

# Technical Data Sheet

## Eastman Tritan™ Copolyester MX710

### Applications

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

### 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 MX710 is an amorphous product with excellent appearance and clarity. Eastman Tritan™ Copolyester MX710 has many outstanding features that include excellent toughness, hydrolytic stability, heat resistance, and chemical resistance. Eastman Tritan™ Copolyester MX710 has been formulated for medical devices.

### Typical Properties

Property <sup>a</sup>	Test Method <sup>b</sup>	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 (ISO Method)</b>		
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 <sup>2</sup>
@ -40°C	ISO 180	20 kJ/m <sup>2</sup>
<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.)

@ -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)
<b>Optical Properties</b>		
Total Transmittance	D 1003	90 %
Haze	D 1003	<1 %
<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>Typical Processing Conditions</b>		
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)

<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.

## Eastman Medical Disclaimer

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## 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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