Product Data Sheet

Eastman Tritan™ Copolyester TX1800

Application/Uses

- Consumer and durable goods
- Extrusion blow molding
- Injection stretch blow molding

Key Attributes

- Ease of processing
- Excellent clarity
- Excellent hydrolytic stability
- Good chemical resistance
- Good heat resistance
- Outstanding impact resistance

Product Description

Eastman Tritan™ Copolyester TX1800 is an amorphous copolyester specifically developed for use in blow molding applications. Its most outstanding features are excellent toughness, hydrolytic stability, heat resistance, and chemical resistance. In addition, this new generation copolyester offers excellent appearance and clarity. Eastman Tritan™ Copolyester TX1800 may be used in repeated use food contact articles under United States Food and Drug Administration (FDA) regulations.

This product is certified to NSF/ANSI Standard 51 for Food Equipment Materials.

Typical Properties

Property[a]	Test[b] Method	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.18
Mold Shrinkage	D 955	0.006 mm/mm (0.006 in./in.)
Mechanical Properties		
Tensile Stress @ Yield	D 638	45 MPa (6500 psi)
Tensile Stress @ Break	D 638	52 MPa (7600 psi)
Elongation @ Yield	D 638	7%
Elongation @ Break	D 638	139%
Tensile Modulus	D 638	1609 MPa ($2.3x10^5$ psi)
Flexural Modulus	D 790	1522 MPa ($2.2x10^5$ psi)
Flexural Yield Strength	D 790	64 MPa (9300 psi)
Rockwell Hardness, R Scale	D 785	110
Izod Impact Strength, Notched @ 23°C (73°F)	D 256	842 J/m (15.8 ft·lbf/in.)

Impact Strength, Unnotched @ 23°C (73°F)	D 4812	NB
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C (73°F)	D 3763	62 J (46 ft·lbf)
@ 0°C (32°F)	D 3763	65 J (48 ft·lbf)
@ -40°C (-40°F)	D 3763	67 J (49 ft·lbf)
Mechanical Properties (ISO Method)		
Tensile Strength @ Yield	ISO 527	45 MPa
Tensile Stress @ Break	ISO 527	51 MPa
Elongation @ Yield	ISO 527	7%
Elongation @ Break	ISO 527	142%
Tensile Modulus	ISO 527	1569 MPa
Flexural Modulus	ISO 178	1494 MPa
Flexural Strength	ISO 178	60 MPa
Izod Impact Strength, Notched		
@ 23°C	ISO 180	78 kJ/m^2
@ -40°C	ISO 180	12 kJ/m^2
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	101°C (214°F)
@ 1.82 MPa (264 psi)	D 648	85°C (185°F)
Optical Properties		
Total Transmittance	D 1003	91%
Haze	D 1003	<1%
Typical Processing Conditions		
Drying Temperature		88°C (190°F)
Drying Time		4-6 hrs
EBM Processing Melt Temperature		235-255°C (455-490°F)
EBM Blow Mold Temperature		15-50°C (60-122°F)
ISBM Processing Melt Temperature		260-280°C (500-536°F)
ISBM Injection Mold Temperature		40-65°C (104-149°F)
ISBM Blow Mold Temperature		35-55°C (95-131°F)

[a] *Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.*

[b] *Unless noted otherwise, the test method is ASTM.*

[c] *Units are in SI or US customary units.*

Comments

Properties reported here are based on limited testing of Tritan TX1800. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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