EASTMAN

Technical Data Sheet

Eastman Tritan™ Copolyester MXF121, Natural

Applications

- Device housings
- Medical devices
- Medical equipment

Key Attributes

- Ease of processing
- Excellent hydrolytic stability
- Fast cycle times
- Fast drying times
- Good chemical resistance
- Good heat resistance
- Good melt flowability
- Good toughness

Product Description

Eastman Tritan™ Copolyester MXF121 is an amorphous opaque product. Eastman Tritan™ Copolyester MXF121 contains a mold release derived from vegetable based sources. Eastman Tritan™ Copolyester MXF121 has many outstanding features that include excellent toughness, hydrolytic stability, heat resistance, chemical resistance, and melt flowability. Eastman Tritan™ Copolyester MXF121 has been formulated for medical devices. Eastman Tritan™ Copolyester MXF121 has passed FDA/ISO 10993 testing for cytotoxicity, skin sensitization, and intracutaneous reactivity.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.19
Mold Shrinkage	D 955	0.003-0.006 mm/mm (0.003-0.006 in./in.)
Mechanical Properties		
Tensile Stress @ Yield	D 638	43 MPa (6200 psi)
Tensile Stress @ Break	D 638	47 MPa (6780 psi)
Elongation @ Yield	D 638	6 %
Elongation @ Break	D 638	133 %
Tensile Modulus	D 638	1605 MPa (2.31 x 10^5 psi)
Flexural Modulus	D 790	1748 MPa (2.53 x 10^5 psi)
Rockwell Hardness, R Scale	D 785	109
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	183 J/m (3.4 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	94 °C (201 °F)
@ 1.82 MPa (264 psi)	D 648	83 °C (181 °F)
Flammability		
@ Thickness 1.5 mm	UL 94	V2
@ Thickness 3.0 mm	UL 94	V2
Typical Processing Conditions		
Drying Temperature		88 °C (190 °F)
Drying Time		4-6 hrs
Processing Melt Temperature		250-275 °C (482-527 °F)

Mold Temperature	24-66 °C (75-150 °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 typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

Eastman Medical Disclaimer

It is the responsibility of the medical device manufacturer ("Manufacturer") to determine the suitability of all component parts and raw materials, including any Eastman product, used in its final product in order to ensure safety and compliance with requirements of the United States Food and Drug Administration (FDA) or other international regulatory agencies. Eastman products have not been designed for nor are they promoted for end uses that would be categorized by either the United States FDA or by the International Standards Organization (ISO) as implant devices. Eastman products are not intended for use in the following applications: (1) in any bodily implant applications for greater than 30 days, based on FDA-Modified ISO-10993, Part 1 "Biological Evaluation of Medical Devices" tests (including any cosmetic, reconstructive or reproductive implant applications); (2) in any cardiac prosthetic device application, regardless of the length of time involved, including, without limitation, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass assisted devices, or (3) as any critical component in any medical device that supports or sustains human life. For manufacturers of medical devices, biological evaluation of medical devices is performed to determine the potential toxicity resulting from contact of the component materials of the device with the body. Tests are defined in FDA-Modified ISO-10993, Part 1 'Biological Evaluation of Medical Devices'. Limited testing information for certain Eastman products is available upon request. The Manufacturer of the medical device is responsible for the biological evaluation of the finished medical device. The suitability of an Eastman product in a given end-use environment is dependent upon various conditions including, without limitation, chemical compatibility, temperature, part design, sterilization method, residual stresses, and external loads. It is the responsibility of the Manufacturer to evaluate its final product under actual end-use requirements and to adequately advise and warn purchasers and users thereof.