Celanese
The chemistry inside innovation™

COOLPOLY® D5120

COOLPOLY®

CoolPoly D series of thermally conductive plastics transfers heat, a characteristic previously unavailable in injection molding grade polymers. CoolPoly is lightweight, netshape moldable and allows design freedom in applications previously restricted to metals. The D series is electrically non-conductive and can be used for its dielectric properties.

Product information

Resin Identification	PPS		ISO 1043
Part Marking Code	>PPS<		ISO 11469

Rheological properties

Molding shrinkage, parallel	0.2	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2.32E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	0.8	%	ISO 527-1/-2
Flexural modulus	2.61E6	psi	ISO 178
Flexural strength	27600	psi	ISO 178
Charpy impact strength, 23°C	6.18	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	1.66	ftlb/in²	ISO 179/1eA
Hardness, Rockwell, M-scale	100		ISO 2039-2

Thermal properties

Temperature of deflection under load, 1.8 MPa	500	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	536	°F	ISO 75-1/-2
Thermal conductivity, flow	0.7	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.	V-0	class	IEC 60695-11-10
Thickness tested	0.0591	in	IEC 60695-11-10
Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.0236	in	IEC 60695-11-10
UL recognition	yes		UL 94

Electrical properties

Surface resistivity	1E14	Ohm	IEC 62631-3-2

Physical/Other properties

Density	0.0722	lb/in³	ISO 1183

COOLPOLY® D5120

COOLPOLY®

Injection

Drying Recommended	yes	
Drying Temperature	266	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	626	°F
Min. melt temperature	590	°F
Max. melt temperature	644	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	320	°F
Min. mold temperature	284	°F
Max. mold temperature	347	°F
Back pressure	102	psi

