

Technical Data Sheet

Eastar™ Copolyester AN014 Natural

Applications

- Bottles-fragrance pkg
- Closures-fragrance pkg
- Color cosmetics packaging
- Fragrance packaging
- Jars-skin care pkg
- Packaging components non food contact
- Personal care & cosmetics packaging
- Personal care packaging
- Profiles
- Skin care packaging

Product Description

Eastar™ AN014 copolyester is a high flow product that contains a mold release. Other outstanding features of Eastar™ are easily maintained such as excellent appearance and clarity, good physical properties, chemical resistance, and easy processing. Eastar™ AN014 is approved for food contact. Eastar™ AN014 flow lengths are increased 20-40% relative to Eastar™ AN004 as shown by spiral flow testing. This high flow product is especially suited for those applications utilizing thin-walled intricate tools. Under existing United States Food and Drug Administration (FDA) regulations, Eastar™ AN014 may be used in food contact articles which comply with the specifications and conditions of use in 21 CFR 177.1240.

This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED

The GREENGUARD INDOOR AIR QUALITY CERTIFIED Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute (GEI). GEI is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. The GREENGUARD Certification Program is an industry independent, third-party testing program for low-emitting products and materials for indoor environments. For more information about GEI and to obtain printable certificates for Eastman™ Copolyesters, visit

. Choose Eastman Chemical Company under the Manufacturer category and click search to display a list of our products.

This product has been CRADLE TO CRADLE CERTIFIED™ Bronze, with Material Health Certificate, Platinum.

The CRADLE TO CRADLE CERTIFIED mark is a registered certification mark used under license through the Cradle to Cradle Products Innovation Institute, a nonprofit organization that administers the publicly available *Cradle to Cradle Certified*™ Product Standard which provides designers and manufacturers with criteria and requirements for continually improving product materials and manufacturing processes. The *Cradle to Cradle Certified*™ Product Standard guides designers and manufacturers through a continual improvement process that looks at a product through five quality categories—material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness. A product receives an achievement level in each category—Basic, Bronze, Silver, Gold, or Platinum—with the lowest achievement level representing the product's overall mark.

The Material Health Certificate provides manufacturers with a trusted way to communicate their efforts to identify and replace chemicals of concern in their products. For more information about Cradle to Cradle certification and to obtain printable certificates for Eastman copolyesters, visit . Search for Eastman Chemical Company in *Cradle to Cradle Certified* Products Registry.

Typical Properties

Property ^a	Test Method ^b	Typical Value, Units ^c
General Properties		
Specific Gravity	D 792	1.19

Mold Shrinkage	D 955	0.003 mm/mm (0.003 in./in.)
Water Absorption, 24 h immersion	D 570	0.15 %
Mechanical Properties		
Tensile Stress @ Yield	D 638	50 MPa (7200 psi)
Tensile Stress @ Break	D 638	43 MPa (6300 psi)
Elongation @ Yield	D 638	5 %
Elongation @ Break	D 638	270 %
Flexural Yield Strength	D 790	68 MPa (9800 psi)
Flexural Modulus	D 790	1900 MPa (2.7×10^5 psi)
Rockwell Hardness, R Scale	D 785	107
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	80 J/m (1.5 ft·lbf/in.)
@ -40°C (-40°F)	D 256	44 J/m (0.8 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -40°C (-40°F)	D 4812	NB
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C (73°F)	D 3763	40 J (30 ft·lbf)
@ -40°C (-40°F)	D 3763	38 J (28 ft·lbf)
Optical Properties		
Total Transmittance	D 1003	92 %
Haze	D 1003	< 1 %
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	73 °C (163 °F)
@ 1.82 MPa (264 psi)	D 648	66 °C (150 °F)
Vicat Softening Temperature		
@ 1 kg load	D 1525	86 °C (186 °F)
Typical Processing Conditions		
Drying Temperature		70 °C (160 °F)
Drying Time		4 hrs
Processing Melt Temperature		230-280 °C (450-530 °F)
Mold Temperature		15-30 °C (60-80 °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.

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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