TOPAS® 8007X-10

Cyclic Olefin Copolymer

Topas Advanced Polymers, Inc.

Message:

Product Description
TOPAS 8007X10 is a highly UV-transparent version of our 8007 series of injection molding resins. Like the rest of the 8007 grades, 8007X10 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 diagnostic and analytical products. It transmits ultraviolet light at lower wavelengths than other polymers. Analytical results are more accurate with pure TOPAS COC and its higher UV transmission for more precise analysis in contact with sensitive chemistries.
Selected Applications
Cuvettes
Microplates
Biochips
Microfluidics
Optics
High purity applications
Healthcare and food contact
Leading Attributes
UV transparency at low wavelengths
Dimensional stability with UV transmission
Purity and chemical resistance
Exceptional mold detail replication; machinable
Clarity, low birefringence, low fluorescence
Not manufactured with BPA, phthalates, or halogens
Broad regulatory compliance
Related Grades for Injection Molding, Healthcare, Optics and Diagnostics
TOPAS 8007S-04 - standard grade, appropriate for most applications
TOPAS 8007D-61 - externally lubricated 8007S-04 for blow molding of bottles, vials, etc.

General Information	
Features	Good dimensional stability
	High purity
	Moisture proof
	Copolymer
	Machinable
	Good chemical resistance
	Definition, high
	Compliance of Food Exposure
	BPA-free
	amorphous
	Halogen-free
Uses	Non-specific food applications
	Optical applications
	Medical/nursing supplies
Agency Ratings	DMF 12132
	FDA FCN 405

Appearance	Clear/transparent		
Forms	Particle		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.02	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	29	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (260°C/2.16 kg)	32.0	cm³/10min	ISO 1133
Molding Shrinkage [1]	0.10 - 0.30	%	Internal method
Water Absorption (Saturation, 23°C)	0.010	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2600	MPa	ISO 527-2/1A/1
Tensile Stress (Yield)	63.0	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)	0.025	g·mm/m²/atm/24 hr	DIN 53122
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	3.0	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C)	20	kJ/m²	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**
Volume Resistivity	> 1.0E+16	ohms·cm	IEC 60093
Relative Permittivity			IEC 60250
1 kHz	2.35		IEC 60250
10 kHz	2.35		IEC 60250
Comparative Tracking Index	> 600	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (1.60 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**	
Drying Temperature	50.0	°C	
Drying Time	4.0 - 6.0	hr	
Rear Temperature	190 - 220	°C	

Middle Temperature	200 - 240	°C
Front Temperature	220 - 250	°C
Nozzle Temperature	220 - 250	°C
Processing (Melt) Temp	190 - 250	°C
Mold Temperature	40.0 - 70.0	°C
Injection Pressure	50.0 - 110	MPa
Injection Rate	Moderate-Fast	
Holding Pressure	30.0 - 60.0	MPa
Back Pressure	< 15.2	MPa
Screw Speed	50 - 200	rpm

Injection instructions
Feed temperature: <60°C (<140°F)Max. residence time: 10 minutes, reduce Tx = 170°C (338°F)Injection speed: 50 - 150 mm/sec (2.0 - 6.0 in/sec)Nozzle type: Free flow

NOTE	
1.	Dependent on processing conditions and part design.

Recommended distributors for this material

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