



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 x 10 ⁵ psi)
T.D.		1400 MPa (2.1 x 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		
Glass Transition Temperature (T _g)	DSC	119°C (247°F)
Specific Heat		
@ 60°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 (x10-5/°C) (5 (x10-5/°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.