

Sahara™ Films

Thermoplastic Polyester
Eastman Chemical Company

Message:

Eastman Sahara™ Films are developed for use in applications where increased temperature resistance is desired.

General Information			
Features	Excellent Printability		
	High Heat Resistance		
Uses	Film		
Forms	Pellets		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.22	g/cm ³	ASTM D792
Molding Shrinkage - Flow	-5.0E-3	%	ASTM D955
Water Absorption (23°C, 24 hr)	0.14	%	ASTM D570
Color			ASTM D2244
a	-0.31 to -0.020		
b	0.34 to 0.72		
L	95 to 96		
Tear Resistance ¹			ASTM D1004
MD : 23°C, 250.0 µm	42	N	
TD : 23°C, 250.0 µm	43	N	
Carbon Dioxide Permeability (30°C, 250.0 µm) ²	87	cm ³ ·mm/m ² /atm/24 hr	ASTM D1434
Tear Propagation Resistance ³			ASTM D1938
MD : 23°C, 250.0 µm	400	gf	
TD : 23°C, 250.0 µm	420	gf	
Whiteness	88.8	ASTM D2244	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale, 23°C)	115	ASTM D785	
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Yield, 23°C	53.0	MPa	
Break, 23°C	53.0	MPa	
Tensile Elongation			ASTM D638
Yield, 23°C	6.0	%	
Break, 23°C	170	%	
Flexural Modulus (23°C)	2250	MPa	ASTM D790
Flexural Strength (23°C)	79.0	MPa	ASTM D790

Films	Nominal Value	Unit	Test Method
Film Thickness - Tested	250	µm	
Secant Modulus			ASTM D882
1% Secant, MD : 250 µm	1900	MPa	
Tangent, MD : 250 µm	1800	MPa	
Tensile Strength			ASTM D882
MD : Yield, 250 µm	54.0	MPa	
TD : Yield, 250 µm	52.0	MPa	
MD : Break, 250 µm	49.0	MPa	
TD : Break, 250 µm	44.0	MPa	
Tensile Elongation			ASTM D882
MD : Yield, 250 µm	6.0	%	
TD : Yield, 250 µm	6.0	%	
MD : Break, 250 µm	150	%	
TD : Break, 250 µm	130	%	
Dart Drop Impact ⁴ (23°C, 250 µm)	600	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD : 250 µm	670	g	
TD : 250 µm	920	g	
Oxygen Permeability (30°C, 50% RH)	18	cm ³ · mm/m ² /atm/24 hr	ASTM D3985
Water Vapor Transmission Rate (38°C, 100% RH)	8.0	g/m ² /24 hr	ASTM F372
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-40°C	66	J/m	
23°C	130	J/m	
Unnotched Izod Impact			ASTM D4812
-40°C	No Break		
23°C	No Break		
Instrumented Dart Impact			ASTM D3763
-18°C, 0.250 mm, Energy at Peak Load	5.00	J	
23°C, 0.250 mm, Energy at Peak Load	4.30	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	86.0	°C	
1.8 MPa, Unannealed	78.0	°C	
Glass Transition Temperature ⁵	100	°C	ASTM D3418
Vicat Softening Temperature	102	°C	ASTM D1525 ⁶
CLTE - Flow (-30 to 30°C)	5.0E-5	cm/cm/°C	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength ⁷ (23°C, in Oil)	50	kV/mm	ASTM D149
Dielectric Constant			ASTM D150

23°C, 1 kHz	2.46		
23°C, 10 kHz	2.43		
23°C, 100 kHz	2.41		
23°C, 1 MHz	2.34		
Dissipation Factor			ASTM D150
23°C, 1 kHz	5.0E-3		
23°C, 10 kHz	8.0E-3		
23°C, 100 kHz	0.012		
23°C, 1 MHz	0.014		
Optical	Nominal Value	Unit	Test Method
Gloss			ASTM D2457
45°, 250 µm ⁸	106		
60°	105		
Refractive Index	1.566		ASTM D542
Transmittance			ASTM D1003
Total	90.0	%	
Total, 250 µm ⁹	92.0	%	
Regular, 250 µm ¹⁰	90.0	%	
Clarity ¹¹ (250 µm)	100		ASTM D1746
Haze			ASTM D1003
--	1.4	%	
250 µm ¹²	< 1.0	%	
Yellowness Index ¹³ (0.250 mm)	0.63	YI	ASTM D1925
NOTE			
1.	90°		
2.	60% RH		
3.	Split Tear Method, 254 mm/min		
4.	12.7 mm dia. head, 127 mm dia. clamp, 600 mm drop		
5.	Determined by DSC on the 2nd heating cycle.		
6.	Loading 1 (10 N)		
7.	Method A (Short-Time)		
8.	Film		
9.	Film		
10.	Film		
11.	Film		
12.	Film		
13.	Film		

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