

Product Data Sheet

Tenite™ Propionate 350A0096914, Natural, Trsp

Application/Uses

- Blood Contact
- Drug Delivery
- IV Components
- Medical Devices
- Surgical Instruments

Key Attributes

- Chemical resistance to most medical solvents including lipids and IPA
- Ease of processing
- Gamma and E-beam color stability

Product Description

Tenite™ cellulosic plastics are noted for their excellent balance of properties - toughness, hardness, strength, surface gloss, clarity, and a warm feel. The mechanical properties of Tenite™ cellulosic plastics differ with plasticizer levels. Lower plasticizer content yields a harder surface, higher heat resistance, greater rigidity, higher tensile strength, and better dimensional stability. Higher plasticizer content increases impact strength. Tenite™ cellulosic plastics are available in natural, clear, selected ambers or smoke transparents and black translucent. Color concentrates are available in let-down ratios from 10:1 to 40:1. Tenite™ Cellulose Acetate Propionate 350-14 has a plasticizer level of 14%. It meets FDA requirements for certain food-contact applications when supplied in specific FDA color numbers.

Typical Properties

Property ^a	Test ^b Method	Typical Value, Units ^c
Plasticizer		14%
Specific Gravity	D 792	1.20
Mechanical Properties		
Tensile Stress @ Yield	D 638	31.7 MPa (4600 psi)
Tensile Stress @ Break	D 638	36.5 MPa (5300 psi)
Elongation @ Break	D 638	40%
Flexural Modulus	D 790	1517 MPa (2.20 x 10 ⁵ psi)
Flexural Yield Strength	D 790	41.4 MPa (6000 psi)
Rockwell Hardness, R Scale	D 785	80
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	416 J/m (7.8 ft·lbf/in.)
@ -40°C (-40°F)	D 256	107 J/m (2.0 ft·lbf/in.)

Thermal Properties

Deflection Temperature ^d

@ 1.82 MPa (264 psi)	D 648	76°C (169°F)
@ 0.455 MPa (66 psi)	D 648	84°C (183°F)
Vicat Softening Temperature ^d	D 1525	100°C (212°F)

Permanence Properties

Water Absorption, 24 h immersion	D 570	1.5%
Soluble Matter Loss	D 570	0.1%
Weight Loss on Heating [72 hours @ 80°C (176°F)]	D 1562	0.6%

Miscellaneous Propionate Properties

Refractive Index, n _D	D 542	1.46-1.49
Light Transmission ^e	E 308	>90%
Haze ^e	D 1003	<8.5%
Specific Heat @ 23°C (73°F)	DSC	1.26-1.67 kJ/kg·K (0.301-0.399 Btu/lb·°F)
Thermal Conductivity	C 177	0.17-0.33 W/m·K (1.2-2.3 Btu·in./h·ft ² ·°F)
Coefficient of Linear Thermal Expansion	D 696	11-17 x 10 ⁻⁵ /°C (mm/mm·°C) (6-9 x 10 ⁻⁵ /°F (in./in.·°F))
Mold Shrinkage	D 955	0.2-0.6%
Dielectric Strength	D 149	11.8-18.7 kV/mm (300-475 V/mil)
Dielectric Constant 1 MHz	D 150	3.3-3.8
Dissipation Factor 1 MHz	D 150	0.01-0.15
Volume Resistivity	D 257	10 ¹³ -10 ¹⁵ ohm·cm

^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 Conditioned 4 hours @ 70°C (158°F)

^e 1.52-mm (0.06-in.) thickness

Characteristics

Formula 350 - base; Complies with FDA food contact regulations when supplied in FDA color numbers.

Comments

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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