properties

Density	0.0635	lb/in^3	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	248	°F
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	500	°F
Min. melt temperature	482	°F
Max. melt temperature	518	°F
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	266	°F
Hold pressure range	≥8700	psi
Hold pressure time	0.0762	s/mil
Back pressure	as low as possible	psi

Characteristics

Processing	Injection Molding

Additional information

Processing Notes

Pre-Drying

To avoid hydrolytic degradation during processing, Celanex® & Crastin® resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 250°F (121°C) for 4 hours.

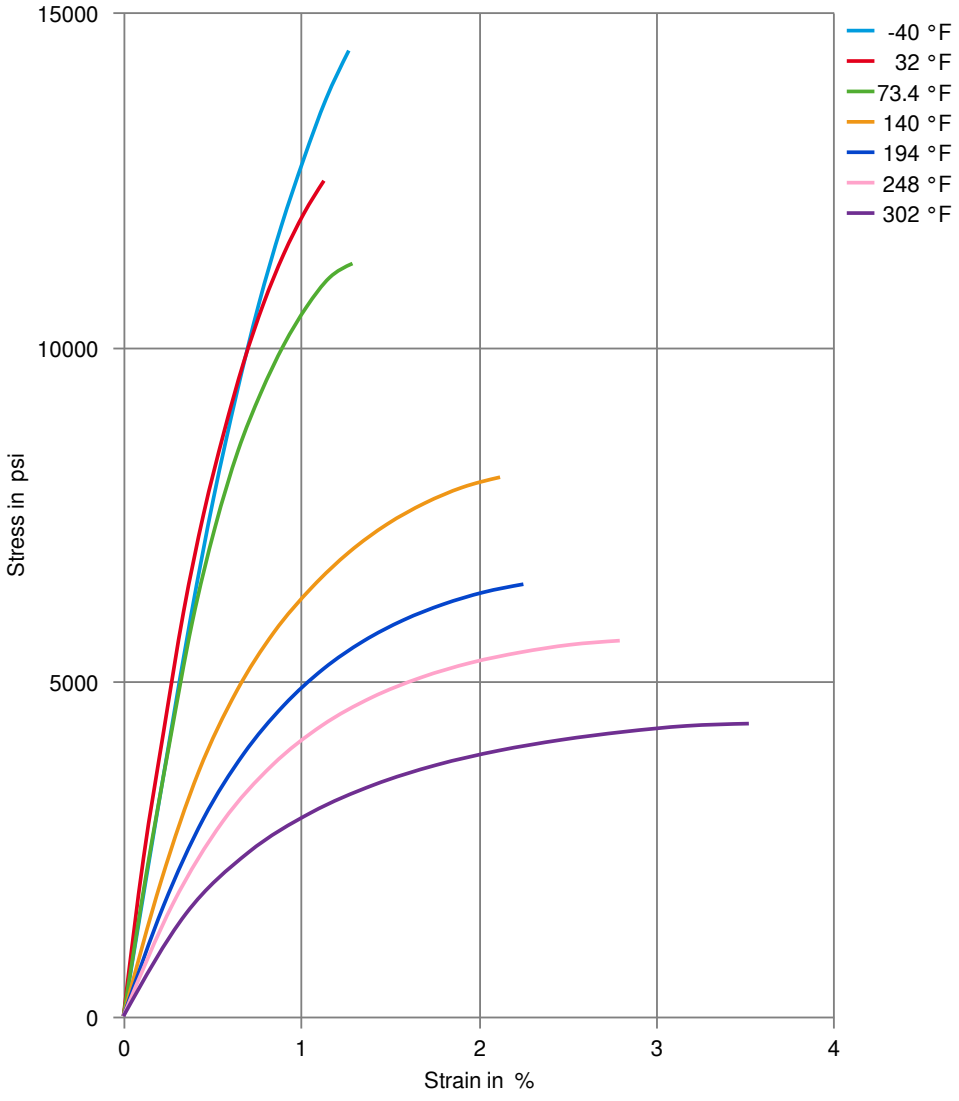
Storage

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

Crastin® TC1050 BK101

THERMOPLASTIC POLYESTER RESIN

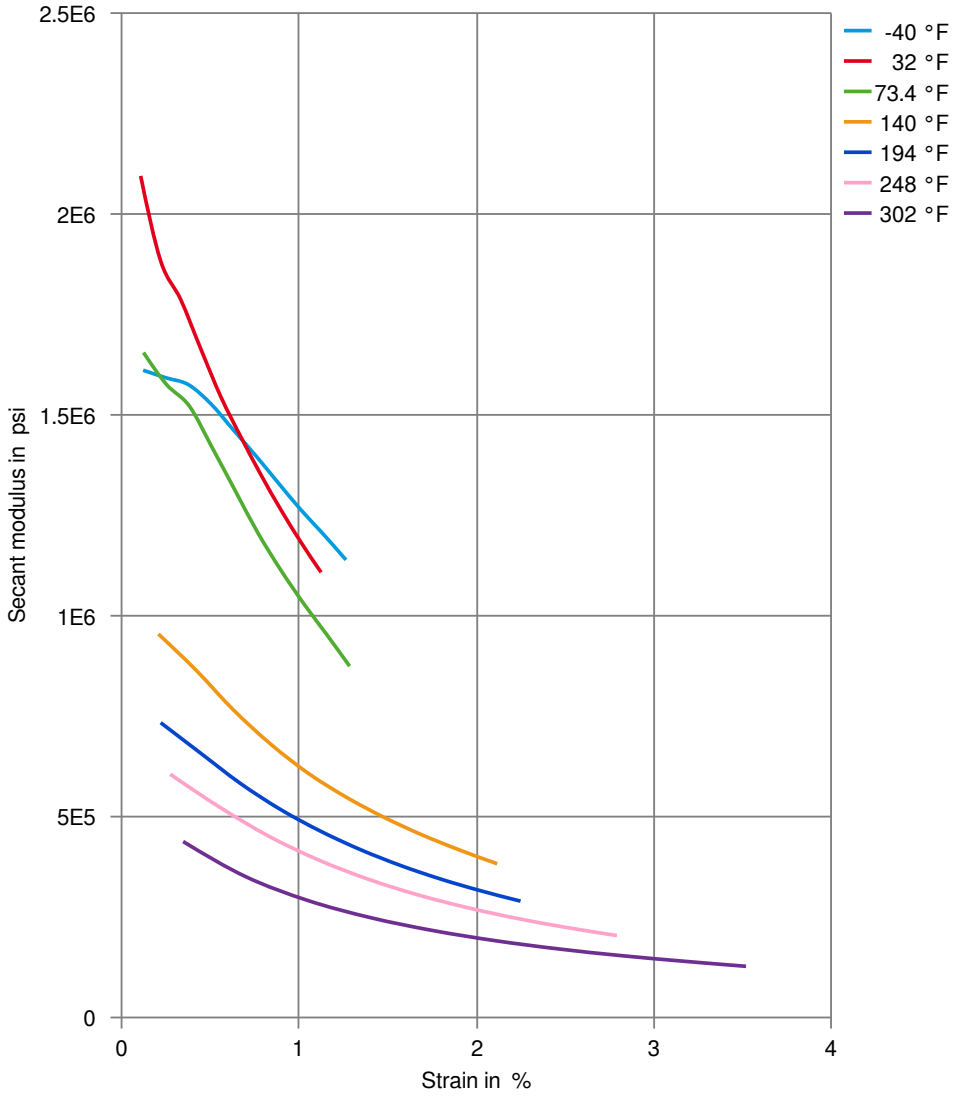
Stress-strain



Crastin® TC1050 BK101

THERMOPLASTIC POLYESTER RESIN

Secant modulus-strain



Revised: 2026-09-01 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.