

TOPAS® 8007F-400

Cyclic Olefin Copolymer

Topas Advanced Polymers, Inc.

Message:

Product Description

TOPAS 8007F-400 is a robust film extrusion grade designed for blending with polyethylene (PE). It is a moderate clarity amorphous resin with high stiffness, moisture barrier, chemical resistance, thermoformability and purity for food and general purpose applications. It is used in blends in both cast and blown processes, and in monolayer and multilayer products. Leading film applications include twist wrap, forming webs, protective packaging, shrink films and labels, and easy tear packaging. Industrial uses include formed PE and PP sheet products. For property enhancement at elevated temperatures, higher glass transition temperature (Tg) grades of TOPAS are recommended.

Selected Applications

Forming films (header bags, etc.)

Protective packaging

Shrink films and labels

Twist films

Decorative sheet

Food packaging

Food contact

Leading Attributes

Clarity, forming, barrier, purity, halogen-free

Stiffness for downgauging, improved forming

High shrink, low stress, gloss, toughness

Outstanding deadfold, clean cutting

Stiffness, chemical resistance, forming, even draw

Not manufactured with BPA, phthalates, or halogens

Broad regulatory compliance

Related Grades for Packaging and Film Extrusion

TOPAS 8007F-04 - ultimate clarity extrusion grade

TOPAS 8007F-600 - robust clarity extrusion grade especially for PE blends

General Information	
Features	High purity
	Moisture proof
	Rigidity, high
	Highlight
	Copolymer
	Good chemical resistance
	Good toughness
	Compliance of Food Exposure
	General
	BPA-free
	amorphous
	Halogen-free
	Medium transparency
Uses	Packaging
	Films
	Label

Multilayer film

Industrial application

Mixing

Sheet

Food packaging

General

Agency Ratings	DMF 12132
	FDA FCN 405
	ISO 10993
	USP Class VI
	Europe 10/1/2011 12:00:00 AM

Forms	Particle
Processing Method	Film extrusion
	Blow film
	cast film
	Thermoforming

Physical	Nominal Value	Unit	Test Method
Density	1.02	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)			ISO 1133
190°C/2.16 kg	1.8	g/10 min	ISO 1133
230°C/2.16 kg	10	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR)			ISO 1133
190°C/2.16 kg	2.00	cm ³ /10min	ISO 1133
230°C/2.16 kg	11.0	cm ³ /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	2100	MPa	ISO 527-3/1
TD: 70 µm, cast film	1700	MPa	ISO 527-3/1
Tensile Stress			ISO 527-3/50
MD: Fracture, 70 µm, cast film	55.0	MPa	ISO 527-3/50
TD: Fracture, 70 µm, cast film	50.0	MPa	ISO 527-3/50
Tensile Elongation			ISO 527-3/50
MD: Fracture, 70 µm, cast film	3.4	%	ISO 527-3/50
TD: Fracture, 70 µm, cast film	3.4	%	ISO 527-3/50
Oxygen Permeability (23°C, 70 µm, extruded film, 50% RH)	25	cm ³ ·mm/m ² /atm/24 hr	ASTM D3985
Water Vapor Transmission Rate (70 µm, 23°C, Cast Film, 85% RH)	0.094	g·mm/m ² /atm/24 hr	ASTM F1249

Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	78.0	°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)	> 2.0	%	ISO 14782
Extrusion	Nominal Value	Unit	
Feed part of extruder	20 - 60	°C	
Extruder Screw L/D Ratio	> 28:1		
Cylinder Zone 1 Temp.	200 - 210	°C	
Cylinder Zone 2 Temp.	200 - 210	°C	
Cylinder Zone 3 Temp.	200 - 210	°C	
Cylinder Zone 4 Temp.	200 - 210	°C	
Die Temperature	220 - 230	°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 inch

Grooved Feed: Hot temperature: 120°C (248°F)

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