

Eastman Eastar EN052 Polyester

Category : Polymer , Thermoplastic , Polyester, TP

Material Notes:

Eastar Polyester EN052 is a thermoplastic condensation homopolymer produced by a continuous melt-phase polymerization process followed by a solid-state polymerization process. It has been crystallized. Applications/Uses General consumer products Oral hygiene Personal care

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eastman-Eastar-EN052-Polyester.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.32 g/cc	1.32 g/cc	ASTM D792
Water Absorption	0.10 %	0.10 %	24h Immersion; ASTM D570
Linear Mold Shrinkage	0.0040 cm/cm @Thickness 3.20 mm	0.0040 in/in @Thickness 0.126 in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	110	110	ASTM D785
Tensile Strength at Break	26.0 MPa	3770 psi	ASTM D638
Tensile Strength, Yield	57.0 MPa	8270 psi	ASTM D638
Elongation at Yield	4.0 %	4.0 %	ASTM D638
Flexural Yield Strength	81.0 MPa	11700 psi	ASTM D790
Flexural Modulus	2.50 GPa	363 ksi	ASTM D790
Izod Impact, Notched	0.360 J/cm @Temperature -40.0 °C	0.674 ft-lb/in @Temperature -40.0 °F	ASTM D256
	0.510 J/cm @Temperature 23.0 °C	0.955 ft-lb/in @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

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	66.0 °C	151 °F	ASTM D648

Thermal Properties <small>Deflection Temperature at 1.8 MPa (204 psi)</small>	Metric	English	Comments
Vicat Softening Point	79.0 °C	174 °F	1kg load; ASTM D1525

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Surface Resistivity per Square	1.00e+16 ohm	1.00e+16 ohm	ASTM D257
Dielectric Constant	3.0	3.0	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Constant	3.2	3.2	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	15.7 kV/mm	399 kV/in	Short Time, 500V/sec; ASTM D149
Dissipation Factor	0.0080	0.0080	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.020	0.020	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	155 sec	155 sec	ASTM D495

Processing Properties	Metric	English	Comments
Melt Temperature	275 - 295 °C	527 - 563 °F	
Mold Temperature	10.0 - 30.0 °C	50.0 - 86.0 °F	
Drying Temperature	150 - 160 °C	302 - 320 °F	
Dry Time	4 - 6 hour	4 - 6 hour	

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