

Tritan™ MP100

Copolyester
Eastman Chemical Company

Message:

Eastman Tritan™ MP100 is an amorphous copolyester that combines excellent clarity and toughness with outstanding heat and chemical resistance. Film and sheet manufactured from this new-generation copolyester can be thermoformed with a wide processing window that allows for product designs that reflect intricate detail. Eastman Tritan™ MP100 copolyester is suitable for use with most forms of sterilization including radiation and ethylene oxide. It is NOT suitable for autoclave/steam sterilization. Eastman Tritan™ MP100 copolyester has been formulated for use in medical film, sheet, and packaging applications.

General Information			
Features	Good Chemical Resistance		
	Good Sterilizability		
	Good Toughness		
	High Clarity		
	High Heat Resistance		
Uses	Film		
	Medical Packaging		
	Medical/Healthcare Applications		
	Packaging		
	Rigid Packaging		
	Sheet		
Processing Method	Extrusion		
	Injection Molding		
	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Density	1.19	g/cm ³	ASTM D1505
Water Absorption (23°C, 24 hr)	0.50	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Taber Abrasion Resistance (23°C) ¹	23% Haze		ASTM D1044
Carbon Dioxide Permeability (23°C, 250.0 µm)	150	cm ³ · mm/m ² /atm/24 hr	ASTM D1434
PPT Tear Resistance			ASTM D2582
MD : 23°C, 250.0 µm	42	N	
TD : 23°C, 250.0 µm	56	N	
Tear Propagation Resistance			ASTM D1938
MD, Split Tear Method : 23°C, 250.0 µm	410	gf	
TD, Split Tear Method : 23°C, 250.0 µm	310	gf	
UV Transmittance ²	89	%	

Surface Energy - Polar (23°C)	45	dyne/cm	ASTM D5946
Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	250	µm	ASTM D374
Elastic Modulus - MD (250 µm)	1460	MPa	ASTM D882
Elastic Modulus - TD (250 µm)	1380	MPa	ASTM D882
Tensile Strength			ASTM D882
MD : Yield, 250 µm	41.0	MPa	
TD : Yield, 250 µm	40.0	MPa	
MD : Break, 250 µm	59.0	MPa	
TD : Break, 250 µm	52.0	MPa	
Tensile Elongation			ASTM D882
MD : Yield, 250 µm	7.0	%	
TD : Yield, 250 µm	7.0	%	
MD : Break, 250 µm	180	%	
TD : Break, 250 µm	200	%	
Dart Drop Impact ³			ASTM D1709A
-30°C, 250 µm	910	g	
-18°C, 250 µm	870	g	
23°C, 250 µm	880	g	
Elmendorf Tear Strength			ASTM D1922
MD : 250 µm	520	g	
TD : 250 µm	580	g	
Trouser Tear Resistance ⁴			ISO 6383-1
MD : 250 µm	11.0	N/mm	
TD : 250 µm	11.0	N/mm	
Oxygen Permeability (23°C, 250 µm, 50% RH)	32	cm ³ · mm/m ² /atm/24 hr	ASTM D3985
Water Vapor Transmission Rate			ASTM F1249
23°C, 100% RH, 250 µm	4.0	g/m ² /24 hr	
38°C, 100% RH, 250 µm	11	g/m ² /24 hr	
Impact	Nominal Value	Unit	Test Method
Instrumented Dart Impact (23°C, Total Energy)	4.60	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -60.0	°C	ASTM D746
Glass Transition Temperature	110	°C	DSC
CLTE - Flow (23°C)	8.8E-5	cm/cm/°C	ASTM D696
Specific Heat			DSC
60°C	1710	J/kg/°C	
100°C	1890	J/kg/°C	
150°C	2250	J/kg/°C	
200°C	2400	J/kg/°C	
250°C	2570	J/kg/°C	

Optical	Nominal Value	Unit	Test Method
Gloss (60°, 250 μm)	161		ASTM D2457
Refractive Index	1.545		ASTM D542
Transmittance (Total, 250 μm)	92.0	%	ASTM D1003
Haze (250 μm)	1.0	%	ASTM D1003

NOTE			
1.	25 cycles		
2.	UV/Vis Spectro, 380 nm		
3.	12.7 mm dia. head, 127 mm dia. clamp, 600 mm drop		
4.	200 mm/min		

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