

Product Data Sheet

Eastman Tritan™ Copolyester TX1000

Application/Uses

- Appliances
- Consumer and durable goods
- Housewares
- Small appliances

Key Attributes

- Ease of processing
- Excellent clarity
- Excellent hydrolytic stability
- Fast drying times
- Good chemical resistance
- Good heat resistance
- Outstanding impact resistance
- Quick cycle times

Product Description

Eastman Tritan™ TX1000 is an amorphous copolyester with excellent appearance and clarity. Its most outstanding features are excellent toughness, hydrolytic stability, and heat and chemical resistance. This new-generation copolyester can also be molded into various applications without incorporating high levels of residual stress. Combined with Tritan™ copolyester's outstanding chemical resistance and hydrolytic stability, these features give molded products enhanced durability in the dishwasher environment, which can expose products to high heat, humidity and aggressive cleaning detergents. Tritan™ TX1000 copolyester may be used in repeated use food contact articles under United States Food and Drug Administration (FDA) regulations. Tritan™ TX1000 copolyester is certified to NSF/ANSI Standard 51 for Food Equipment Materials.

Typical Properties (Preliminary)

Property ^a	Test ^b Method	Typical Value, Units ^c
General Properties		
Specific Gravity	D 792	1.18
Mold Shrinkage	D 955	0.005-0.007 mm/mm (0.005-0.007 in./in.)
Mechanical Properties		
Tensile Stress @ Yield	D 638	43 MPa (6200 psi)
Tensile Stress @ Break	D 638	53 MPa (7700 psi)
Elongation @ Yield	D 638	6%
Elongation @ Break	D 638	210%
Tensile Modulus	D 638	1550 MPa (2.25 x 10 ⁵ psi)
Flexural Modulus	D 790	1550 MPa (2.25 x 10 ⁵ psi)

Flexural Yield Strength	D 790	62 MPa (9000 psi)
Rockwell Hardness, R Scale	D 785	112
Izod Impact Strength, Notched @ 23°C (73°F)	D 256	980 J/m (18.4 ft·lbf/in.)
Impact Strength, Unnotched @ 23°C (73°F)	D 4812	NB

Mechanical Properties (ISO Method)

Tensile Strength @ Yield	ISO 527	47 MPa
Tensile Stress @ Break	ISO 527	58 MPa
Elongation @ Yield	ISO 527	7%
Elongation @ Break	ISO 527	185%
Tensile Modulus	ISO 527	1548 MPa
Flexural Modulus	ISO 178	1495 MPa
Flexural Strength	ISO 178	59 MPa
Izod Impact Strength, Notched @ -40°C	ISO 180	20 kJ/m ²
@ 23°C	ISO 180	93 kJ/m ²

Thermal Properties

Deflection Temperature @ 0.455 MPa (66 psi)	D 648	99°C (210°F)
@ 1.82 MPa (264 psi)	D 648	85°C (185°F)

Optical Properties

Total Transmittance	D 1003	90%
Haze	D 1003	<1%

Typical Processing Conditions

Drying Temperature	88°C (190°F)
Drying Time	4-6 hrs
Processing Melt Temperature	260-282°C (500-540°F)
Mold Temperature	38-66°C (100-150°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. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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