

Technical Data Sheet
Eastman Tritan™ Copolyester MX711

Application/Uses

- Blood Contact
- IV Components

Key Attributes

- Excellent clarity
- Excellent hydrolytic stability
- Fast cycle times
- Fast drying times
- Good chemical resistance
- Good color stability upon ETO sterilization
- Good color stability upon gamma sterilization
- Good heat resistance
- Improved processability over traditional copolyesters
- Outstanding impact resistance

Product Description

Eastman Tritan™ Copolyester MX711 is an amorphous product with excellent appearance and clarity. Eastman Tritan™ Copolyester MX711 contains a mold release derived from vegetable based sources. Eastman Tritan™ Copolyester MX711 has many outstanding features that include excellent toughness, hydrolytic stability, heat resistance, and chemical resistance. Eastman Tritan™ Copolyester MX711 has been formulated for medical devices. Eastman Tritan™ Copolyester MX711 has been tested for FDA/ISO 10993 and USP Class VI Biological Evaluation testing after Gamma and ETO sterilization.

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.)
@ -40°C (-40°F)	D 256	110 J/m (2.1 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	NB
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C (73°F)	D 3763	61 J (45 ft·lbf)
@ -40°C (-40°F)	D 3763	66 J (49 ft·lbf)
Mechanical Properties (ISO Method)		
Tensile Strength @ Yield	ISO 527	43 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		
@ 23°C	ISO 180	93 kJ/m ²
@ -40°C	ISO 180	20 kJ/m ²
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	99°C (210°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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