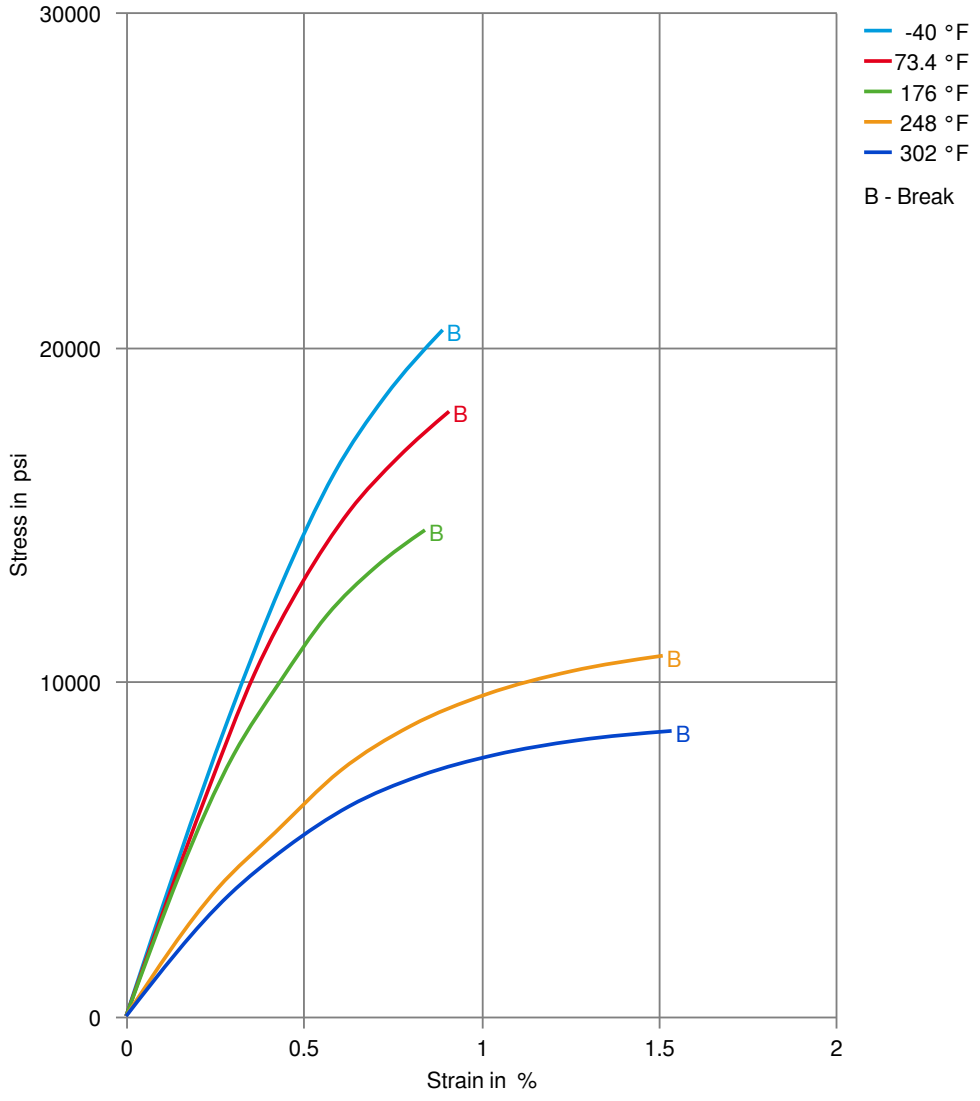
Characteristics

Processing	Injection Molding
Special characteristics	Flame retardant, Light weight

COOLPOLY® D5120

COOLPOLY®

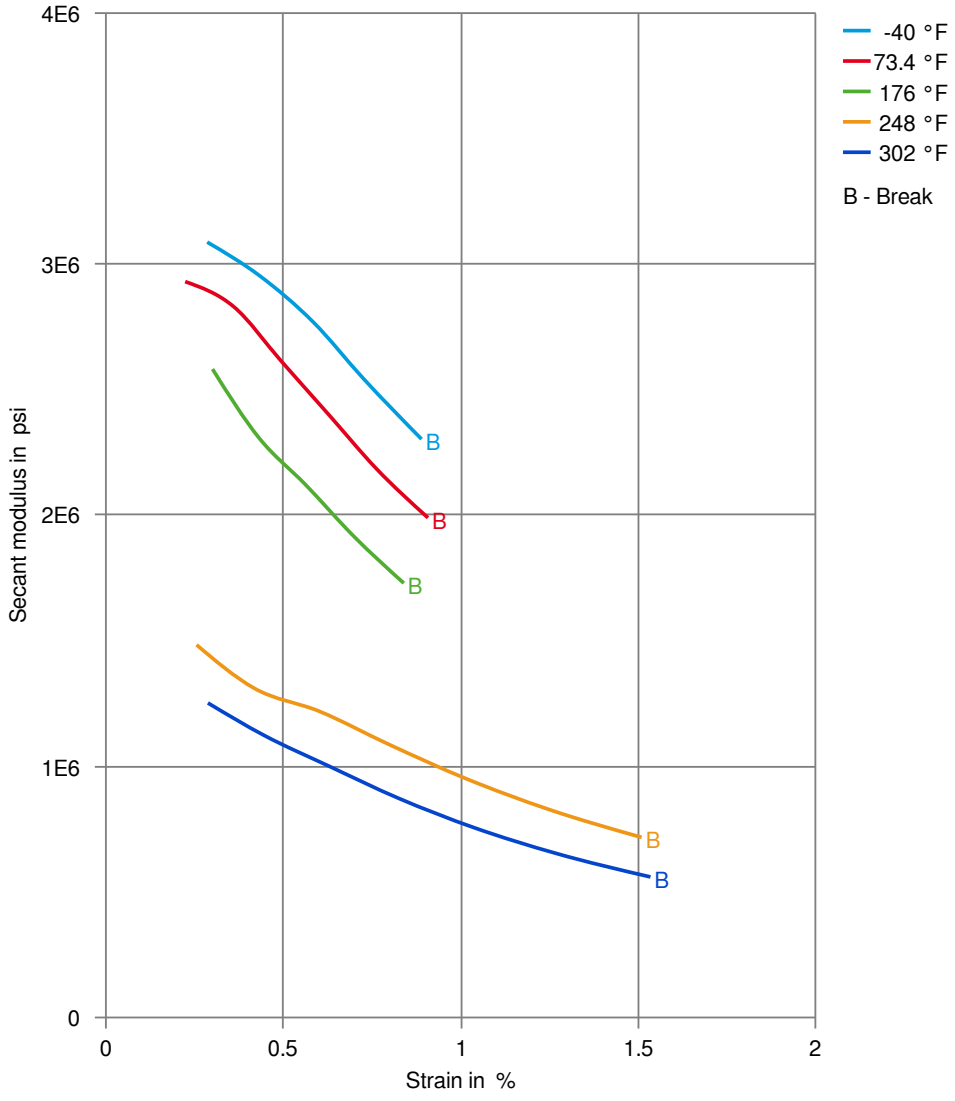
Stress-strain



COOLPOLY® D5120

COOLPOLY®

Secant modulus-strain



Revised: 2025-12-22 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.