

Eastman DuraStar DS1110UVI Polymer, Natural

Category : Polymer , Thermoplastic , Polyester, TP , Polycyclohexylenedimethylene Terephthalate (PCT) , Glycol-Modified PCT (PCTG) Copolyester

Material Notes:

Durastar DS1110UVI polymer, contains an ultraviolet light stabilization package. It is recommended for indoor applications requiring enhanced color stability upon extended exposure to fluorescent light. It has excellent appearance and is nearly water-clear. Its other most outstanding features are chemical resistance and excellent processing characteristics. Easy to process, it flows readily, fills intricate molds, contains a mold release, and is well suited for thick-wall applications. This product is certified to ANSI/NSF Standard 51. Applications/Uses Appliances Furniture/Furniture trim Toys/Sporting goods Floor care Housewares Point of purchase displays Key Attributes Good chemical resistance Excellent flow Outstanding impact resistance Excellent clarity Fast drying times Quick cycle times

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eastman-DuraStar-DS1110UVI-Polymer-Natural.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Linear Mold Shrinkage	0.0020 - 0.0060 cm/cm @Thickness 3.20 mm	0.0020 - 0.0060 in/in @Thickness 0.126 in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	103	103	ASTM D785
Tensile Strength at Break	46.0 MPa	6670 psi	ISO 527
	51.0 MPa	7400 psi	ASTM D638
Tensile Strength, Yield	47.0 MPa	6820 psi	ASTM D638
	47.0 MPa	6820 psi	ISO 527
Elongation at Break	200 %	200 %	ISO 527
	300 %	300 %	ASTM D638
Elongation at Yield	4.0 %	4.0 %	ISO 527
	5.0 %	5.0 %	ASTM D638
Tensile Modulus	1.80 GPa	261 ksi	ISO 527
Flexural Strength	65.0 MPa	9430 psi	ISO 178
Flexural Yield Strength	69.0 MPa	10000 psi	ASTM D790
Flexural Modulus			ISO 178

Mechanical Properties	1.85 GPa Metric	268 ksi English	Comments
	2.00 GPa	290 ksi	ASTM D790
Izod Impact, Notched	0.400 J/cm @Temperature -40.0 °C	0.749 ft-lb/in @Temperature -40.0 °F	ASTM D256
	0.800 J/cm @Temperature 23.0 °C	1.50 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
Izod Impact, Notched (ISO)	4.80 kJ/m ² @Temperature -40.0 °C	2.28 ft-lb/in ² @Temperature -40.0 °F	ISO 180
	7.80 kJ/m ² @Temperature 23.0 °C	3.71 ft-lb/in ² @Temperature 73.4 °F	ISO 180
Puncture Energy	42.0 J	31.0 ft-lb	Puncture Resistance @Max Load, 23°C; ASTM D3763
	58.7 J	43.3 ft-lb	Puncture Resistance @ max load, 23°C; ISO 6603-2
	48.0 J @Temperature -40.0 °C	35.4 ft-lb @Temperature -40.0 °F	Puncture Resistance at Max Load; ASTM D3763
	52.6 J @Temperature -40.0 °C	38.8 ft-lb @Temperature -40.0 °F	Puncture Resistance at Max Load; ISO 6603-2

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	72.0 °C	162 °F	ISO 75
	75.0 °C	167 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ASTM D648
	66.0 °C	151 °F	ISO 75

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

Optical Properties	Metric	English	Comments
Processing Properties	Metric	English	Comments
Melt Temperature	230 - 280 °C	446 - 536 °F	
Mold Temperature	15.0 - 30.0 °C	59.0 - 86.0 °F	
Drying Temperature	70.0 °C	158 °F	
Dry Time	3 hour	3 hour	

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