

Technical Data Sheet

Eastar™ Copolyester GN046

Application/Uses

- Bottles

Key Attributes

- Easy to extrude, cut, print, and seal
- Effective barrier properties
- Excellent chemical resistance
- Excellent clarity
- Excellent colorability
- Good impact strength
- Good stiffness
- High gloss appearance
- Toughness

Product Description

Eastar™ Copolyester GN046 is a very high melt strength copolyester targeted for extrusion blow molding applications. Blow molding of large parts (up to several pounds) are possible with this material. This product is certified to ANSI/NSF Standard 51.

This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED

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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

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

Typical Properties

Property ^a	Test ^b Method	Typical Value, Units ^c
General Properties		
Specific Gravity	D 792	1.27
Mold Shrinkage Parallel to Flow, 3.2-mm (0.125-in.) thickness	D 955	0.002-0.005 mm/mm (0.002-0.005 in./in.)
Mechanical Properties		
Tensile Stress @ Yield	D 638	50 MPa (7300 psi)
Tensile Stress @ Break	D 638	28 MPa (4100 psi)
Elongation @ Yield	D 638	4%
Elongation @ Break	D 638	110%
Flexural Modulus	D 790	2100 MPa (3.0 x 10 ⁵ psi)
Flexural Strength	D 790	68 MPa (9900 psi)
Rockwell Hardness, R Scale	D 785	108
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	94 J/m (1.8 ft·lbf/in.)
@ -40°C (-40°F)	D 256	53 J/m (1.0 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	36 J (27 ft·lbf)
@ -40°C (-40°F)	D 3763	35 J (26 ft·lbf)
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	70°C (158°F)
@ 1.82 MPa (264 psi)	D 648	62°C (143°F)
Vicat Softening Temperature @ 1 kg load	D 1525	83°C (181°F)
Optical Properties		
Haze	D 1003	0.6%
Regular Transmittance	D 1003	87%
Total Transmittance	D 1003	90%
Gloss @ 60°	D 2457	152
Typical Processing Conditions		
Drying Temperature		71°C (160°F)

Drying Time	6 hrs
Processing Melt Temperature	249-271°C (480-520°F)
Mold Temperature	16-38°C (60-100°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.

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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