

Technical Data Sheet

Eastman Tritan™ Copolyester MX811

Applications

- Blood contact and dialysis
- Blood tubes
- Fluid administration
- Medical devices
- Medical equipment
- Medical labware

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 MX811 is an amorphous copolyester with excellent appearance and clarity. Tritan MX811 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. Tritan MX811 has been formulated for medical devices. Tritan MX811 has been tested for FDA/ISO 10993 and USP Class VI Biological Evaluation testing after Gamma and ETO sterilization.

Typical Properties

Property ^a	Test Method ^b	Typical Value, Units ^c
General Properties		
Specific Gravity	D 792	1.17
Mold Shrinkage	D 955	0.005-0.007 mm/mm (0.005-0.007 in./in.)
Mechanical Properties		
Tensile Stress @ Yield	D 638	44 MPa (6400 psi)
Tensile Stress @ Break	D 638	53 MPa (7700 psi)
Elongation @ Yield	D 638	7 %
Elongation @ Break	D 638	140 %
Tensile Modulus	D 638	1585 MPa (2.28 x 10 ⁵ psi)
Flexural Modulus	D 790	1585 MPa (2.28 x 10 ⁵ psi)
Flexural Yield Strength	D 790	66 MPa (9600 psi)
Rockwell Hardness, R Scale	D 785	115
Izod Impact Strength, Notched @ 23°C (73°F)	D 256	650 J/m (12.2 ft-lbf/in.)
Impact Strength, Unnotched @ 23°C (73°F)	D 4812	NB
Optical Properties		
Total Transmittance	D 1003	92 %
Haze	D 1003	<1 %
Thermal Properties		
Deflection Temperature @ 0.455 MPa (66 psi)	D 648	109 °C (228 °F)
@ 1.82 MPa (264 psi)	D 648	92 °C (198 °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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