

TOPAS® 5013L-10

Cyclic Olefin Copolymer (COC)

Injection molding grade for optical applications

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 (20°C/min)	134	°C	ISO 11357-1,-2
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 (t=2mm)	91,4	%	ISO 13468-1
Haze (t=2mm)	<0,6	%	ISO 14782
Refractive index (589nm, 25°C)	1,533	-	ISO 489

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