COOLPOLY® E5521 (PRELIMINARY)

COOLPOLY®

CoolPoly E series of thermally conductive plastics transfers heat, is lightweight, netshape moldable and allows design freedom in applications previously restricted to metals.

Product information

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

Typical mechanical properties

Tensile modulus	1.03E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	4640	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	0.7	%	ISO 527-1/-2
Flexural modulus	1.61E6	psi	ISO 178
Flexural strength	8120	psi	ISO 178
Charpy impact strength, 23°C	1.62	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	1.19	ftlb/in²	ISO 179/1eA

Thermal properties

Temperature of deflection under load, 1.8 MPa	388	°F	ISO 75-1/-2
Thermal conductivity, flow	34	W/(m K)	ISO 22007-2
Thermal conductivity, through plane	4.5	W/(m K)	ISO 22007-2

Physical/Other properties

Density	0.0632	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	302	°F
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	698	°F
Min. melt temperature	662	°F
Max. melt temperature	734	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	284	°F
Min. mold temperature	212	°F
Max. mold temperature	338	°F
Back pressure	50.8	psi

Characteristics

Processing	Injection Molding
Special characteristics	Static dissipative, Specialty appearance, Low wear / Low friction, High Flow, Low Warpage

Revised: 2025-12-22 Source: Celanese Materials Database

COOLPOLY® E5521 (PRELIMINARY)

COOLPOLY®

Additional information

Injection molding

Processing

A low compression screw (3:1 or less) is recommended. Use a free flowing nozzle and free-flowing non-return valve with good sealing ability. Large reverse taper nozzle is suggested. Minimize suck-back. Material is moisture sensitive. Screw speed 75-150 rpm with cusion of 1-1.3 cm.

Revised: 2025-12-22 Source: Celanese Materials Database

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.
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.