EASTMAN

Technical Data Sheet

Tenite™ Acetate 105E1R26033 Clear Trsp

Applications

- Commercial housewares
- Compounders
- Consumer housewares-nfc
- Electronic connectors
- Ophthalmics
- Other-lcd displays
- Safety glasses/shield
- Sporting equipment
- Tassels & fringe
- Tools

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, amber, and black. Color concentrates are available in let-down ratios from 10:1 to 40:1. Tenite™ Cellulose Acetate 105-33 is heat stabilized and has a plasticizer level of 33%.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General		
Plasticizer		33 %
Specific Gravity	D 792	1.27
Mechanical Properties		
Tensile Stress @ Yield	D 638	26.2 MPa (3800 psi)
Tensile Stress @ Break	D 638	29.6 MPa (4300 psi)
Elongation @ Break	D 638	30 %
Flexural Modulus	D 790	1655 MPa (2.4 x 10^5 psi)
Flexural Yield Strength	D 790	40.0 MPa (5800 psi)
Rockwell Hardness, R Scale	D 785	59
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	219 J/m (4.1 ft·lbf/in.)
@ -40°C (-40°F)	D 256	53 J/m (1.0 ft·lbf/in.)
Miscellaneous Acetate 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	2.3 %
Soluble Matter Loss	D 570	0.6 %
Weight Loss on Heating		
[72 hours @ 80°C (176°F)]	D 706	3.6 %
Thermal Properties		
Deflection Temperature[d]		
@ 0.455 MPa (66 psi)	D 648	74 °C (165 °F)
@ 1.82 MPa (264 psi)	D 648	63 °C (145 °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.) specimen thickness*

Characteristics

Formula 105 - heat stabilized.

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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