

Technical Data Sheet Eastar™ Copolyester 6763

Applications

- Flexible medical device packaging
- Pharmaceutical packaging
- Rigid medical packaging

Key Attributes

- Easy primary & secondary operations
- Excellent clarity
- Excellent toughness
- Gamma, ebeam, ETO sterilization stable

Product Description

Meets ISO 10993 and/or USP Class VI biocompatibility requirement; Food Contact Status compliant. Eastar[™] 6763 copolyester is a clear, amorphous material that can be molded and extruded with ease. Its excellent performance properties include clarity, toughness, good melt strength, no dusting, no stress whitening, good heat sealability, easy cutting and thermoforming. Eastar 6763 may be colored using color concentrates, dry colors, or liquid colorants. Eastar 6763 can be safely sterilized with proper ethylene oxide, radiation, or electron beam methods without property loss or color shift. It is well suited for a variety of applications including, medical packaging, cosmetics and personal care packaging, food and beverage packaging, and display & signs.

In medical applications Eastar 6763 provides:

- Superior, long-term clarity provides easy identification of instruments
- Excellent puncture resistance and impact toughness ensure package integrity
- Excellent ability to be subjected to several methods of sterilization, providing flexibility and security to the device manufacturer
- Excellent optical and physical property stability post sterilization
- Good melt strength offers wide processing latitude and ease in thermoforming

The production and trimming of rigid medical trays made from sheet of Eastar 6763 results in little or no dust or particulates. After the thermoformed trays are made, they are put in polybags. The polybags of trays are then placed in protective boxes for storage or shipment. As long as the polybags in the protective boxes are intact and no outside contamination is evident, the thermoformer or medical device manufacturer should not need to clean the tray prior to packaging a device and sealing the package. If contamination is found on the medical trays and cleaning is required, use a lint-free towel. Blowing the tray out with filtered, deionized, non-lubricated air is also acceptable, assuming this does not stir up dust from the surrounding area. Using alcohol, which could cause crazing, or water, which would not evaporate, is not recommended.

This product has been *CRADLE TO CRADLE CERTIFIED*TM Bronze, with Material Health Certificate, Platinum. The *CRADLE TO CRADLE CERTIFIED* mark is a registered certification mark used under license through the Cradle to Cradle Products Innovation Institute, a nonprofit organization that administers the publicly available *Cradle to Cradle Certified*TM Product Standard which provides designers and manufacturers with criteria and requirements for continually improving product materials and manufacturing processes. The *Cradle to Cradle Certified*TM Product Standard guides designers and manufacturers through a continual improvement process that looks at a product through five quality categories—material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness. A product receives an achievement level in each category—Basic, Bronze, Silver, Gold, or Platinum—with the lowest achievement level representing the product's overall mark.

The Material Health Certificate provides manufacturers with a trusted way to communicate their efforts to identify and replace chemicals of concern in their products. For more information about Cradle to Cradle certification and to obtain printable certificates for Eastman copolyesters, visit <u>www.c2ccertified.org</u>. Search for Eastman Chemical Company in *Cradle to Cradle Certified* Products Registry.

