

Topas Advanced Polymers TOPAS® 6017S-04 Cyclic Olefin Copolymer (COC)

Category : Polymer , Thermoplastic , Cyclo Olefin Polymer

Material Notes:

TOPAS® 6017S-04 is an injection molding grade with a high heat distortion temperature (170°C) and exceptional dimensional stability. It is a glass-clear amorphous polymer with outstanding moisture barrier, chemical resistance, high purity and a non-reactive surface making it an excellent choice for precision optics, healthcare and other high-tech products. Lower leachables and extractables of TOPAS COC preserve food and drug stability and quality. It is a non-polar substrate that does not promote adsorption, denaturation, aggregation, or precipitation like glass can. Key applications and attributes: Drug delivery: Low leachables & extractables, low water transmission Prefilled syringes, vials, cartridges: Non-ionic, does not promote adsorption like glass Bottles: Minimally reactive, EtO/gamma/steam sterilizable Surgical instruments: Chemically resistant to alcohol, acetone, and acrylates IV containers and components: Transparent, withstands EtO/gamma/steam sterilization Labware: Temperature resistance, clarity and purity Optics: Clarity, low birefringence, low moisture sensitivity Electronics: Low dielectric constant, thermoplastic Food packaging: Not manufactured with BPA, phthalates, or halogens Healthcare and food: Broad regulatory approval Information provided by TOPAS Advanced Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_Topas-Advanced-Polymers-TOPAS-6017S-04-Cyclic-Olefin-Copolymer-COC.php

Physical Properties	Metric	English	Comments
Density	1.02 g/cc	0.0368 lb/in ³	ISO 1183
Water Absorption at Saturation	0.010 % @Temperature 23.0 °C	0.010 % @Temperature 73.4 °F	ISO 62
Melt Flow	1.38 g/10 min @Load 2.16 kg, Temperature 260 °C	1.38 g/10 min @Load 4.76 lb, Temperature 500 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	58.0 MPa	8410 psi	5mm/min; ISO 527-2/1A
Elongation at Yield	2.4 %	2.4 %	5mm/min; ISO 527-2/1A
Tensile Modulus	3.00 GPa	435 ksi	1mm/min; ISO 527-2/1A
Charpy Impact Unnotched	1.50 J/cm ² @Temperature 23.0 °C	7.14 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.160 J/cm ² @Temperature 23.0 °C	0.761 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	170 °C	338 °F	ISO 75-1,-2

Thermal Properties	Metric	English	Comments
Heat Softening Point	178 °C	352 °F	10°C/min; ISO 306
Glass Transition Temp, Tg	178 °C	352 °F	10°C/min; ISO 11357-1,-2,-3
Flammability, UL94	HB	HB	
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.53	1.53	ISO 489
Transmission, Visible	91 %	91 %	ISO 13468-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+16 ohm-cm	>= 1.00e+16 ohm-cm	IEC 60093
Dielectric Constant	2.3	2.3	IEC 60250
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	
	2.35	2.35	IEC 60250
	@Frequency 1000 - 10000 Hz	@Frequency 1000 - 10000 Hz	
Dissipation Factor	0.0000700	0.0000700	IEC 60250
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	
Comparative Tracking Index	>= 600 V	>= 600 V	IEC 60112

Processing Properties	Metric	English	Comments
Feed Temperature	<= 110 °C	<= 230 °F	
Nozzle Temperature	260 - 320 °C	500 - 608 °F	
Zone 1	250 - 280 °C	482 - 536 °F	
Zone 2	260 - 300 °C	500 - 572 °F	
Zone 3	270 - 310 °C	518 - 590 °F	
Zone 4	270 - 320 °C	518 - 608 °F	
Mold Temperature	120 - 160 °C	248 - 320 °F	
Injection Velocity	50.0 - 150 mm/sec	1.97 - 5.91 in/sec	Moderate to Fast
Injection Pressure	50.0 - 110 MPa	7250 - 16000 psi	Specific

Processing Properties	Metric	English	Comments
Back Pressure	<= 15.0 MPa	<= 2180 psi	Specific
Screw Speed	50 - 200 rpm	50 - 200 rpm	

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