

# Technical Data Sheet

## Estar™ Copolyester CN015 Natural

### Applications

- Closures-fragrance pkg
- Color cosmetics packaging
- Decorative laminates-metal
- Fragrance packaging
- Jars-skin care pkg
- Personal care & cosmetics packaging
- Personal care packaging
- Skin care packaging
- Small appliances non-food contact

### 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

Estar™ CN015 copolyester is a high flow product that contains a mold release to provide ease of demolding. Designed specifically for the unique requirements of luxury cosmetic packaging, our premier PCTA copolyester delivers unsurpassed color and clarity and a capability to mold thick parts with improved gate aesthetics. Other outstanding features of Estar™ CN are excellent chemical resistance, high gloss, and process enhancements such as faster drying times, faster cycle times, and lower scrap rates. Estar™ CN is also ideally suited for two-shot molding techniques due to its lower processing temperatures, very slow crystallization rate, and flow characteristics.

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This product has received a Platinum level Material Health Certificate from the Cradle to Cradle Products Innovation Institute. A Material Health Certificate is awarded to products that meet the Material Health requirements of the multi-attribute *Cradle to Cradle Certified™* Product Standard. The Cradle to Cradle Products Innovation Institute is 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 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 [www.c2ccertified.org](http://www.c2ccertified.org). Search for Eastman Chemical Company in the Material Health Certificate Registry.

### Typical Properties

Property <sup>a</sup>	Test Method <sup>b</sup>	Typical Value, Units <sup>c</sup>
<b>General Properties</b>		
Specific Gravity	D 792	1.20 g/cm <sup>3</sup>
Mold Shrinkage	D 955	0.003 mm/mm
<b>Mechanical Properties</b>		
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 <sup>5</sup> 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)
<b>Optical Properties</b>		
Total Transmittance	D 1003	90 %
Haze	D 1003	<.6 %
<b>Thermal Properties</b>		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	71 °C (160 °F)
@ 1.82 MPa (264 psi)	D 648	63 °C (145 °F)
<b>Typical Processing Conditions</b>		
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)

<sup>a</sup>Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.

<sup>b</sup>Unless noted otherwise, the test method is ASTM.

<sup>c</sup>Units are in SI or US customary units.

## General

Eastar™ Copolyester CN015 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 CN015 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.

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