EASTMAN

Technical Data Sheet

Eastar™ Copolyester CN005

Applications

- Closures-fragrance pkg
- Compounders
- Fragrance packaging
- Jars-skin care pkg
- Personal care & cosmetics packaging
- Skin care packaging
- Sporting equipment

Key Attributes

- Ability to mold thick parts
- Ease of processing
- Easy to extrude, cut, decorate, and seal
- Excellent chemical resistance
- Excellent clarity and color
- Excellent colorability
- Good impact strength
- Good stiffness
- High gloss appearance
- Improved gate aesthetics
- Readily fill intricate molds
- Toughness

Product Description

Eastar™ CN005 copolyester is a high flow product. It is the first copolyester resin from Eastman that has been designed and engineered specifically for cosmetics packaging applications. With its unsurpassed color and clarity and an unmatched ability to mold thick parts with improved gate aesthetics, Eastar™ CN is clearly the most suited copolyester for premium cosmetics packaging. Other oustanding features of Eastar™ CN are excellent chemical resistance, high gloss, and improvements in processing such as faster drying times, faster cycle times, and lower scrap rates. Eastar™ CN is also ideally suited for two-shot molding techniques due to its lower processing temperatures, very slow crystallization rate, and flow characteristics.

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	1.20 g/cm^3
Mold Shrinkage	D 955	0.003 mm/mm
Mechanical Properties		
Tensile Stress @ Yield	D 638	50 MPa (7210 psi)
Tensile Stress @ Break	D 638	35 MPa (6240 psi)
Elongation @ Yield	D 638	4.5 %
Elongation @ Break	D 638	193 %
Flexural Modulus	D 790	1800 MPa (2.60 x 10^5 psi)
Flexural Strength	D 790	67 MPa (9717 psi)
Rockwell Hardness, R Scale	D 785	105
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	70 J/m (1.3 ft·lbf/in.)
@ -40°C	D 256	38 J/m (.70 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -40°C	D 4812	NB
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C	D 3763	40 J (30 ft lbf/f)
Optical Properties		
Total Transmittance	D 1003	90 %
Haze	D 1003	<.6 %
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	71 °C (160 °F)
@ 1.82 MPa (264 psi)	D 648	63 °C (145 °F)
Typical Processing Conditions		
Drying Temperature		60 °C (140 °F)
Drying Time		2-4 hrs
Processing Melt Temperature		225-245 °C (440-470 °F)
Mold Temperature		16-50 °C (60-120 °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.*

General

Eastar™ Copolyester CN005 is a high flow product especially suited for thick-walled and two-shot molded applications where extreme clarity and gate aesthetics are important. This high flow product is also well suited for those applications utilizing thin-walled intricate parts. Other outstanding features of Eastar™ Copolyester CN005 are good physical properties, chemical resistance and ease of processing.

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.