Product Data Sheet

Tenite™ Propionate 360E4861314 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 translucent. Color concentrates are available in let-down ratios from 10:1 to 40:1. Tenite™ Cellulosic Acetate Propionate 360-14 has a plasticizer level of 14%.

Typical Properties

Property[a]	Test[b] Method	Typical Value, Units[c]
Plasticizer		14%
Specific Gravity	D 792	1.2
Mechanical Properties		
Tensile Stress @ Yield	D 638	29.3 MPa (4300 psi)
Tensile Stress @ Break	D 638	31.7 MPa (4600 psi)
Elongation @ Break	D 638	45%
Flexural Modulus	D 790	1345 MPa (1.95 x 10^5 psi)
Flexural Yield Strength	D 790	38.3 MPa (5600 psi)
Rockwell Hardness, R Scale	D 785	73
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	475 J/m (8.9 ft·lbf/in.)
@ -40°C (-40°F)	D 256	115 J/m (2.2 ft·lbf/in.)
Thermal Properties		
Deflection Temperature [d]		
@ 1.82 MPa (264 psi)	D 648	74°C (165°F)
@ 0.455 MPa (66 psi)	D 648	82°C (179°F)
Vicat Softening Temperature [d]	D 1525	94°C (202°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	0.9%

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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