TOPAS® 5013F-04

Cyclic Olefin Copolymer

Topas Advanced Polymers, Inc.

Message:

Product Description
TOPAS 5013F-04 is a high temperature film extrusion grade for blends. It is a high clarity amorphous resin with high flow, high stiffness, moisture barrier, chemical resistance, thermoformability and purity for food and healthcare applications. It is used in monolayer cast blends, and in coextruded blends in both cast and blown processes, for a wide variety of film and sheet products requiring excellent optics in applications such as heat resistant blister, hot fill, and easy tear packaging. If performance at elevated temperatures is not required, we also offer lower glass transition temperature (Tg) grades of TOPAS.
Selected Applications
Decorative film and sheet
General packaging
Food packaging
Blown film
Healthcare and food contact
Leading Attributes
Gloss, hardness, chemical resistance, forming
Easy or linear tear, heat resistance, hot fill, gloss
Not manufactured with BPA, phthalates, or halogens
High strength and high productivity
Broad regulatory compliance
Related Grades for Packaging and Film Extrusion
TOPAS 6013F-04 - high temperature grade with standard flow

General Information	
Features	High purity
	Moisture proof
	Rigidity, high
	Highlight
	High strength
	Copolymer
	High liquidity
	Good chemical resistance
	Definition, high
	Compliance of Food Exposure
	BPA-free
	amorphous
	Halogen-free
Uses	Packaging
	Films
	Mixing
	Sheet
	Food packaging
	Medical/nursing supplies

Agency Ratings	FDA FCN 405 Europe 10/1/2011 12:00:00 AM
Forms	Particle
Processing Method	Film extrusion Blow film Co-extruded film cast film Thermoforming

Physical	Nominal Value	Unit	Test Method
Density	1.02	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR)			ISO 1133
190°C/2.16 kg	< 0.10	g/10 min	ISO 1133
230°C/2.16 kg	8.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR)			ISO 1133
190°C/2.16 kg	< 0.100	cm³/10min	ISO 1133
230°C/2.16 kg	9.00	cm³/10min	ISO 1133
Water Absorption (Saturation, 23°C)	0.010	%	ISO 62
Films	**Nominal Value**	**Unit**	**Test Method**
Film Thickness - Tested	70	µm	
Tensile Modulus			ISO 527-3/1
MD: 70 µm, cast film	2600	MPa	ISO 527-3/1
TD: 70 µm, cast film	2500	MPa	ISO 527-3/1
Tensile Stress			ISO 527-3/50
MD: Fracture, 70 µm, cast film	35.0	MPa	ISO 527-3/50
TD: Fracture, 70 µm, cast film	25.0	MPa	ISO 527-3/50
Tensile Elongation			ISO 527-3/50
MD: Fracture, 70 µm, cast film	1.4	%	ISO 527-3/50
TD: Fracture, 70 µm, cast film	1.1	%	ISO 527-3/50
Dart Drop Impact (70 µm, cast film)	< 36	g	ISO 7765-1
Elmendorf Tear Strength			ISO 6383-2
MD: 70 µm, cast film	0.11	N	ISO 6383-2
TD: 70 µm, cast film	0.11	N	ISO 6383-2
Oxygen Permeability (23°C, 70 µm, extruded film, 50% RH)	26	cm³·mm/m²/atm/24 hr	ASTM D3985
Water Vapor Transmission Rate (70 µm, 38°C, Cast Film, 90% RH)	0.14	g·mm/m²/atm/24 hr	ASTM F1249
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature	134	°C	ISO 11357-2
Optical	**Nominal Value**	**Unit**	**Test Method**
Gloss (60, 70.0 µm, cast film)	> 100		ISO 2813
Haze (70.0 µm, cast film)	< 1.0	%	ISO 14782

Extrusion	Nominal Value	Unit
Feed part of extruder	20 - 70	°C
Extruder Screw L/D Ratio	> 28:1	
Cylinder Zone 1 Temp.	220 - 240	°C
Cylinder Zone 2 Temp.	220 - 240	°C
Cylinder Zone 3 Temp.	220 - 240	°C
Cylinder Zone 4 Temp.	220 - 240	°C
Die Temperature	220 - 240	°C

Extrusion instructions

Head pressure: P > 140 bar / 2000 psi; Fine screen packs as neededScrew Speed: RPM > 50% nominalScrew design:
Multi-purpose or barrier screw with mixing section
Screw diameter > 60 mm / 2.5 in
Grooved Feed: Hot temperature: 120°C (212°F)

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