

Technical Data Sheet

Tenite™ Propionate 360A4000012 Clear Trsp

Applications

- Consumer electronics
- Consumer housewares-nfc
- Ophthalmics
- Pens/stationary

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 360-12 has a plasticizer level of 12%.

Typical Properties

Property ^a	Test Method ^b	Typical Value, Units ^c
General		
Plasticizer		12 %
Specific Gravity	D 792	1.20
Mechanical Properties		
Tensile Stress @ Yield	D 638	31.7 MPa (4600 psi)
Tensile Stress @ Break	D 638	33.1 MPa (4800 psi)
Elongation @ Break	D 638	45 %
Flexural Modulus	D 790	1448 MPa (2.10 x 10 ⁵ psi)
Flexural Yield Strength	D 790	41.4 MPa (6000 psi)
Rockwell Hardness, R Scale	D 785	78
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.)
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
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	0.4 %
Thermal Properties		
Deflection Temperature ^d		
@ 0.455 MPa (66 psi)	D 648	83 °C (181 °F)
@ 1.82 MPa (264 psi)	D 648	75 °C (167 °F)
Vicat Softening Temperature ^d	D 1525	96 °C (205 °F)

^aUnless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

^bUnless noted otherwise, the test method is ASTM.

^cUnits are in SI or US customary units.

^dConditioned 4 hours @ 70°C (158°F)

^e1.52-mm (0.06-in.) thickness

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.

Characteristics

Formula 360 - base.

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