EASTMAN

Technical Data Sheet

Eastman TREVA™ Engineering Bioplastic GC6021NAT Natural

Applications

- Color cosmetics packaging
- Personal care & cosmetics packaging
- Personal care packaging

Key Attributes

- BPA-free
- Dimensional stability
- Excellent chemical resistance
- Excellent flow
- Low birefringence

Product Description

Eastman TREVA™ is a cellulose-based engineering bioplastic that offers both high performance and reduced environmental impact. TREVA is chemically resistant, dimensionally stable and has excellent flow, BPA-free and enables exceptional depth of color and high gloss for opaque applications.

The United States Department of Agriculture's (USDA's) BioPreferred® program has Certified Eastman TREVA™ Engineering Bioplastic GC6021 with a biobased content of 42%.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.22
Mechanical Properties (Injection Molded), ISO Method		
Tensile Stress @ Break	ISO 527	44 MPa
Tensile Strength @ Yield	ISO 527	47 MPa
Elongation @ Yield	ISO 527	5 %
Elongation @ Break	ISO 527	41 %
Tensile Modulus	ISO 527	1881 MPa
Flexural Modulus	ISO 178	1725 MPa
Flexural Strength	ISO 178	64 MPa
Izod Impact Strength, Notched		
@ 23°C	ISO 180	25 kJ/m^2
@ -40°C	ISO 180	14 kJ/m^2
Mechanical Properties		
Tensile Stress @ Yield	D 638	50 MPa (7194 psi)
Tensile Stress @ Break	D 638	48 MPa (6903 psi)
Elongation @ Break	D 638	22 %
Flexural Modulus	D 790	1946 MPa (2.82 x 10^5 psi)
Rockwell Hardness, R Scale	D 785	102
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	195 J/m (3.65 ft·lbf/in.)
@ -40°C (-40°F)	D 256	80 J/m (1.49 ft·lbf/in.)
Miscellaneous Properties		
Mold Shrinkage	D 955	0.8 %
Permanence Properties		
Water Absorption, 24 h immersion	D 570	2.2 %
Target Processing Conditions		
Drying Temperature in a Desiccant		75 °C (170 °F)

Dryer		
Drying Time in a Desiccant Dryer		4 hours
Barrel Set Temperature[e]		235 °C (455 °F)
Mold Temperature		85 °C (185 °F)
Injection Speed		30 mm/sec (1.2 in./sec)
Maximum Barrel Residence Time		4 minutes
Thermal Properties		
Deflection Temperature[d]		
@ 0.455 MPa (66 psi)	D 648	114 °C (238 °F)
@ 1.82 MPa (264 psi)	D 648	100 °C (212 °F)
Vicat Softening Temperature[d]	D 1525	130 °C (266 °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 at 70°C (158°F).*
[e]*With actual measured melt temperature not to exceed 260°C (500°F).*

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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