

Polyplastics TOPAS® 5013 Cyclic Olefin Copolymer (COC) (Asia/Pacific Grade)

Category : Polymer , Thermoplastic , Cyclo Olefin Polymer

Material Notes:

This grade is characterized by its high flowability and superior optical properties. It is suitable for optical components such as lenses and light guide panels where high molded precision is indispensable. Information provided by PolyPlastics.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Polyplastics-TOPAS-5013-Cyclic-Olefin-Copolymer-COC-AsiaPacific-Grade.php

Physical Properties	Metric	English	Comments
Density	1.02 g/cc	0.0368 lb/in ³	ISO 1183
Water Absorption	0.010 %	0.010 %	immersion @23°C; ISO 62
Water Absorption at Saturation	0.010 %	0.010 %	
Water Vapor Transmission	0.0300 g/m ² /day	0.00193 g/100 in ² /day	[g·mm/m²·d] @ 23°C and 85% RH; DIN 53122
	0.250 g/m ² /day	0.0161 g/100 in ² /day	Good barrier properties
Melt Flow	26 g/10 min	26 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 245 °C	@Load 4.76 lb, Temperature 473 °F	
	49 g/10 min	49 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 260 °C	@Load 4.76 lb, Temperature 500 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	46.0 MPa	6670 psi	5mm/min; ISO 527-1, 2
Elongation at Break	1.7 %	1.7 %	5mm/min; ISO 527-1, 2
Tensile Modulus	3.20 GPa	464 ksi	1mm/min; ISO 527-1, 2
Charpy Impact Unnotched	1.30 J/cm ²	6.19 ft-lb/in ²	ISO 179/1eU
Charpy Impact, Notched	0.160 J/cm ²	0.761 ft-lb/in ²	ISO 179/1eA

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	130 °C	266 °F	
Deflection Temperature at 1.8 MPa (264 psi)	116 °C	241 °F	ISO 75-1, 2
Glass Transition Temp, Tg	140 °C	284 °F	

Optical Properties	Metric	English	Comments
Refractive Index	1.53	1.53	
Transmission, Visible	91 %	91 %	ISO 13468-1

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.2	2.2	
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
Dissipation Factor	0.00010	0.00010	
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	

Descriptive Properties	Value	Comments
Abbe number	58	
Birefringence, nm	max 20	
Optical Stress Constant, Pa-1	from -7E-12 to -2E-12	
Pencil Hardness	F	JIS K5401
Resistance to Acids	Usable	
Resistance to Alcohols	Usable	
Resistance to Alkalis	Usable	
Resistance to Aromatic Solvents	Not Usable	
Resistance to Chlorinated Solvents	Not Usable	
Resistance to Esters	Usable	
Resistance to Gasoline	Not Usable	
Resistance to Ketones	Usable	
Resistance to Oils	Not Usable	

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