

# Product Data Sheet

## Eastman Tritan™ Copolyester TX1001

### Application/Uses

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

### Key Attributes

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

### Product Description

Eastman Tritan™ TX1001 is an amorphous copolyester with excellent appearance and clarity. EastmanTritan™ TX1001 contains a mold release derived from vegetable based sources. 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™ TX1001 copolyester may be used in repeated use food contact articles under United States Food and Drug Administration (FDA) regulations. Tritan™ TX1001 copolyester is certified to NSF/ANSI Standard 51 for Food Equipment Materials and is also certified to NSF/ANSI Standard 61 – Drinking Water System Components-Health Effects.

### Typical Properties (Preliminary)

Property <sup>a</sup>	Test <sup>b</sup> Method	Typical Value, Units <sup>c</sup>
<b>General Properties</b>		
Specific Gravity	D 792	1.18
Mold Shrinkage	D 955	0.005-0.007 mm/mm (0.005-0.007 in./in.)
<b>Mechanical Properties</b>		
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 <sup>5</sup> psi )
Flexural Modulus	D 790	1550 MPa (2.25 x 10 <sup>5</sup> 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
<b>Mechanical Properties (ISO Method)</b>		
Tensile Stress @ Yield	ISO 527	43 MPa
Tensile Strength @ 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 @ 23°C	ISO 180	93 kJ/m <sup>2</sup>
@ -40°C	ISO 180	20 kJ/m <sup>2</sup>
<b>Thermal Properties</b>		
Deflection Temperature @ 0.455 MPa (66 psi)	D 648	99°C (210°F)
@ 1.82 MPa (264 psi)	D 648	85°C (185°F)
<b>Optical Properties</b>		

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

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**Typical Processing Conditions**

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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)

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<sup>a</sup> Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

<sup>b</sup> Unless noted otherwise, the test method is ASTM.

<sup>c</sup> 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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