TECHNICAL DATA SHEET

[English Units]

TOPAS® 6013F-04

Cyclic Olefin Copolymer (COC)

Extrusion grade with high temperature resistance for pharmaceutical, medical and food packaging applications. Can be used 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/m³	ISO 1183
Melt volume rate (MVR) (230°C, 2.16kg)	1,0	cm³/10min	ISO 1133
Melt volume rate (MVR) (190°C, 2.16kg)	<0.1	cm³/10min	ISO 1133
Melt flow rate (MFR) (230°C, 2.16kg)	0,9	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)	280	°F	ISO 11357-1,-2,-3
Mechanical Properties (Film)			
Tensile modulus (machine direction)	350	kpsi	ISO 527-3
Tensile modulus (transverse direction)	330	kpsi	ISO 527-3
Tensile strength @ break (machine direction)	8000	psi	ISO 527-3
Tensile strength @ break (transverse direction)	6500	psi	ISO 527-3
Elongation at break (machine direction)	2,4	%	ISO 527-3
Elongation at break (transverse direction)	2,2	%	ISO 527-3
Elmendorf tear strength (machine direction)	9	g	ISO 6383-2
Elmendorf tear strength (transverse direction)	9	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	0,33	g×mil/100in²×day	ISO 15106-3
Oxygen permeability @ 23°C, 50% RH	70	cm³×mil/100in²×day	ASTM D3985
Test Specimen Production (Film)			
Type of extrusion	cast		
Thickness of specimen	2,76	mil	

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