

Product Data Sheet

Eastman Spectar™ clear copolyester

Application/Uses

- Decorative Light-Transmitting Panels
- Heavy gauge sheet displays

Key Attributes

- Easy to print and decorate
- Excellent clarity
- Excellent thermoforming characteristics
- Good chemical resistance
- Odorless
- Outstanding impact resistance
- Outstanding toughness allows downgauging
- Resists chipping and cracking
- Versatile - easy to fabricate

Product Description

Eastman Spectar™ Clear is a copolyester, developed by Eastman to achieve measurably improved sheet clarity and edge color while maintaining the performance characteristics for which Eastman Spectar™ copolyester has become known in the industry. It offers the thermoformability and ease of fabrication of Eastman Spectar™ copolyester along with significantly improved clarity. Eastman Spectar™ Clear also offers approximately double the notch impact strength, 50% higher instrumented impact strength and better chemical resistance when compared to traditional Spectar™ Copolyester.

This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.

The GREENGUARD INDOOR AIR QUALITY CERTIFIED® Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute (GEI). GEI is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. 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 (Preliminary)

Property ^a	Test ^b Method	Typical Value, Units ^c
Thickness of Sheet Tested		3 mm (0.118 in.)
Intrinsic Viscosity	EMN-A-AC-G-V-1	0.73
Density	D 1505	1.23 g/cm ³
Water Absorption, 24 h immersion	D 570	0.19%

Optical Properties

Haze	D 1003	0.5%
Gloss @ 60°	D 2457	150
Total Transmittance	D 1003	91%
Yellowness Index	E 313	0.81
Color		
L*	E 313	95.74
a*		-0.15
b*		0.34

Thermal Properties

Deflection Temperature		
@ 1.82 MPa (264 psi)	D 648	73°C (163°F)
@ 0.455 MPa (66 psi)		77°C (171°F)
Vicat Softening Temperature	D 1525	86°C (187°F)
Coefficient of Linear Thermal Expansion	D 696	7.62 x 10 ⁻⁵ /°C (mm/mm·°C) (4.26 x 10 ⁻⁵ /°F (in./in.·°F))
UL Flammability Classification	UL 94	V-2

Mechanical Properties

Tensile Strength @ Yield	D 638	48 MPa (6900 psi)
Tensile Strength @ Break	D 638	53 MPa (7700 psi)
Elongation @ Yield	D 638	5%
Elongation @ Break	D 638	340%
Tensile Modulus	D 638	1800 MPa (2.6 x 10 ⁵ psi)
Flexural Strength @ 5% strain	D 790	71 MPa (10300 psi)
Flexural Modulus	D 790	2000 MPa (2.9 x 10 ⁵ psi)
Impact Strength, Unnotched		
@ 23°C (73°F)	D 4812	NB
@ -30°C (-22°F)		NB
Izod Impact Strength, Notched		
@ 23°C (73°F)	D 256	NB
@ 0°C (32°F)		113 J/m (2.2 ft·lbf/in.)
@ -30°C (-22°F)		83 J/m (1.6 ft·lbf/in.)
Impact Resistance (Puncture), Energy @ Max. Load		
@ 23°C (73°F)	D 3763	41 J (29 ft·lbf)
@ 0°C (32°F)		42 J (30 ft·lbf)
@ -30°C (-22°F)		52 J (36 ft·lbf)
Rockwell Hardness, R Scale	D 785	107

Electrical Properties

Arc Resistance	D 495	130 sec
Static Decay Rate	D 4470	Failed to Discharge

Surface Resistivity	D 257	10^{17} ohms/square
Volume Resistivity	D 257	10^{16} ohm·cm

- ^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.

Eastman and its marketing affiliates shall not be responsible for the use of this information, or of any product, method, or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability of fitness of any product, and nothing herein waives any of the Seller's conditions of sale.

24-Dec-2008 12:12:50 PM