Typical Properties

Property^a

Test Method^b

Typical Value, Units^C





Electrical Properties		
Dielectric Constant	D 150	2.6
1 kHz	D 150	2.4
1 MHz	D 150	2.7
Dissipation Factor		0.005
1 kHz	D 150	0.02
1 MHz	D 150	158 sec
Arc Resistance	D 495	
Volume Resistivity	D 257	10 ¹⁵ ohm⋅cm
Surface Resistivity	D 257	10 ¹⁶ ohms/square
Dielectric Strength, Short Time, 500) D 149	16 kV/mm (410 V/mil)
V/sec rate-of-rise Film Properties		
Thickness of Film Tested	D 374	250 Microns (10 mils)
		1.27 g/cm ³
Density	D 1505	0.8 %
Haze	D 1003	0.0 /0
Gloss		108
@ 45°	D 2457	85 %
Transparency	D 1746	
Regular Transmittance	D 1003 Modified	89 %
Total Transmittance	D 1003 Modified	91 %
Water Vapor Transmission Rate ^e	F 1249	7 g/m ² ·24h (0.5 g/100in. ² ·24h)
Gas Permeability, CO ₂	D 1434	49 cm ³ ·mm/m ² ·24h·atm (125
		cm ³ ·mil/100in. ² ·24h·atm)
Gas Permeability, O ₂	D 3985	10 cm ³ ·mm/m ² ·24h∙atm (25
		cm ³ ·mil/100in. ² ·24h·atm)
Elmendorf Tear Resistance		
M.D.	D 1922	13.7 N (1400 gf)
T.D.	D 1922	16.7 N (1700 gf)
PPT Tear Resistance		
M.D.	D 2582	93 N (21 lbf)
T.D.	D 2582	93 N (21 lbf)
Tear Propagation Resistance, Split 1	ēar Method	
@ 254 mm/min (10 in./min)	D 1938	36 N/mm (205 lbf/in.)
M.D.		
@ 254 mm/min (10 in./min) T.D	D. D 1938	36 N/mm (205 lbf/in.)
Tear Resistance, Trouser @ 200 mm	n/min	
M.D.	ISO 6383-1	36 N/mm (205 lbf/in.)
T.D.	ISO 6383-1	36 N/mm (205 lbf/in.)
Tensile Strength @ Yield		
M.D.	D 882	52 MPa (7500 psi)
T.D.	D 882	52 MPa (7500 psi)
Tensile Strength @ Break		
M.D.	D 882	59 MPa (8600 psi)
T.D.	D 882	55 MPa (8000 psi)
Elongation @ Yield		
M.D.	D 882	4 %
T.D.	D 882	4 %
Elongation @ Break		
M.D.	D 882	400 %
T.D.	D 882	400 %
Tensile Modulus		
M.D.	D 882	1900 MPa (2.8 x 10 ⁵ psi)
T.D.	D 882	1900 MPa (2.8 x 10 ⁻ psi)
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Specific Gravity D.792 1.27 Water Absorption, 24 h immersion D.570 0.13 % Tensile Stress @ Break D.638 28 MPa (4100 ps) Tensile Stress @ Vield D.638 50 MPa (7300 ps) Tensile Stress @ Tensile Modulus D.638 130 % Tensile Modulus D.638 2100 MPa (3.0 x 10 ⁵ psi) Flexural Yield Strength D.790 70 MPa (10200 psi) Rekural Yield Strength, Nathed 0.236 101 J/m (1.9 ft-lbf/in.) @ 249°C (-49°F) D.256 37 J/m (0.7 ft-lbf/in.) Impact Strength, Nuntothed ⁹ 0.4812 NB @ -20°C (-49°F) D.4812 NB @ -30°C (-22°F) D.4812 NB @ -30°C (-22°F) D.4812 NB @ -30°C (-22°F) D.4812 NB @ -30°C (-24°F) D.4812 NB @ -30°C (-24°F) D.4812 NB Plaques, @ 23°C (73°F) D.4812 NB _2.5 mm (0.100-in.) Thick D.3763 28 J (21 ft-lbf) Plaques, @ 40°C (-40°F) D.4312 NB			400 g			
Description, 24 h immersion D 570 0.13 % Tensile Stress @ Freak D 638 28 MP2 (4100 psi) Tensile Stress @ Teak D 638 130 % Tensile Stress @ Teak D 638 2100 MPa (3.0 x 10 ⁵ psi) Flexural Modulus D 790 2100 MPa (3.0 x 10 ⁵ psi) Flexural Modulus D 790 70 MPa (10200 psi) Rockwell Hardness, R Scale D 785 106 Tradit Strength, Notched 0 256 101 J/m (1.9 ft-lbf/in.) MacAvell Hardness, R Scale D 785 106 106 Tradit Strength, Unnotched ^a 0 256 101 J/m (0.7 ft-lbf/in.) Impact Strength, Unnotched ^a 0 256 101 J/m (0.7 ft-lbf/in.) Impact Resistance (Puncture), Energy @ Max. Load 2.5 mm (0.100-in.) Thick D 3763 28 J (21 ft-lbf) Plaques, @ 23°C (73°F) D 4812 NB 10 (0.10-in.) Thick D 3763 2.5 mm (0.102-in.) Thick D 3763 28 J (21 ft-lbf) Plaques, @ 23°C (73°F) 3.2 mm (0.125-in.) Thick D 3763 33 J (24 ft-lbf) Plaques, @ 40°C (-40°F)	Mechanical Properties (Injection	Mechanical Properties (Injection Molded), ASTM Method				
