EASTMAN

Technical Data Sheet

Eastman Tritan™ Copolyester MXF421HF-20057FC Onyx Black

Applications

- Medical equipment
- Medical housings and hardware

Key Attributes

- Ease of processing
- Excellent chemical resistance
- Excellent hydrolytic stability
- Good toughness

Product Description

Eastman Tritan MXF421HF copolyester has been formulated for medical devices and meets UL94 V2 compliance at 1.5 mm. Tritan MXF421HF has passed ISO 10993 testing for cytotoxicity, skin sensitization, and intracutaneous reactivity. Tritan MXF421HF has many outstanding features that include excellent toughness, hydrolytic stability, heat resistance, chemical resistance, and melt flowability to fill complex parts. Tritan MXF421HF contains a mold release derived from vegetable-based sources.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.21
Mold Shrinkage	D 955	0.003-0.006 mm/mm
Mechanical Properties		
Tensile Strength @ Yield	D 638	46 MPa
Tensile Modulus	D 638	1700 MPa
Elongation @ Break	D 638	>50 %
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	900 J/m
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	92 °C
@ 1.82 MPa (264 psi)	D 648	81 °C
Flammability		
@ Thickness 1.5 mm	UL 94	V2
Melt Flow[d]	D 1238	12-16 g/10 min
Typical Drying Conditions		
Drying Temperature		80 °C
Drying Time		4-6 hrs
Typical Processing Conditions		
Mold Temperature		25-50 °C
Processing Melt Temperature		260-280 °C

[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.*
[d] *260 Celsius, 2.16 kg*

General

Eastman makes no representation and disclaims any warranty that the material in any particular shipment will conform exactly to the values given. This is a compounded product produced from various components mixed together in an extruder. 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.

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 Chemical Company 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. Eastman Chemical Company precommercial products offered the medical market will met selected FDA-Modified ISO-10993, Part 1 “Biological Evaluation of Medical Devices” tests with human tissue contact time of 30 days or less. The tests include: cytotoxicity test, skin sensitization test and intracutaneous inject test. The Manufacturer 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.

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.

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