

Technical Data Sheet

Eastman TREVA™ Engineering Bioplastic GC6021 Clear

Applications

- Non-medical housings & hardware for elec
- Ophthalmics
- Windows

Key Attributes

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

Product Description

Eastman TREVA™ is a new 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 low birefringence.

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) |

^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 at 70°C (158°F).

^eWith 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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