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Tensile Stress @ Yield D 638 50 MPa (7300 psi) Elongation @ Break D 638 130 % Tensile Modulus D 638 2100 MPa (3.0 x 10 ⁵ psi) Flexural Modulus D 790 2100 MPa (3.0 x 10 ⁵ psi) Flexural Yield Strength D 790 70 MPa (10200 psi) Rockwell Hardness, R Scale D 735 106 Izod Impact Strength, Notched @ 23°C (73°F) D 256 37 J/m (0.7 ft-lbf/in.) Impact Strength, Unnotched ⁰ @ @ 23°C (74°F) D 4812 NB @ -30°C (-24°F) D 4812 NB @ -30°C (-24°F) D 4812 NB @ -30°C (-24°F) D 4812 NB @ -30°C (-24°F) D 4812 NB @ -30°C (-24°F) D 4812 NB	Water Absorption, 24 h immersion	D 570				
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Tensile Stress @ Yield 150 527 50 MPa Elongation @ Break 150 527 100 % Tensile Modulus 1S0 527 2100 MPa Flexural Modulus 1S0 178 2000 MPa Flexural Yield Strength 1S0 178 68 MPa Rockwell Hardness, R Scale ISO 2039-2 109 Izod Impact Strength, Notched, Type 1 Specimen, Type A Notch @ 23°C ISO 180 6.2 kJ/m² @ -40°C ISO 180 4.2 kJ/m² Impact Strength, Unnotched, Type 1 Specimenf @ 23°C ISO 180 NB kJ/m² @ -20°C ISO 180 NB kJ/m² @ -30°C ISO 180 NB kJ/m² @ -30°C ISO 180 NB kJ/m² @ -40°C ISO 180 NB kJ/m² Impact Resistance (Puncture), Energy @ Max. Loadh 2.5-mm Thick Plaques @ 23°C ISO 6603-2 35 J 2.5-mm Thick Plaques @ 23°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 36 J Thermal Properties ISO 6603-2 36 J Imact Adv J 3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties ISO 6603-2 36 J <td></td> <td></td> <td></td>						
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Izod Impact Strength, Notched, Type 1 Specimen, Type A Notch @ 23°C ISO 180 6.2 kJ/m ² @ -40°C ISO 180 4.2 kJ/m ² Impact Strength, Unnotched, Type 1 Specimen ^f @ -20°C ISO 180 NB kJ/m² @ 23°C ISO 180 NB kJ/m² @ 23°C ISO 180 NB kJ/m² @ -30°C ISO 180 NB kJ/m² @ -40°C ISO 6603-2 40 J 2.5-mm Thick Plaques @ 23°C ISO 6603-2 3.2-mm Thick Plaques @ 23°C ISO 6603-2 36 J Thermal Properties Deflection Temperature @ 0.455 MPa (66 psi) D 648 70 °C (158 °F) @ 0.455 MPa (66 psi)	Llasurum Vialal Chuanatha	100 170	68 MPa			
ⓐ 23°C ⓐ -40°C ISO 180 6.2 kJ/m ² ⓐ -40°C ISO 180 4.2 kJ/m ² Impact Strength, Unnotched, Type 1 Specimen ^f ⓐ -20°C ISO 180 NB kJ/m ² @ 23°C ISO 180 NB kJ/m ² @ -30°C ISO 180 NB kJ/m ² @ -30°C ISO 180 NB kJ/m ² @ -40°C ISO 180 NB kJ/m ² [Impact Resistance (Puncture), Energy @ Max. Load ^h 2.5-mm Thick Plaques @ 23°C ISO 6603-2 40 J 2.5-mm Thick Plaques @ -40°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 44 J 3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties Deflection Temperature @ 0.455 MPa (66 psi) D 648 70 °C (158 °F)						
@ -40°C ISO 180 4.2 kJ/m ² Impact Strength, Unnotched, Type 1 Specimen ^f	Rockwell Hardness, R Scale	ISO 2039-2				
Impact Strength, Unnotched, Type 1 Specimen ^f @ -20°C ISO 180 NB kJ/m ² @ 23°C ISO 180 NB kJ/m ² @ -30°C ISO 180 NB kJ/m ² @ -40°C ISO 180 NB kJ/m ² Impact Resistance (Puncture), Energy @ Max. Load ^h NB kJ/m ² 2.5-mm Thick Plaques @ 23°C ISO 6603-2 40 J 2.5-mm Thick Plaques @ -40°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 44 J 3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties Deflection Temperature @ 0.455 MPa (66 psi) D 648 70 °C (158 °F) 14 0.0 (117 0.0)	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type	ISO 2039-2 e 1 Specimen, Type A Notch	109			
@ -20°C ISO 180 NB kJ/m² @ 23°C ISO 180 NB kJ/m² @ -30°C ISO 180 NB kJ/m² @ -40°C ISO 180 NB kJ/m² Impact Resistance (Puncture), Energy @ Max. Load ^h NB kJ/m² 2.5-mm Thick Plaques @ 23°C ISO 6603-2 40 J 2.5-mm Thick Plaques @ -40°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 36 J Thermal Properties Deflection Temperature 0 0.455 MPa (66 psi) D 648	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C	ISO 2039-2 e 1 Specimen, Type A Notch ISO 180	109 6.2 kJ/m ²			
