

Eastman Eastar Copolyester BR003, Natural PCTA Copolyester

Category : Polymer , Thermoplastic , Polyester, TP , PCTA Polyester Alloy , Polycyclohexylenedimethylene Terephthalate (PCT)

Material Notes:

EASTAR BR003 Copolyester contains a mold release additive. It has excellent appearance and is nearly water-clear. Its most outstanding features are its chemical resistance and processing capabilities. Exposure to aromatic oils often causes crazing or actual fracture of many polymer resins, but BR003 maintains its physical properties when exposed to these oils, and its appearance is virtually unchanged. BR003 is specifically formulated to provide the optimal combination of chemical resistance, bristle retention, strength, stiffness, processability, clarity, colorability, and feel for toothbrushes. Under existing United States Food and Drug Administration(FDA) regulations, EASTAR BR003 copolyester may lawfully be used to make food contact articles which comply with the specifications and conditions of use in 21 CFR 177.1240. Migration tests on BR003 samples meet the compliance requirements of 21 CFR 177.1240(e)(1),(2) and (3).Applications: Toothbrushes 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. Information provided by Eastman Chemical.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eastman-Eastar-Copolyester-BR003-Natural-PCTA-Copolyester.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ASTM D792
Linear Mold Shrinkage, Flow	0.0040 cm/cm	0.0040 in/in	ASTM D955
	@Thickness 3.20 mm	@Thickness 0.126 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	103	103	ASTM D785
Tensile Strength, Ultimate	46.0 MPa	6670 psi	ISO 527
	51.0 MPa	7400 psi	ASTM D638
Tensile Strength, Yield	47.0 MPa	6820 psi	ASTM D638 and ISO 527
Elongation at Break	200 %	200 %	ISO 527
Elongation at Yield	4.0 %	4.0 %	ISO 527
Tensile Modulus	1.80 GPa	261 ksi	ISO 527
Flexural Yield Strength	65.0 MPa	9430 psi	ISO 178
	69.0 MPa	10000 psi	ASTM D790
Flexural Modulus	1.85 GPa	268 ksi	ISO 178
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	0.400 J/cm	0.749 ft-lb/in	

Mechanical Properties	Metric @ Temperature -40.0 °C	English @ Temperature -40.0 °F	ASTM D256 Comments
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Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	73.0 °C	163 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ASTM D648

Optical Properties	Metric	English	Comments
Haze	0.30 %	0.30 %	ASTM D1003
Transmission, Visible	89 %	89 %	Regular transmittance per ASTM D 1003
	91 %	91 %	Total Transmittance; ASTM D 1003

Processing Properties	Metric	English	Comments
Melt Temperature	255 °C	491 °F	
Mold Temperature	22.5 °C	72.5 °F	
Drying Temperature	70.0 °C	158 °F	

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