

Topas Advanced Polymers TOPAS® 8007S-04 Cyclic Olefin Copolymer (COC)

Category : Polymer , Thermoplastic , Cyclo Olefin Polymer

Material Notes:

TOPAS® 8007S-04 is a general purpose injection molding grade. 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 healthcare and other high-tech products. Lower leachables and extractables of TOPAS COC preserve food and drug stability and quality. Analytical results are more accurate with TOPAS COC in contact with sensitive chemistries. 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 and tubes: Minimally reactive, EtO and irradiation sterilizable Surgical instruments: Chemically resistant to alcohol, acetone, and acrylates IV containers and components: Transparent, withstands EtO and gamma 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-8007S-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
Water Vapor Transmission	0.0250 g/m ² /day @Thickness 1.00 mm, Temperature 23.0 °C	0.00161 g/100 in ² /day @Thickness 0.0394 in, Temperature 73.4 °F	85% RH; DIN 53122
Melt Flow	29.4 g/10 min @Load 2.16 kg, Temperature 260 °C	29.4 g/10 min @Load 4.76 lb, Temperature 500 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	63.0 MPa	9140 psi	50mm/min; ISO 527-2/1A
Elongation at Yield	4.5 %	4.5 %	50mm/min; ISO 527-2/1A
Tensile Modulus	2.60 GPa	377 ksi	1mm/min; ISO 527-2/1A
Charpy Impact Unnotched	2.00 J/cm ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.260 J/cm ² @Temperature 23.0 °C	1.24 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	75.0 °C	167 °F	ISO 75-1,-2
Vicat Softening Point	80.0 °C	176 °F	B50 (50°C/h 50N); ISO 306
Glass Transition Temp, Tg	78.0 °C	172 °F	10°C/min; ISO 11357-1,-2,-3
Flammability, UL94	HB @Thickness 1.60 mm	HB @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	2.35 @Frequency 1000 - 10000 Hz	2.35 @Frequency 1000 - 10000 Hz	IEC 60250
Comparative Tracking Index	>= 600 V	>= 600 V	IEC 60112

Processing Properties	Metric	English	Comments
Feed Temperature	<= 60.0 °C	<= 140 °F	
Nozzle Temperature	220 - 250 °C	428 - 482 °F	
Zone 1	190 - 220 °C	374 - 428 °F	
Zone 2	200 - 230 °C	392 - 446 °F	
Zone 3	210 - 240 °C	410 - 464 °F	
Zone 4	220 - 250 °C	428 - 482 °F	
Mold Temperature	40.0 - 70.0 °C	104 - 158 °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
Hold Pressure	30.0 - 60.0 MPa	4350 - 8700 psi	Specific
Back Pressure	<= 15.0 MPa	<= 2180 psi	Specific

<small>Screw Speed</small> Processing Properties	<small>50 - 200 rpm</small> Metric	<small>50 - 200 rpm</small> English	Comments
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