Product Data Sheet

Eastar™ Copolyester AN014, Natural

Application/Uses

- Compacts
- Cosmetic jar caps
- Cosmetic jars
- Cosmetics/personal care packaging
- Fragrance caps
- Fragrance packaging
- Lipstick containers

Product Description

Eastar™ AN014 copolyester is a high flow product that contains a mold release. Eastar™ AN014 flow lengths are increased 20-40% relative to Eastar™ AN004 as shown by spiral flow testing. Other outstanding features of Eastar™ are easily maintained such as excellent appearance and clarity, good physical properties, chemical resistance, and easy processing. 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.

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This product has been CRADLE TO CRADLE CERTIFIED^{cm}
The CRADLE TO CRADLE CERTIFIED^{cm} Mark is a registered certification mark used under license through McDonough Braungart Design Chemistry (MBDC). MBDC is a global sustainability consulting and product certification firm. The CRADLE TO CRADLE® framework moves beyond the traditional goal of reducing the negative impacts of commerce ('eco-efficiency'), to a new paradigm of increasing its positive impacts ('eco-effectiveness'). At its core, Cradle to Cradle design perceives the safe and productive processes of nature's 'biological metabolism' as a model for developing a 'technical metabolism' flow of industrial materials. Product components can be designed for continuous recovery and reutilization as biological and technical nutrients within these metabolisms. For more information about MBDC and to obtain printable certificates for Eastman Copolyesters, visit http://www.mbdc.com.

Typical Properties

Property[a]	Test[b] Method	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 x 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)

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)

Optical Properties		
Total Transmittance	D 1003	92%
Haze	D 1003	< 1%

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)

[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.

06-May-2004 8:06:58 AM