

Technical Data Sheet

Eastman Tritan™ Copolyester TX1001

Applications

- Appliances (food contact)
- Automotive
- Chocolate molds
- Compounders
- Consumer electronics
- Consumer housewares - food contact (FC)
- Consumer housewares-NFC
- Displays/in-store fixtures
- Electronic packaging
- Equipment & machinery
- Filtration
- Industrial
- Large appliances non-food contact
- Lighting
- Non-kitchen appliances
- Non-medical housings & hardware for elec
- Outdoor signs
- Packaging components non food contact
- Packaging tape
- Personal care & cosmetics packaging
- Personal care bottles
- Personal care packaging
- Point-of-purchase
- Protective & performance film
- Small appliances non-food contact
- Sporting equipment
- Tools
- Toys
- Water/sport bottles

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™ TX1001 is an amorphous copolyester with excellent appearance and clarity. Tritan 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'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 may be used in repeated use food contact articles under United States Food and Drug Administration (FDA) regulations. Tritan TX1001 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

Property ^a	Test Method ^b	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 (ISO Method)		
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 ²
@ -40°C	ISO 180	20 kJ/m ²
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
Optical Properties		
Total Transmittance	D 1003	90 %
Haze	D 1003	<1 %
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)

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)

^aUnless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

^bUnless noted otherwise, the test method is ASTM.

^cUnits are in SI or US customary units.

Technical Disclaimer

Eastman makes no representation and disclaims any warranty that the material in any particular shipment will conform exactly to the values given. Values as well as the performance of the final molded article may be affected by various factors such as the part design, mold design or tooling, drying, processing conditions as well as coloring or pigmentation of the product. No warranty of merchantability or fitness for use is made, and nothing herein waives any of the Seller's conditions of sale. You must make your own determination of the suitability of this product in your specific application due to the many factors (e.g. design, processing and conditions of use) that affect the performance of the final molded article. Suitability of use should be evaluated with appropriate testing and analysis. The processing melt temperature and mold temperature refer to the actual resin melt temperature and actual mold surface temperature respectively. Consider overall resin residence time, part shot size utilization and part geometry to set appropriate processing melt temperature and mold temperature in order to minimize IV loss and maximize molded part performance.

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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