

Technical Data

Product Description

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 content stability and quality. It is a non-polar substrate that does not promote adsorption, denaturation, aggregation, or precipitation like glass can. Analytical results are more accurate with TOPAS COC in contact with sensitive chemistries.

Selected Applications

- Drug delivery
- Prefilled syringes, vials, cartridges
- Bottles and tubes
- Surgical instruments
- IV containers and components
- Labware
- Optics
- Electronics
- Food packaging
- Healthcare and food contact

Leading Attributes

- Low leachables & extractables, low water transmission
- Non-ionic, does not promote adsorption like glass
- Minimally reactive
- Chemically resistant to alcohol, acetone, and acrylates
- Transparent, withstands EtO and gamma sterilization
- Temperature resistance, clarity and purity
- Clarity, low birefringence, low moisture sensitivity
- Low dielectric constant, thermoplastic
- Not manufactured with BPA, phthalates, or halogens
- Broad regulatory compliance

Related Grades for Injection Molding, Healthcare, Optics and Diagnostics

- TOPAS 8007X10 - our highest ultraviolet (UV) transmission grade

General

Material Status	• Commercial: Active		
Literature ¹	<ul style="list-style-type: none"> • Processing (English) • Technical Datasheet (English) 		
UL Yellow Card ²	• E177491-226517		
Search for UL Yellow Card	<ul style="list-style-type: none"> • Topas Advanced Polymers GmbH • TOPAS® 		
Availability	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific 	<ul style="list-style-type: none"> • Europe • Latin America 	<ul style="list-style-type: none"> • North America
Features	<ul style="list-style-type: none"> • Alcohol Resistant • Amorphous • BPA Free • Chemical Resistant • Copolymer 	<ul style="list-style-type: none"> • Ethylene Oxide Sterilizable • Food Contact Acceptable • General Purpose • Halogen Free • High Clarity 	<ul style="list-style-type: none"> • High Heat Resistance • High Purity • Low Extractables • Moisture Barrier • Radiation Sterilizable
Uses	<ul style="list-style-type: none"> • Bottles • Electrical/Electronic Applications • Food Packaging • General Purpose 	<ul style="list-style-type: none"> • Labware • Medical/Healthcare Applications • Optical Applications • Pharmaceutical Packaging 	<ul style="list-style-type: none"> • Surgical Instruments • Tubing
Agency Ratings	<ul style="list-style-type: none"> • DMF 12132 • EU 10/2011 	<ul style="list-style-type: none"> • FDA FCN 405 • ISO 10993 	<ul style="list-style-type: none"> • USP Class VI
Appearance	• Clear/Transparent		
Forms	• Pellets		



General

Processing Method • Injection Molding

Physical	Nominal Value Unit	Test Method
Density	1.01 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	29 g/10 min	Calculated
Melt Volume-Flow Rate (MVR)	32 cm ³ /10min	ISO 1133
Water Absorption (Saturation, 23°C)	0.010 %	ISO 62
Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	2620 MPa	ISO 527-2/1A/1
Tensile Stress (Yield)	62.7 MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	4.5 %	ISO 527-2/1A/50
Films	Nominal Value Unit	Test Method
Water Vapor Transmission Rate (23°C, 85% RH)	0.024 g·mm/m ² /atm/24 hr	DIN 53122
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength (23°C)	2.6 kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	20 kJ/m ²	ISO 179/1eU
Thermal	Nominal Value Unit	Test Method
Heat Deflection Temperature 0.45 MPa, Unannealed	75.0 °C	ISO 75-2/B
Glass Transition Temperature	78.0 °C	ISO 11357-2
Vicat Softening Temperature	80.0 °C	ISO 306/B50
Electrical	Nominal Value Unit	Test Method
Comparative Tracking Index	> 600 V	IEC 60112
Flammability	Nominal Value Unit	Test Method
Flame Rating (1.6 mm)	HB	UL 94
Optical	Nominal Value Unit	Test Method
Refractive Index	1.530	ISO 489
Transmittance	91.0 %	ISO 13468-2

Injection	Nominal Value Unit
Hopper Temperature	< 60 °C
Rear Temperature	190 to 220 °C
Middle Temperature	200 to 240 °C
Front Temperature	220 to 250 °C
Nozzle Temperature	220 to 250 °C
Processing (Melt) Temp	190 to 250 °C
Mold Temperature	40 to 70 °C
Injection Pressure	50.0 to 110 MPa
Injection Rate	Moderate-Fast
Holding Pressure	30.0 to 60.0 MPa
Back Pressure	< 15.2 MPa
Screw Speed	50 to 200 rpm

Injection Notes

Shrinkage is dependent on processing conditions and part design. Typical shrinkage values are 0,1 - 0,5%

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.



TOPAS® 8007S-04

Cyclic Olefin Copolymer

Topas Advanced Polymers GmbH

PROSPECTOR®

www.ulprospector.com

Where to Buy

Supplier

Topas Advanced Polymers GmbH

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Web: <http://www.topas.com/>

Distributor

Entec Polymers

Telephone: 800-375-5440

Web: <http://www.entecpolymers.com/>

Availability: North America