@ 23°C ISO 180 NB kJ/m² @ -30°C ISO 180 NB kJ/m² @ -40°C ISO 180 NB kJ/m² Impact Resistance (Puncture), Energy @ Max. Loadh NB kJ/m² 2.5-mm Thick Plaques @ 23°C ISO 6603-2 40 J 2.5-mm Thick Plaques @ -40°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 36 J Thermal Properties Deflection Temperature 0.455 MPa (66 psi) D 648	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C	ISO 2039-2 2 1 Specimen, Type A Notch ISO 180 ISO 180	109 6.2 kJ/m ²			
@ -30°C ISO 180 NB kJ/m² @ -40°C ISO 180 NB kJ/m² Impact Resistance (Puncture), Energy @ Max. Load ^h 40 J 2.5-mm Thick Plaques @ 23°C ISO 6603-2 40 J 2.5-mm Thick Plaques @ -40°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 44 J 3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties Deflection Temperature 0.455 MPa (66 psi) D 648	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C Impact Strength, Unnotched, Type 1	ISO 2039-2 e 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f	109 6.2 kJ/m ² 4.2 kJ/m ²			
@ -40°C ISO 180 NB kJ/m ² Impact Resistance (Puncture), Energy @ Max. Load ^h 40 J 2.5-mm Thick Plaques @ 23°C ISO 6603-2 40 J 2.5-mm Thick Plaques @ -40°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 44 J 3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties Deflection Temperature 0.455 MPa (66 psi) D 648 70 °C (158 °F) C 100 (117 0F) 100 (117 0F)	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C Impact Strength, Unnotched, Type 1 @ -20°C	ISO 2039-2 e 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ²			
Impact Resistance (Puncture), Energy @ Max. Loadh2.5-mm Thick Plaques @ 23°CISO 6603-240 J2.5-mm Thick Plaques @ -40°CISO 6603-235 J3.2-mm Thick Plaques @ 23°CISO 6603-244 J3.2-mm Thick Plaques @ -40°CISO 6603-236 JThermal PropertiesDeflection Temperature @ 0.455 MPa (66 psi)D 64870 °C (158 °F)	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C Impact Strength, Unnotched, Type 1 @ -20°C @ 23°C	ISO 2039-2 e 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180 ISO 180	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ²			
2.5-mm Thick Plaques @ 23°C ISO 6603-2 40 J 2.5-mm Thick Plaques @ -40°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 44 J 3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties Deflection Temperature 0.455 MPa (66 psi) D 648 70 °C (158 °F) 0.455 MPa (56 psi) D 648	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C Impact Strength, Unnotched, Type 1 @ -20°C @ 23°C @ -30°C	ISO 2039-2 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180 ISO 180 ISO 180 ISO 180	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ²			
2.5-mm Thick Plaques @ -40°C ISO 6603-2 35 J 3.2-mm Thick Plaques @ 23°C ISO 6603-2 44 J 3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties Deflection Temperature 0.455 MPa (66 psi) D 648 70 °C (158 °F) 0.455 MPa (66 psi) D 648 70 °C (158 °F) 100 (117 °C)	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C Impact Strength, Unnotched, Type 1 @ -20°C @ 23°C @ -30°C @ -40°C	ISO 2039-2 2 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180 ISO 180 ISO 180 ISO 180	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ²			
