

Product Data Sheet

Tenite™ Butyrate 550E4861316 Clear, Trsp

Application/Uses

- Profiles

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 transluents. Color concentrates are available in let-down ratios from 10:1 to 40:1. Tenite™ Cellulose Acetate Butyrate 550-16 contains an odor mask and has a plasticizer level of 16%. It meets FDA requirements when supplied in FDA color numbers.

Typical Properties

Property ^a	Test ^b Method	Typical Value, Units ^c
Plasticizer		16%
Specific Gravity	D 792	1.17

Mechanical Properties		
Tensile Stress @ Yield	D 638	25.5 MPa (3700 psi)
Tensile Stress @ Break	D 638	33.8 MPa (4900 psi)
Elongation @ Break	D 638	50%
Flexural Modulus	D 790	1103 MPa (1.60 x 10 ⁵ psi)
Flexural Yield Strength	D 790	33.1 MPa (4800 psi)
Rockwell Hardness, R Scale	D 785	40
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	331 J/m (6.2 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	64°C (147°F)
@ 0.455 MPa (66 psi)	D 648	77°C (171°F)

Vicat Softening Temperature ^d

D 1525

96°C (205°F)

Permanence Properties

Water Absorption, 24 h immersion	D 570	1.3%
Soluble Matter Loss	D 570	0.1%
Weight Loss on Heating [72 hours @ 80°C (176°F)]	D 707	0.8%

Miscellaneous Butyrate 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.) specimen thickness**Characteristics**

Formula 550 - odor mask; 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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16-May-2011 4:47:18 PM