EASTMAN

Technical Data Sheet

Eastman Cristal™ EV600 Copolyester

Applications

- Bottles-color cosmetics pkg
- Bottles-skin care pkg
- Closures-fragrance pkg
- Color cosmetics packaging
- Deodorant containers
- Fragrance packaging
- Jars-skin care pkg
- Personal care & cosmetics packaging
- Personal care bottles
- Personal care packaging
- Skin care packaging
- Speciality containers-color cosmetics pk

Key Attributes

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

Product Description

Cristal™ EV600 copolyester is a high flow product 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, Cristal™ is clearly a well-suited copolyester for premium cosmetics packaging. Other outstanding features of Cristal™ are excellent chemical resistance, high gloss, and improvements in processing such as faster cycle times, and lower scrap rates. Cristal™ is also ideally suited for two-shot molding techniques due to its lower processing temperatures, very slow crystallization rate, and flow characteristics.

Typical Properties

Property[a]	Test Method[b]	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.25 g/cm^3
Mold Shrinkage Parallel to Flow, 3.2-mm (0.125-in.) thickness	D 955	0.00450 mm/mm
Mechanical Properties (ISO Method)		
Haze	D 1003	0.30 %
Tensile Strength @ Yield	ISO 527	47 MPa (6816.77 psi)
Tensile Strength @ Break	ISO 527	28.9 MPa (4191.59 psi)
Transmittance	D 1003	91.90 %
Elongation @ Yield	ISO 527	4.20 %
Elongation @ Break	ISO 527	195.40 %
Tensile Modulus	ISO 527	1645.3 MPa (2.39 x 10^5 psi)
Mechanical Properties		
Impact Resistance (Puncture), Energy @ Max. Load @ -40°C (-40°F)	D 3763	50.36 J (37.14 ft·lbf)
Tensile Modulus	D 638	1813 MPa (2.63 x 10^5 psi)
Impact Resistance (Puncture), Energy @ Max. Load @ 23°C (73°F)	D 3763	35.32 J (26.05 ft·lbf)
Tensile Stress @ Break	D 638	51.9 MPa (7527.50 psi)
Tensile Stress @ Yield	D 638	47.4 MPa (6874.79 psi)

Elongation @ Break	D 638	321.6 %
Elongation @ Yield	D 638	4.0 %
Flexural Yield Strength	D 790	70.162 MPa (10176.14 psi)
Flexural Modulus	D 790	1927.278 MPa (2.6 x 10^5 psi)
Rockwell Hardness, R Scale	D 785	102.3
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	934 J/m (17.50 ft·lbf/in.)
@ -40°C (-40°F)	D 256	65.7 J/m (1.23 ft·lbf/in.)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	2457.90 J/m (46.05 ft·lbf/in.)
@ -40°C (-40°F)	D 4812	3510.50 J/m (65.76 ft·lbf/in.)
Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	71.5 °C (160.7 °F)
@ 1.82 MPa (264 psi)	D 648	63.5 °C (146.3 °F)
Typical Processing Conditions		
Drying Temperature		65 °C (150 °F)
Drying Time		8 hrs
Processing Melt Temperature		218-240 °C (425-465 °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 based on limited testing. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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