3.2-mm Thick Plaques @ 23°C ISO 6603-2 44 J 3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties Deflection Temperature 0.455 MPa (66 psi) D 648 70 °C (158 °F) 0.147 0F)	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C Impact Strength, Unnotched, Type 1 @ -20°C @ 23°C @ -30°C @ -40°C Impact Resistance (Puncture), Energy	ISO 2039-2 2 1 Specimen, Type A Notch ISO 180 Specimen ^f ISO 180 ISO 180 ISO 180 ISO 180 ISO 180 V @ Max. Load ^h	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ²			
3.2-mm Thick Plaques @ -40°C ISO 6603-2 36 J Thermal Properties Deflection Temperature 70 °C (158 °F) @ 0.455 MPa (66 psi) D 648 70 °C (158 °F)	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C Impact Strength, Unnotched, Type 1 @ -20°C @ 23°C @ -30°C @ -40°C Impact Resistance (Puncture), Energy 2.5-mm Thick Plaques @ 23°C	ISO 2039-2 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180 ISO 180 ISO 180 ISO 180 ISO 180 ISO 180 JSO 180 JSO 180 JSO 180 JSO 180	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² 40 J			
Thermal Properties Deflection Temperature @ 0.455 MPa (66 psi) D 648 70 °C (158 °F) C100 (117 0F)	Rockwell Hardness, R ScaleIzod Impact Strength, Notched, Type@ 23°C@ -40°CImpact Strength, Unnotched, Type 1@ -20°C@ 23°C@ -30°C@ -40°CImpact Resistance (Puncture), Energy2.5-mm Thick Plaques @ 23°C2.5-mm Thick Plaques @ -40°C	ISO 2039-2 2 1 Specimen, Type A Notch ISO 180 Specimen ^f ISO 180 ISO 180 ISO 180 ISO 180 ISO 180 Y @ Max. Load ^h ISO 6603-2 ISO 6603-2	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² 40 J 35 J			
@ 0.455 MPa (66 psi) D 648 70 °C (158 °F)	Rockwell Hardness, R Scale Izod Impact Strength, Notched, Type @ 23°C @ -40°C Impact Strength, Unnotched, Type 1 @ -20°C @ 23°C @ -30°C @ -30°C @ -40°C Impact Resistance (Puncture), Energy 2.5-mm Thick Plaques @ 23°C 3.2-mm Thick Plaques @ 23°C	ISO 2039-2 2 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180 ISO 6603-2 ISO 6603-2 ISO 6603-2 ISO 6603-2	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² 40 J 35 J 44 J			
	Rockwell Hardness, R ScaleIzod Impact Strength, Notched, Type@ 23°C@ -40°CImpact Strength, Unnotched, Type 1@ -20°C@ 23°C@ -30°C@ -40°CImpact Resistance (Puncture), Energy2.5-mm Thick Plaques @ 23°C2.5-mm Thick Plaques @ -40°C3.2-mm Thick Plaques @ 23°C3.2-mm Thick Plaques @ -40°C	ISO 2039-2 2 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180 ISO 6603-2 ISO 6603-2 ISO 6603-2 ISO 6603-2	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² 40 J 35 J 44 J			
@ 1.82 MPa (264 psi) D 648 64 °C (147 °F)	Rockwell Hardness, R ScaleIzod Impact Strength, Notched, Type@ 23°C@ -40°CImpact Strength, Unnotched, Type 1@ -20°C@ 23°C@ -30°C@ -40°CImpact Resistance (Puncture), Energy2.5-mm Thick Plaques @ 23°C2.5-mm Thick Plaques @ -40°C3.2-mm Thick Plaques @ -40°C3.2-mm Thick Plaques @ -40°C3.2-mm Thick Plaques @ -40°CDeflection Temperature	ISO 2039-2 2 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180 ISO 6603-2 ISO 6603-2 ISO 6603-2 ISO 6603-2	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² 40 J 35 J 44 J 36 J			
	Rockwell Hardness, R ScaleIzod Impact Strength, Notched, Type@ 23°C@ -40°CImpact Strength, Unnotched, Type 1@ -20°C@ 23°C@ -30°C@ -40°CImpact Resistance (Puncture), Energy2.5-mm Thick Plaques @ 23°C2.5-mm Thick Plaques @ -40°C3.2-mm Thick Plaques @ 23°C3.2-mm Thick Plaques @ -40°C3.2-mm Thick Plaques @ -40°CDeflection Temperature	ISO 2039-2 2 1 Specimen, Type A Notch ISO 180 ISO 180 Specimen ^f ISO 180 ISO 180 ISO 180 ISO 180 ISO 180 ISO 180 So 6603-2 ISO 6603-2 ISO 6603-2 ISO 6603-2	109 6.2 kJ/m ² 4.2 kJ/m ² NB kJ/m ² NB kJ/m ² NB kJ/m ² 40 J 35 J 44 J 36 J 70 °C (158 °F)			

