

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 |
| Water absorption (23°C-sat) | 0,01 | % | ISO 62 |
| Mechanical Properties | | | |
| Tensile modulus (1mm/min) | 3200 | Mpa | ISO 527-3 |
| Tensile stress at break (5mm/min) | 46 | Mpa | ISO 527-3 |
| Tensile strain at break (5mm/min) | 1,7 | % | ISO 527-3 |
| Charpy impact strength @ 23°C | 13 | KJ/m ² | ISO 179/1eU |
| Charpy notched impact strength @ 23°C | 1,6 | KJ/m ² | ISO 179/1eA |
| Thermal Properties | | | |
| Glass transition temperature (10°C/min) | 134 | °C | ISO 11357-1,-2,-3 |
| DTUL @ 0.45 MPa | 127 | °C | ISO 75-1, -2 |
| Vicat softening temperature B50 (50°C/h 50N) | 133 | °C | ISO 306 |
| Flammability @1.6mm nom. thickn. | HB | Klasse | 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 (589nm, 25°C) | 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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