

TECHNICAL DATA SHEET

[English Units]



TOPAS[®] 5013F-04

Cyclic Olefin Copolymer (COC)

Extrusion grade with good flowability and high temperature resistance for application in coextruded films as a discrete layer or in blends with PE. Provides excellent clarity, high stiffness/modulus, high water vapor barrier properties and good thermoformability.

Property	Value	Unit	Test Standard
Physical Properties			
Density	1020	kg/m ³	ISO 1183
Melt volume rate (MVR) (230°C, 2.16kg)	9	cm ³ /10min	ISO 1133
Melt volume rate (MVR) (190°C, 2.16kg)	<0.1	cm ³ /10min	ISO 1133
Melt flow rate (MFR) (230°C, 2.16kg)	8	g/10min	calculated
Melt flow rate (MFR) (190°C, 2.16kg)	<0.1	g/10min	calculated
Water absorption (23°C-sat)	0,01	%	ISO 62
Thermal Properties			
Glass transition temperature (10°C/min)	273	°F	ISO 11357-1,-2,-3
Mechanical Properties (Film)			
Tensile modulus (machine direction)	380	kpsi	ISO 527-3
Tensile modulus (transverse direction)	360	kpsi	ISO 527-3
Tensile strength @ break (machine direction)	5100	psi	ISO 527-3
Tensile strength @ break (transverse direction)	3600	psi	ISO 527-3
Elongation at break (machine direction)	1,4	%	ISO 527-3
Elongation at break (transverse direction)	1,1	%	ISO 527-3
Elmendorf tear strength (machine direction)	11	g	ISO 6383-2
Elmendorf tear strength (transverse direction)	11	g	ISO 6383-2
Dart Drop Impact Strength, F50	<36	g	ISO 7765-1
Optical Properties (Film)			
Gloss, 60°	>100	%	ISO 2813
Haze	<1	%	ISO 14782
Barrier Properties (Film)			
Water vapor permeability @ 38°C, 90% RH	0,25	g×mil/100in ² ×day	ISO 15106-3
Oxygen permeability @ 23°C, 50% RH	60	cm ³ ×mil/100in ² ×day	ASTM D3985
Test Specimen Production (Film)			
Type of extrusion	cast		
Thickness of specimen	2,76	mil	

