TOPAS® 6013M-07

Cyclic Olefin Copolymer

Topas Advanced Polymers, Inc.

Message:

Product Description
TOPAS 6013M-07 is an injection molding grade with a wide processing window, especially suited for blow molding processes including IBM and ISBM. 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. This grade has a high (130°C) heat distortion temperature to withstand 121°C steam sterilization protocols, as well as gamma and EtO procedures.
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/gamma/steam 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 6013S-04 - standard processing version with standard flow
TOPAS 6015S-04 - higher heat distortion temperature (150°C) for 134°C protocols
TOPAS 6017S-04 - our most heat distortion resistant IM grade (HDT=170°C)
TOPAS 5013L-10 - high flow grade; lubricated version for greater processing versatility
TOPAS 5013S-04 - high flow grade without lubricant
TOPAS IT X1 - impact grade for applications requiring extra toughness

General Information	
Features	High purity
	Low extract
	Moisture proof
	Radiation disinfection
	Copolymer
	Ethylene oxide disinfection
	Good chemical resistance
	Alcohol resistance
	Heat resistance, high
	Definition, high

	Compliance of Food Exposure
	BPA-free
	amorphous
	Halogen-free
	Disinfect with steam
Uses	Blow molding applications
	Electrical/Electronic Applications
	Pipe fittings
	Optical applications
	Bottle
	Laboratory apparatus
	Food packaging
	Surgical instruments
	Drug packaging
	Medical/nursing supplies
Agency Ratings	DMF 12132
	FDA FCN 405
	ISO 10993
	USP Class VI
	Europe 10/1/2011 12:00:00 AM
Appearance	Clear/transparent
Forms	Particle
Processing Method	Injection Stretch Blow Molding
	Injection blowing molding
	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)	12	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (260°C/2.16 kg)	13.0	cm³/10min	ISO 1133
Molding Shrinkage [1]	0.50 - 0.70	%	Internal method
Water Absorption (Saturation, 23°C)	0.010	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2900	MPa	ISO 527-2/1A/1
Tensile Stress (Yield)	63.0	MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	2.6	%	ISO 527-2/1A/50
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	2.0	kJ/m²	ISO 179/1eA

Charpy Unnotched Impact Strength (23°C)	14	kJ/m²	ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (0.45 MPa, Unannealed)	130	°C	ISO 75-2/B
Glass Transition Temperature	142	°C	ISO 11357-2
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index	1.530		ISO 489
Transmittance	91.0	%	ISO 13468-2
Injection	**Nominal Value**	**Unit**	
Rear Temperature	230 - 260	°C	
Middle Temperature	240 - 270	°C	
Front Temperature	250 - 280	°C	
Nozzle Temperature	240 - 300	°C	
Processing (Melt) Temp	240 - 300	°C	
Mold Temperature	95.0 - 125	°C	
Injection Pressure	50.0 - 110	MPa	
Injection Rate	Moderate-Fast		
Holding Pressure	30.0 - 60.0	MPa	
Back Pressure	< 15.0	MPa	
Screw Speed	50 - 200	rpm	

Injection instructions
Feed Temperature: <100°C (<212°F)Max. Residence Time: <15 minutes; short interruption to cycle, 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 process conditions and part design.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

WECHAT