

Eastman Eastar MN004 Copolyester

Category : Polymer , Thermoplastic , Polyester, TP

Material Notes:

Eastar Copolyesters are brilliantly clear polymers that have excellent impact strength, chemical resistance, dimensional stability, and low shrinkage rates. Eastar MN004 contains a mold release. Applications/Uses Medical

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eastman-Eastar-MN004-Copolyester.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.23 g/cc	1.23 g/cc	ASTM D792
Density	1.23 g/cc	0.0444 lb/in ³	ISO 1183
Water Absorption	0.13 %	0.13 %	24h Immersion; ISO 62
	0.13 %	0.13 %	24h Immersion; ASTM D570
Linear Mold Shrinkage	0.0020 - 0.0050 cm/cm	0.0020 - 0.0050 in/in	ASTM D955
	@Thickness 3.20 mm	@Thickness 0.126 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	105	105	ASTM D785
Tensile Strength at Break	47.0 MPa	6820 psi	ISO 527
	52.0 MPa	7540 psi	ASTM D638
Tensile Strength, Yield	45.0 MPa	6530 psi	ASTM D638
	46.0 MPa	6670 psi	ISO 527
Elongation at Break	230 %	230 %	ISO 527
	330 %	330 %	ASTM D638
Elongation at Yield	4.4 %	4.4 %	ISO 527
	5.0 %	5.0 %	ASTM D638
Flexural Yield Strength	63.0 MPa	9140 psi	ISO 178
	66.0 MPa	9570 psi	ASTM D790
Flexural Modulus	1.80 GPa	261 ksi	ISO 178
	1.80 GPa	261 ksi	ASTM D790
	0.640 J/cm	1.20 ft-lb/in	

Izod Impact, Notched Mechanical Properties	Metric @ Temperature -40.0 °C	English @ Temperature -40.0 °F	ASTM D256 Comments
	NB @ Temperature 23.0 °C	NB @ Temperature 73.4 °F	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D4812
	NB @ Temperature -40.0 °C	NB @ Temperature -40.0 °F	ASTM D4812
Izod Impact, Notched (ISO)	7.40 kJ/m ² @ Temperature -40.0 °C	3.52 ft-lb/in ² @ Temperature -40.0 °F	ISO 180
	125 kJ/m ² @ Temperature 23.0 °C	59.5 ft-lb/in ² @ Temperature 73.4 °F	ISO 180
Puncture Energy	14.0 J	10.3 ft-lb	Puncture Resistance @Max Load, 23°C; ASTM D3763
	16.0 J @ Temperature -40.0 °C	11.8 ft-lb @ Temperature -40.0 °F	Puncture Resistance at Max Load; ASTM D3763

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.34 J/g-°C @ Temperature 60.0 °C	0.320 BTU/lb-°F @ Temperature 140 °F	DSC
	2.05 J/g-°C @ Temperature 240 °C	0.490 BTU/lb-°F @ Temperature 464 °F	DSC
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft ² -°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	74.0 °C	165 °F	ISO 75
	74.0 °C	165 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	64.0 °C	147 °F	ASTM D648
	65.0 °C	149 °F	ISO 75
Vicat Softening Point	79.0 °C	174 °F	5kg load; ISO 306
	88.0 °C	190 °F	1kg load; ISO 306
	88.0 °C	190 °F	1kg load; ASTM D1525
Flammability, UL94	HB @ Thickness 1.60 mm	HB @ Thickness 0.0630 in	

Optical Properties	Metric	English	Comments
Haze	0.40 %	0.40 %	ASTM D1003
Transmission, Visible	87 %	87 %	Regular Transmittance; ASTM D1003
	89 %	89 %	Total Transmittance; ASTM D1003

Processing Properties	Metric	English	Comments
Melt Temperature	250 - 270 °C	482 - 518 °F	
Mold Temperature	15.0 - 40.0 °C	59.0 - 104 °F	
Drying Temperature	75.0 °C	167 °F	
Dry Time	6 hour	6 hour	

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