Tritan™ TX1001

Copolyester

Eastman Chemical Company

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Technical Data

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.

General

Material Status	• Commercial: Active		
Literature [1]	• Processing - Injection Molding Guide (English) • Technical Datasheet (English)		
UL Yellow Card [2]	• E118289-100074991		
Search for UL Yellow Card	• Eastman Chemical Company • Tritan™		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Mold Release		
Features	• Amorphous • Chemical Resistant • Copolymer • Durable • Fast Molding Cycle	• Food Contact Acceptable • Good Mold Release • Good Processability • Good Toughness • High Clarity	• High Heat Resistance • High Impact Resistance • Hydrolytically Stable • Pleasing Surface Appearance
Uses	• Appliances • Consumer Applications	• Household Goods • White Goods & Small Appliances	
Agency Ratings	• FDA Food Contact, Unspecified Rating	• NSF STD-51	• NSF STD-61
Processing Method	• Injection Molding		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity	1.18	1.18 g/cm³	ASTM D792
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Modulus (73°F (23°C))	225000 psi	1550 MPa	ASTM D638 ISO 527-2
Tensile Strength			
Yield, 73°F (23°C)	6240 psi	43.0 MPa	ASTM D638 ISO 527-2
Break, 73°F (23°C)	7690 psi	53.0 MPa	ASTM D638
Break, 73°F (23°C)	8410 psi	58.0 MPa	ISO 527-2
Tensile Elongation			
Yield, 73°F (23°C)	6.0 %	6.0 %	ASTM D638
Yield, 73°F (23°C)	7.0 %	7.0 %	ISO 527-2
Break, 73°F (23°C)	210 %	210 %	ASTM D638
Break, 73°F (23°C)	190 %	190 %	ISO 527-2
Flexural Modulus			
73°F (23°C)	225000 psi	1550 MPa	ASTM D790
73°F (23°C)	217000 psi	1500 MPa	ISO 178
Flexural Stress			
73°F (23°C)	8560 psi	59.0 MPa	ISO 178
Yield, 73°F (23°C)	8990 psi	62.0 MPa	ASTM D790

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Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			
73°F (23°C)	18 ft·lb/in	980 J/m	ASTM D256
-40°F (-40°C)	9.5 ft·lb/in²	20 kJ/m²	ISO 180
73°F (23°C)	44 ft·lb/in²	93 kJ/m²	ISO 180
Unnotched Izod Impact (73°F (23°C))	No Break	No Break	ASTM D4812
Hardness	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Rockwell Hardness (R-Scale, 73°F (23°C))	112	112	ASTM D785
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	210 °F	99.0 °C	
264 psi (1.8 MPa), Unannealed	185 °F	85.0 °C	
Optical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Transmittance (Total)	90.0 %	90.0 %	ASTM D1003
Haze	< 1.0 %	< 1.0 %	ASTM D1003

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	190 °F	88 °C
Drying Time	4.0 to 6.0 hr	4.0 to 6.0 hr
Processing (Melt) Temp	500 to 540 °F	260 to 282 °C
Mold Temperature	100 to 151 °F	38 to 66 °C

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[3] Typical properties: these are not to be construed as specifications.

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