

# Technical Data Sheet

## Tenite™ Propionate 375E4000012 Clear Trsp

### Applications

- Automotive
- Closures-fragrance pkg
- Color cosmetics packaging
- Commercial housewares
- Compounders
- Consumer electronics
- Consumer housewares-nfc
- Equipment & machinery
- Fragrance packaging
- Graphic arts
- Indoor signs
- Jars-skin care pkg
- Large appliances non-food contact
- Lighting
- Non-medical housings & hardware for elec
- Ophthalmics
- Packaging components non food contact
- Pens/stationary
- Personal care & cosmetics packaging
- Photographic imaging film
- Point-of-purchase
- Profiles
- Safety glasses/shield
- Skin care packaging
- Sporting equipment
- Tools
- Transaction cards

### 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 375-12 has a plasticizer level of 12%.

### Typical Properties

Property <sup>a</sup>	Test Method <sup>b</sup>	Typical Value, Units <sup>c</sup>
<b>General</b>		
Plasticizer		12 %
Specific Gravity	D 792	1.20
<b>Mechanical Properties</b>		
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 <sup>5</sup> 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.)
<b>Miscellaneous Propionate Properties</b>		
Refractive Index, $n_D$	D 542	1.46-1.49
Light Transmission <sup>e</sup>	E 308	>90 %
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 <sup>2</sup> ·°F)
Coefficient of Linear Thermal Expansion	D 696	11-17 x 10 <sup>-5</sup> /°C (mm/mm·°C) (6-9 x 10 <sup>-5</sup> /°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 <sup>13</sup> -10 <sup>15</sup> ohm·cm
<b>Permanence Properties</b>		
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 %
<b>Thermal Properties</b>		
Deflection Temperature <sup>d</sup>		
@ 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 <sup>d</sup>	D 1525	96 °C (205 °F)

<sup>a</sup>Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

<sup>b</sup>Unless noted otherwise, the test method is ASTM.

<sup>c</sup>Units are in SI or US customary units.

<sup>d</sup>Conditioned 4 hours @ 70°C (158°F)

<sup>e</sup>1.52-mm (0.06-in.) thickness

## Characteristics

Formula 375 - standard inventory. Available in 12% plasticizer only.

## 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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