Product Data Sheet

Eastar™ Polyester MN052

Application/Uses

- Drug Delivery
- Labware
- Medical

Key Attributes

- Chemical resistance to most medical solvents including lipids and IPA
- Gamma and E-beam color stability

Product Description

Eastar™ Polyester MN052 has been tested for FDA/ISO 10993 and USP Class VI Biological Evaluation testing after Gamma and EtO sterilization. Eastar™ Polyester MN052 does not contain a mold release. It has a relatively high flex modulus and yield strength. This product has high flow characteristics.

This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.
The GREENGUARD INDOOR AIR QUALITY CERTIFIED® Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute (GEI). GEI is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. The GREENGUARD Certification Program is an industry independent, third-party testing program for low-emitting products and materials for indoor environments. For more information about GEI and to obtain printable certificates for Eastman™ Copolyesters, visit www.greenguard.org. Choose Eastman Chemical Company under the Manufacturer category and click search to display a list of our products.

Typical Properties

Property[a]	Test[b] Method	Typical Value, Units[c]
Injection Molded Properties		
Specific Gravity	D 792	1.32
Water Absorption, 24 h immersion	D 570	0.1%
Mold Shrinkage Parallel to Flow, 3.2-mm (0.125-in.) thickness	D 955	0.004 mm/mm (0.004 in./in.)
Tensile Stress @ Yield	D 638	57 MPa (8300 psi)
Tensile Stress @ Break	D 638	26 MPa (3800 psi)
Elongation @ Yield	D 638	4%
Flexural Modulus	D 790	2500 MPa (3.6 x 10^5 psi)
Flexural Yield Strength	D 790	81 MPa (11700 psi)
Rockwell Hardness, R Scale	D 785	110
Izod Impact Strength, Notched @ 23°C (73°F)	D 256	51 J/m (1.0 ft·lbf/in.)

@ -40°C (-40°F)	D 256	36 J/m (0.7 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	NB
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	66°C (151°F)
@ 1.82 MPa (264 psi)	D 648	62°C (144°F)
Vicat Softening Temperature @ 1 kg load	D 1525	79°C (174°F)
Dielectric Constant		
1 kHz	D 150	3.2
1 MHz	D 150	3.0
Dissipation Factor		
1 kHz	D 150	0.008
1 MHz	D 150	0.02
Arc Resistance	D 495	155 sec
Volume Resistivity	D 257	10^{16} ohm·cm
Surface Resistivity	D 257	10^{16} ohms/square
Dielectric Strength, Short Time, 500 V/sec rate-of-rise	D 149	15.7 kV/mm (400 V/mil)

Typical Processing Conditions	
Drying Temperature	150-160°C (300-320°F)
Drying Time	4-6 hrs
Processing Melt Temperature	275-295°C (530-565°F)
Mold Temperature	10-30°C (50-90°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 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 products offered for the medical market have 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, sensitization, irritation or intracutaneous reactivity, systemic toxicity (acute), subchronic toxicity (sub-acute), implantation, hemocompatibility. 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.

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