EASTMAN

Technical Data Sheet

Tenite™ Propionate 383A2R30010 Natural Trsp

Applications

- Consumer electronics
- Consumer housewares-nfc
- Ophthalmics
- Pens/stationary
- Profiles
- Sporting equipment

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 383-10 contains a mold release and has a plasticizer level of 10%.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General		
Plasticizer		10 %
Specific Gravity	D 792	1.21
Mechanical Properties		
Tensile Stress @ Yield	D 638	34.9 MPa (5100 psi)
Tensile Stress @ Break	D 638	35.8 MPa (5200 psi)
Elongation @ Break	D 638	45 %
Flexural Modulus	D 790	1586 MPa (2.30 x 10^5 psi)
Flexural Yield Strength	D 790	46.0 MPa (6700 psi)
Rockwell Hardness, R Scale	D 785	85
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	288 J/m (5.4 ft·lbf/in.)
@ -40°C (-40°F)	D 256	100 J/m (1.9 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	1.6 %
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	86 °C (187 °F)
@ 1.82 MPa (264 psi)	D 648	77 °C (171 °F)
Vicat Softening Temperature[d]	D 1525	100 °C (212 °F)

[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 383 - mold release

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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