

Product Data Sheet

Tenite™ Propionate 360E0096907, Natural, Trsp

Application/Uses

- Ophthalmics
- Oral hygiene
- Plastics for hygiene feminine products
- Toothbrushes

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 360-07 has a plasticizer level of 7%. 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		7%
Specific Gravity	D 792	1.21

Mechanical Properties		
Tensile Stress @ Yield	D 638	41.4 MPa (6000 psi)
Tensile Stress @ Break	D 638	40.7 MPa (5900 psi)
Elongation @ Break	D 638	50%
Flexural Modulus	D 790	1862 MPa (2.70 x 10 ⁵ psi)
Flexural Yield Strength	D 790	55.8 MPa (8100 psi)
Rockwell Hardness, R Scale	D 785	95
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	203 J/m (3.8 ft·lbf/in.)
@ -40°C (-40°F)	D 256	85 J/m (1.6 ft·lbf/in.)

Thermal Properties		
Deflection Temperature	^d	

@ 1.82 MPa (264 psi)	D 648	82°C (180°F)
@ 0.455 MPa (66 psi)	D 648	92°C (198°F)
Vicat Softening Temperature ^d	D 1525	107°C (225°F)

Permanence Properties

Water Absorption, 24 h immersion	D 570	1.7%
Soluble Matter Loss	D 570	0.1%
Weight Loss on Heating [72 hours @ 80°C (176°F)]	D 1562	0.3%

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 360 - 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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