Vicat Softening Temperature	D 1525	85 °C (185 °F)
Thermal Conductivity	C 177	0.21 W/m·K (1.5 Btu∙in./h∙ft ² ·°F)
Glass Transition Temperature (T _g)	DSC	80 °C (176 °F)
Specific Heat		
@ 100°C (212°F)	DSC	1.76 kJ/kg·K (0.42 Btu/lb·°F)
@ 150°C (302°F)	DSC	1.88 kJ/kg·K (0.45 Btu/lb·°F)
@ 200°C (392°F)	DSC	1.97 kJ/kg·K (0.47 Btu/lb·°F)
@ 250°C (482°F)	DSC	2.05 kJ/kg·K (0.49 Btu/lb·°F)
@ 60°C (140°F)	DSC	1.30 kJ/kg·K (0.31 Btu/lb·°F)
Coefficient of Linear Thermal	D 696	5.1 x 10 ⁻⁵ /°C (mm/mm⋅°C) (2.8 x
Expansion ^d		10 ⁻⁵ /°F (in./in.·°F))
Typical Processing Conditions		
Mold Temperature		16-38 °C (60-100 °F)
Processing Melt Temperature		249-271 °C (480-520 °F)
Drying Time		4-6 hrs
Drying Temperature		65 °C (150 °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.

^d-30°C to 40°C (-22°F to 104°F)

^eTest conducted at 38°C (100°F) and 100% relative humidity.

^fNonbreak as defined by ISO 180 with 4-mm specimens.

⁹Nonbreak as defined by ASTM D 4812 with 3.2-mm specimens.

^hTesting based on ISO 6603-2 using a striker diameter of 20 mm, a support and clamp diameter of 40 mm, and a velocity of 4.1 m/s.

ⁱ12.7 mm (0.5 in.) dia. head, 127 mm (5 in.) dia. clamp, 660 mm (26 in.) drop

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

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