

Product Data Sheet

Eastman Tritan Copolyester FX200

Application/Uses

- Consumer and durable goods
- Graphic Arts
- Leisure and safety
- Specialty films

Key Attributes

- Does not contain Bisphenol-A (BPA)
- Does not contain plasticizers
- Excellent clarity
- Good chemical resistance
- No pre-drying of film prior to thermoforming
- Tremendous toughness
- Very good heat resistance
- Wide thermoforming window

Product Description

Eastman Tritan FX200 is an amorphous copolyester that combines excellent clarity and toughness with outstanding heat and chemical resistance. Films manufactured from this new-generation copolyester can be thermoformed without pre-drying and with a wide processing window that allows for product designs that reflect intricate detail. *Eastman Tritan FX200* copolyester may be used in repeated use food contact articles under United States Food and Drug Administration (FDA) regulations. *Eastman Tritan FX200* copolyester is certified to NSF/ANSI Standard 51 for Food Equipment Materials.

Typical Properties (Preliminary)

General Properties			
Thickness of Film Tested	ASTM D 374	0.254 mm (0.010 in.)	
Density	ASTM D 1505	1.19 g/cm ³	
Water Vapor Transmission Rate ^d			
@ 23°C (73°F)	ASTM F 1249	4 g/m ² -24h (0.3 g/100in. ² -24h)	
@ 38°C (100°F)		10 g/m ² -24h (1 g/100in. ² -24h)	
Gas Permeability, CO ₂	ASTM D 1434	211 cm ³ -mm/m ² -24h-atm (534 cm ³ -mil/100in. ² -24h-atm)	
Gas Permeability, O ₂	ASTM D 3985	44 cm ³ -mm/m ² -24h-atm (111 cm ³ -mil/100in. ² -24h-atm)	
Elmendorf Tear Resistance			
M.D.	ASTM D 1922	3.7 N (384 gf)	
T.D.		4.2 N (433 gf)	
PPT Tear Resistance			
M.D.	ASTM D 2582	40 N (9 lbf)	
T.D.		40 N (9 lbf)	
Tear Propagation Resistance, Split Tear Method ^e			
M.D.	ASTM D 1938	3 N (1 lbf)	
M.D.		10 N/mm (55 lbf/in.)	
T.D.		2 N (1 lbf)	
T.D.		9 N/mm (51 lbf/in.)	
Tear Resistance, Trouser @ 200 mm/min			
M.D.	ISO 6383-1	10 N/mm (56 lbf/in.)	
T.D.		9 N/mm (52 lbf/in.)	
Tensile Strength @ Yield			
M.D.	ASTM D 882	43 MPa (6300 psi)	
T.D.		41 MPa (6000 psi)	
Tensile Strength @ Break			
M.D.	ASTM D 882	57 MPa (8300 psi)	
T.D.		42 MPa (5900 psi)	
Elongation @ Yield			
M.D.	ASTM D 882	8%	
T.D.		8%	
Elongation @ Break			
M.D.	ASTM D 882	114%	
T.D.		115%	
Tensile Modulus			
M.D.	ASTM D 882	1500 MPa (2.2 × 10 ⁵ psi)	
T.D.		1400 MPa (2.1 × 10 ⁵ psi)	
Dart Impact ^f			
@ 23°C (73°F)	ASTM 1709A	825 g (1.82 lb)	
@ -18°C (0°F)		825 g (1.82 lb)	
@ -30°C (-22°F)		852 g (1.88 lb)	
Puncture Resistance (Dynatup); Total Energy	ASTM D 3763	4.5 J (3.3 ft-lb)	
Water Absorption, 24 hours	ASTM D 570	0.5%	
Surface Energy			
Polar	ASTM D 5946	8 dynes/cm	
Dispersive		39 dynes/cm	
Total		47 dynes/cm	
Taber Abrasion (average at 25 cycles)	ASTM 1044	20% haze	

Thermal Properties

Class Transition Temperature (T_g)	DSC	119°C (247°F)
Specific Heat		
● 260°C (140°F)	DSC	1.7 J/g·°C (0.42 Btu/lb·°F)
● 100°C (212°F)		1.9 J/g·°C (0.46 Btu/lb·°F)
● 150°C (302°F)		2.3 J/g·°C (0.54 Btu/lb·°F)
● 200°C (392°F)		2.4 J/g·°C (0.58 Btu/lb·°F)
● 250°C (482°F)		2.6 J/g·°C (0.62 Btu/lb·°F)
Coefficient of Linear Thermal Expansion	ASTM D 696	8 (10-5)/°C (5 (10-5)/°F)

Optical Properties

Refractive Index	ASTM D 542	1.54
Yellowness Index	ASTM D 1925	0.5
UV % Transmission at 380 nm	UV/Vis Spectro	89%
Haze	ASTM D 1003	0.8%
Gloss @ 60°	ASTM D 2457	158
Light Transmission (Total Transmittance)	ASTM D 1003	93%

Comments

Properties reported here are based on limited testing. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.