Technical Data Sheet
Eastman Tritan™ Renew Copolyester VX401-50

Applications
- Eyewear
- 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™ Renew VX401-50 is an amorphous copolyester with excellent clarity and impact resistance. The outstanding chemical resistance, hydrolytic stability, and ease of processing make Tritan Renew VX401-50 an ideal candidate for a broad spectrum of optical applications such sunglass lenses, optical glass lenses and safety eyewear.

Eastman Renew polymers have been certified by International Sustainability & Carbon Certification (ISCC), a global, independent agency for tracking sustainable content in a variety of industries. Renew polymers are produced with ISCC certified circular content by mass balance allocation.

Renew polymers enable a brand to reduce consumption of fossil feedstock-based plastics, achieve sustainability targets without compromise, and be a fast mover in a growing market for sustainable consumer products.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.17
Mold Shrinkage	D 955	0.005-0.007 mm/mm (0.005-0.007 in./in.)
Mechanical Properties		
Tensile Stress @ Yield	D 638	44 MPa (6400 psi)
Tensile Stress @ Break	D 638	53 MPa (7700 psi)
Elongation @ Yield	D 638	7 %
Elongation @ Break	D 638	140 %
Tensile Modulus	D 638	1585 MPa (2.28 x 10^5 psi)
Flexural Modulus	D 790	1585 MPa (2.28 x 10^5 psi)
Flexural Yield Strength	D 790	66 MPa (9600 psi)
Rockwell Hardness, R Scale	D 785	115
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	650 J/m (12.2 ft·lbf/in.)
@ -40°C (-40°F)	D 256	126 J/m (2.4 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	59 J (43 ft·lbf)

@ -40°C (-40°F)	D 3763	63 J (46 ft·lbf)
Optical Properties		
Haze	D 1003	<0.40 %
Total Transmittance	D 1003	92 %
Refractive Index[d]	C 1648	1.5604
ABBE Number[d]	C 1648	30.81
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	109 °C (228 °F)
@ 1.82 MPa (264 psi)	D 648	92 °C (198 °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.*

Technical Disclaimer

Eastman makes no representation and disclaims any warranty that the material in any particular shipment will conform exactly to the values given. Values as well as the performance of the final molded article may be affected by various factors such as the part design, mold design or tooling, drying, processing conditions as well as coloring or pigmentation of the product. No warranty of merchantability or fitness for use is made, and nothing herein waives any of the Seller''s conditions of sale. You must make your own determination of the suitability of this product in your specific application due to the many factors (e.g. design, processing and conditions of use) that affect the performance of the final molded article. Suitability of use should be evaluated with appropriate testing and analysis. The processing melt temperature and mold temperature refer to the actual resin melt temperature and actual mold surface temperature respectively. Consider overall resin residence time, part shot size utilization and part geometry to set appropriate processing melt temperature and mold temperature in order to minimize IV loss and maximize molded part performance.

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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