

Technical Data Sheet DuraStar™ Polymer MN610 Natural



Applications

- Blood contact and dialysis
- Fluid administration
- Medical devices

Product Description

DuraStar[™] Polymer MN610 Natural polymer has excellent appearance and is nearly water-clear. Benefits include toughness, chemical resistance, and excellent processing characteristics. MN610 has very good toughness as shown by Izod impact resistance. Easy to process, it flows readily and fills intricate molds. This product does not contain a mold release.

Typical Properties

General PropertiesSpecific GravityD 7921.2Mold Shrinkage Parallel to Flow, 3.2-mm (0.125- D 9550.002-0.006 mm/mm (0.002-0.006m., Ithicknessin., IthicknessTensile Strength @ YieldISO 52747 MPaTensile Strength @ BreakISO 52746 MPaElongation @ YieldISO 52746 MPaElongation @ YieldISO 52746 MPaElongation @ BreakISO 527200 %Tensile StrengthISO 5271800 MPaFlexural ModulusISO 5271800 MPaFlexural ModulusISO 1781850 MPaFlexural Strength, Notched $(a 40^\circ C)$ ISO 180 $(a 40^\circ C)$ ISO 1807.8 kJ/m² $(a 40^\circ C)$ ISO 1807.8 kJ/m² $(a 53^\circ C)$ ISO 1807.8 kJ/m² $(a 53^\circ C)$ ISO 1807.8 kJ/m² $(a 40^\circ C)$ ISO 1807.8 kJ/m² $(a 53^\circ C)$ ISO 1807.8 kJ/m² $(a 53^\circ C)$ ISO 1807.8 kJ/m² $(a 54^\circ C)$ ISO 1807.8 kJ/m² $(a 54^\circ C)$ ISO 1807.8 kJ/m² $(a 54^\circ C)$ D 63851 MPa (7400 psi)Elongation @ BreakD 63851 MPa (7400 psi)Elongation @ Brea	Property ^a	Test Method ^b	Typical Value, Units ^c
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@ -40°C (-40°F) D 4812 NB Impact Resistance (Puncture), Energy @ Max. Load Impact Resistance (Puncture), Energy @ Max. Load	Impact Strength, Unnotched		
Impact Resistance (Puncture), Energy @ Max. Load	@ 23°C (73°F)	D 4812	NB
	@ -40°C (-40°F)	D 4812	NB
@ 23°C (73°F) D 3763 42 J (31 ft·lbf)	Impact Resistance (Puncture), Energ	y @ Max. Load	
	@ 23°C (73°F)	D 3763	42 J (31 ft·lbf)

@ -40°C (-40°F)	D 3763	48 J (35 ft·lbf)
Optical Properties		
Haze	D 1003	0.3 %
Regular Transmittance	D 1003	89 %
Total Transmittance	D 1003	91 %
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	74 °C (165 °F)
@ 1.82 MPa (264 psi)	D 648	65 °C (149 °F)
Typical Processing Condition	S	
Drying Temperature		70 °C (160 °F)
Drying Time		3 hrs
Processing Melt Temperature		230-280 °C (450-530 °F)
Mold Temperature		15-30 °C (60-80 °F)

^aUnless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

^bUnless noted otherwise, the test method is ASTM.

^cUnits 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.

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