EASTMAN

Technical Data Sheet

Eastar™ Copolyester MN058

Applications

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

Key Attributes

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

Product Description

Meets ISO 10993 and/or USP Class VI biocompatibility requirements.
Eastar™ Copolyester MN058 is a medical grade base with brilliantly clear polymers that have excellent impact strength, chemical resistance, dimensional stability, and low shrinkage rates. It has a relatively high flex modulus and yield strength. This product has high flow characteristics. It does not contain a mold release or ultraviolet stabilizer.

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 . Choose Eastman Chemical Company under the Manufacturer category and click search to display a list of our products.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.33
Mold Shrinkage	D 955	0.002 mm/mm (0.002 in./in.)
Water Absorption, 24 h immersion	D 570	0.19 %
Mechanical Properties		
Tensile Stress @ Yield	D 638	58 MPa (8400 psi)
Tensile Stress @ Break	D 638	24 MPa (3500 psi)
Elongation @ Yield	D 638	4 %
Elongation @ Break	D 638	90 %
Flexural Yield Strength	D 790	78 MPa (11300 psi)
Flexural Modulus	D 790	2400 MPa (3.5 x 10^5 psi)
Rockwell Hardness, R Scale	D 785	111
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	56 J/m (1.0 ft·lbf/in.)
@ -40°C (-40°F)	D 256	33 J/m (0.6 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	2446 J/m (46 ft·lbf/in.)
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C (73°F)	D 3763	32 J (24 ft·lbf) 38 J (28 ft·lbf)

@ -40°C (-40°F)	D 3763	
Optical Properties		
Total Transmittance	D 1003	82 %
Haze	D 1003	< 1 %
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	69 °C (156 °F)
@ 1.82 MPa (264 psi)	D 648	63 °C (145 °F)
Vicat Softening Temperature		
@ 1 kg load	D 1525	80 °C (176 °F)
Typical Processing Conditions		
Drying Temperature		160 °C (320 °F)
Drying Time		4-6 hrs
Processing Melt Temperature		277-293 °C (530-560 °F)
Mold Temperature		16-32 °C (60-90 °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.*

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.

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.