

# Product Data Sheet

## Eastar™ Copolyester GN078

### Application/Uses

- Cosmetic jar caps
- Cosmetic jars
- Fragrance caps
- Lipstick containers

### Product Description

Eastar™ Copolyester GN078 has superior water clarity. It also has superior chemical resistance among the copolyester portfolio and is an excellent product for large tough bottles. Eastar™ Copolyester GN078 is an environmentally responsible material that contains no halogens or orthophthalate plasticizers.

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### Typical Properties

Property <sup>a</sup>	Test <sup>b</sup> Method	Typical Value, Units <sup>c</sup>
<b>General Properties</b>		
Density	D 792	1.25 g/cm <sup>3</sup>
Mold Shrinkage	D 955	0.3%
<b>Mechanical Properties</b>		
Tensile Stress @ Yield	D 638	47 MPa (6900 psi)
Tensile Stress @ Break	D 638	48 MPa (7000 psi)
Elongation @ Yield	D 638	5%
Elongation @ Break	D 638	300%
Tensile Modulus	D 638	1900 MPa (2.7 x 10 <sup>5</sup> psi )
Flexural Modulus	D 790	1900 MPa (2.7 x 10 <sup>5</sup> psi )
Flexural Strength	D 790	65 MPa (9400 psi)

Rockwell Hardness, R Scale	D 785	105
Izod Impact Strength, Notched <sup>d</sup>		
@ 23°C (73°F)	D 256	NB
@ -40°C (-40°F)	D 256	63C J/m (1.2C ft·lbf/in.)
Impact Strength, Unnotched <sup>e</sup>		
@ 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	41 J (30 ft·lbf)
@ 0°C (32°F)	D 3763	41 J (30 ft·lbf)
@ -40°C (-40°F)	D 3763	39 J (29 ft·lbf)

### Thermal Properties

Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	73°C (163°F)
@ 1.82 MPa (264 psi)	D 648	63°C (145°F)
Vicat Softening Temperature	D 1525	85°C (185°F)

### Optical Properties

Haze	D 1003	1.3%
Gloss @ 60°	D 2457	143
Regular Transmittance	D 1003	87%
Total Transmittance	D 1003	91%
Color		
L*	D 2244	95.0
a*	D 2244	-0.2
b*	D 2244	0.6

<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.

<sup>d</sup> C = Complete Break; Nonbreak as defined by ASTM D 256.

<sup>e</sup> Nonbreak as defined by ASTM D 4812.

### 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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