

# Technical Data Sheet

## Eastman Tritan™ Copolyester VX351HF

### Applications

- 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™ VX351HF is an amorphous copolyester with excellent clarity and impact resistance. The outstanding chemical resistance, hydrolytic stability, and ease of processing make Tritan™ VX351HF an ideal candidate for a broad spectrum of optical applications such as sunglass lenses, optical glass lenses and safety eyewear.

### Typical Properties

Property <sup>a</sup>	Test Method <sup>b</sup>	Typical Value, Units <sup>c</sup>
<b>General Properties (ASTM Method)</b>		
Specific Gravity	D 792	1.18
Mold Shrinkage	D 955	0.005-0.007 mm/mm (0.005-0.007 in./in.)
<b>General Properties (ISO Method)</b>		
Density	ISO 1183, Method D	1.18 g/cm <sup>3</sup>
<b>Mechanical Properties (ASTM Method)</b>		
Tensile Stress @ Yield	D 638	43 MPa (6200 psi)
Tensile Stress @ Break	D 638	52 MPa (7500 psi)
Elongation @ Yield	D 638	7 %
Elongation @ Break	D 638	210 %
Tensile Modulus	D 638	1575 MPa (2.28 x 10 <sup>5</sup> psi)
Flexural Modulus	D 790	1575 MPa (2.28 x 10 <sup>5</sup> psi)
Flexural Yield Strength	D 790	64 MPa (9300 psi)
Rockwell Hardness, R Scale	D 785	111
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	860 J/m (16.1 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	53 J (39 ft·lbf)
@ -40°C (-40°F)	D 3763	57 J (42 ft·lbf)
<b>Mechanical Properties (ISO Method)</b>		
Tensile Strength @ Yield	ISO 527	43 MPa
Tensile Stress @ Break	ISO 527	53 MPa
Elongation @ Yield	ISO 527	6 %
Elongation @ Break	ISO 527	160 %
Tensile Modulus	ISO 527	1620 MPa

Flexural Modulus	ISO 527	1590 MPa
Flexural Yield Strength	ISO 178	62 MPa
Izod Impact Strength, Notched		
@ 23°C	ISO 180	85 kJ/m <sup>2</sup>
@ -40°C	ISO 180	11 kJ/m <sup>2</sup>
<b>Optical Properties (ASTM Method)</b>		
Haze	D 1003	<0.40 %
Total Transmittance	D 1003	91 %
Refractive Index <sup>d</sup>	C 1648	1.5651
ABBE Number <sup>d</sup>	C 1648	31.07
<b>Thermal Properties (ASTM Method)</b>		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	94 °C (201 °F)
@ 1.82 MPa (264 psi)	D 648	81 °C (178 °F)
<b>Typical Processing Conditions</b>		
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)

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

<sup>b</sup> Unless noted otherwise, the test method is ASTM.

<sup>c</sup> Units are in SI or US customary units.

<sup>d</sup> 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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