

Technical Data Sheet

Eastman Tritan™ Copolyester VX301

Applications

- Consumer electronics
- Device housings
- Ophthalmics
- Safety glasses/shield

Key Attributes

- Ease of processing
- Excellent clarity
 - Excellent hydrolytic stability
- Outstanding impact resistance
 - Quick cycle times
 - Superior chemical resistance

Product Description

Eastman Tritan™ VX301 is an amorphous copolyester with excellent clarity and impact resistance. The outstanding chemical resistance, hydrolytic stability, and ease of processing make Tritan™ VX301 an ideal candidate for a broad spectrum of optical applications such as sunglass lenses, optical glass lenses and safety eyewear.

Typical Properties

Property ^a	Test Method ^b	Typical Value, Units ^c
General Properties		
Specific Gravity	D 792	1.18
Mold Shrinkage	D 955	0.005-0.007 mm/mm (0.005-0.007 in./in.)
Mechanical Properties		
Tensile Stress @ Yield	D 638	43 MPa (6200 psi)
Tensile Stress @ Break	D 638	53 MPa (7700 psi)
Elongation @ Yield	D 638	6 %
Elongation @ Break	D 638	210 %
Tensile Modulus	D 638	1550 MPa (2.25 x 10 ⁵ psi)
Flexural Modulus	D 790	1550 MPa (2.25 x 10 ⁵ psi)
Flexural Yield Strength	D 790	62 MPa (9000 psi)
Rockwell Hardness, R Scale	D 785	112
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	980 J/m (18.4 ft·lbf/in.)
@ -40°C (-40°F)	D 256	110 J/m (2.1 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	NB
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C (73°F)	D 3763	61 J (45 ft·lbf)
@ -40°C (-40°F)	D 3763	66 J (49 ft·lbf)
Optical Properties		
Haze	D 1003	<0.50 %
Total Transmittance	D 1003	90 %
Refractive Index ^d	C 1648	1.5651
ABBE Number ^d	C 1648	31.07
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	99 °C (210 °F)
@ 1.82 MPa (264 psi)	D 648	85 °C (185 °F)

Typical Processing Conditions

Drying Temperature	88 °C (190 °F)
Drying Time	4-6 hrs
Processing Melt Temperature	260-282 °C (500-540 °F)
Mold Temperature	38-66 °C (100-150 °F)

^a Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

^b Unless noted otherwise, the test method is ASTM.

^c Units are in SI or US customary units.

^d Measurements made on 5 mil extruded film.

Comments

Properties reported here are based on limited testing. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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