

TECHNICAL DATA SHEET

[English Units]



TOPAS® 5013S-04

Cyclic Olefin Copolymer (COC)

Injection molding grade with high flowability, high transparency, and high heat distortion temperature. Specially manufactured for optical applications also suited for applications where high flowability is required.

Property	Value	Unit	Test Standard
Physical Properties			
Density	1020	kg/m ³	ISO 1183
Melt volume rate (MVR) (260°C, 2.16kg)	48	cm ³ /10min	ISO 1133
Melt flow rate (MFR) (260°C, 2.16kg)	43	g/10min	calculated
Water absorption (23°C-sat)	0,01	%	ISO 62
Mechanical Properties			
Tensile modulus (1mm/min)	460	kpsi	ISO 527-3
Tensile stress at break (5mm/min)	6700	psi	ISO 527-3
Tensile strain at break (5mm/min)	1,7	%	ISO 527-3
Charpy impact strength @ 23C	6,2	ft-lbs/in ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	0,8	ft-lbs/in ²	ISO 179/1eA
Thermal Properties			
Glass transition temperature (10°C/min)	273	°F	ISO 11357-1,-2,-3
DTUL @ 0.45 MPa	261	°F	ISO 75-1, -2
Vicat softening temperature B50 (50°C/h 50N)	271	°F	ISO 306
Flammability @1.6mm nom. thickn.	HB	Class	UL94
Electrical Properties			
Relative permittivity at 1-10 kHz	2,35	-	IEC 60250
Volume resistivity	<1E14	ohm×m	IEC 60093
Comparative tracking index CTI	>600	-	IEC 60112
Optical Properties			
Deg. of light transmission	91,4	%	ISO 13468-2
Refractive index	1,533	-	ISO 489

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. 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 which 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 to 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 Safety Data Sheets before attempting to process our products. - The products mentioned herein are not designed or promoted for use in medical or dental implants.

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