

Eastman Eastar EN001 Copolyester

Category : Polymer , Thermoplastic , Polyester, TP

Material Notes:

Eastar EN001 Copolyester is a thermoplastic polyester copolymer. Eastar EN001 Copolyester has a relatively slow crystallization rate. This broadens the operating window for extrusion and forming processes and helps maintain good clarity when processing much thicker sheet. Eastar EN001 copolyester can also be used for injection molding applications. It is the preferred general-purpose crystallizable PET for thermoforming. Eastar EN001 copolyester is regulated for use in food packaging applications in accordance with US FDA Regulation 21 CFR 177.1315. It is lawful for use under US Department of Agriculture Food Safety Inspection Service regulations as a packaging material for meat or poultry food products prepared under federal inspection. Applications/Uses Food Packaging Housewares Toys/Sporting goods Writing instruments

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eastman-Eastar-EN001-Copolyester.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.33 g/cc	1.33 g/cc	ASTM D792
Density	1.33 g/cc	0.0480 lb/in ³	ISO 1183

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	112	112	ASTM D785
	114	114	ISO 2039-2
Tensile Strength at Break	25.0 MPa	3630 psi	ISO 527
	25.0 MPa	3630 psi	ASTM D638
Tensile Strength, Yield	57.0 MPa	8270 psi	ISO 527
	58.0 MPa	8410 psi	ASTM D638
Elongation at Break	120 %	120 %	ISO 527
	120 %	120 %	ASTM D638
Tensile Modulus	2.40 GPa	348 ksi	ISO 527
	2.40 GPa	348 ksi	ASTM D638
Flexural Yield Strength	77.0 MPa	11200 psi	ISO 178
	84.0 MPa	12200 psi	ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	ISO 178
	2.50 GPa	363 ksi	ASTM D790

Mechanical Properties <i>Izod Impact, Notched</i>	0.278 J/cm Metric	0.505 ft-lb/in English	Comments ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.400 J/cm	0.749 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	NB	NB	ASTM D4812
	NB	NB	ASTM D4812
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Izod Impact, Notched (ISO)	3.10 kJ/m ²	1.48 ft-lb/in ²	ISO 180
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	4.50 kJ/m ²	2.14 ft-lb/in ²	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180
	170 kJ/m ²	80.9 ft-lb/in ²	ISO 180
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Puncture Energy	0.800 J	0.590 ft-lb	max load; ISO 6603-2
	@Thickness 2.50 mm, Temperature -40.0 °C	@Thickness 0.0984 in, Temperature -40.0 °F	
	1.00 J	0.738 ft-lb	max load; ISO 6603-2
	@Thickness 3.20 mm, Temperature -40.0 °C	@Thickness 0.126 in, Temperature -40.0 °F	
	1.60 J	1.18 ft-lb	max load; ASTM D3763
	@Thickness 2.50 mm, Temperature -40.0 °C	@Thickness 0.0984 in, Temperature -40.0 °F	
	2.10 J	1.55 ft-lb	max load; ASTM D3763
	@Thickness 3.20 mm, Temperature -40.0 °C	@Thickness 0.126 in, Temperature -40.0 °F	
	15.0 J	11.1 ft-lb	max load; ISO 6603-2
	@Thickness 2.50 mm, Temperature 23.0 °C	@Thickness 0.0984 in, Temperature 73.4 °F	
	18.0 J	13.3 ft-lb	max load; ISO 6603-2
	@Thickness 3.20 mm, Temperature 23.0 °C	@Thickness 0.126 in, Temperature 73.4 °F	
	26.0 J	19.2 ft-lb	max load; ASTM D3763
	@Thickness 2.50 mm, Temperature 23.0 °C	@Thickness 0.0984 in, Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
	@Thickness 3.20 mm, Temperature 23.0 °C	@Thickness 0.126 in, Temperature 73.4 °F	max load; ASTM D3763

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	69.0 °C	156 °F	ISO 75
	69.0 °C	156 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ISO 75
	65.0 °C	149 °F	ASTM D648

Optical Properties	Metric	English	Comments
Haze	1.0 %	1.0 %	ASTM D1003
Transmission, Visible	84 %	84 %	Total Transmittance; ASTM D1003

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