

Product Data Sheet

Eastman Embrace™ High Yield HY1000 Compound

Application/Uses

- Beverage packaging
- Distilled spirits packaging
- Flexible packaging
- Food packaging
- Household packaging
- Juice packaging
- Labels to fit high contour containers
- Personal care packaging
- Shrink labels
- UV & light blocking
- Wrap around design

Key Attributes

- Eye-catching 360° graphic capability
- Noise-free shrink film for squeezable condiment packages
- Shrink film density less than 1.0g/cc
- Soft touch for easy grip
- Up to 70% ultimate shrinkage
- UV and visible light protection

Product Description

Eastman Embrace™ High Yield is combined with Eastman Embrace™ LV copolyester to create a white opaque microvoided shrinkable film. Embrace High Yield has a density below 1.0 g/cc with a high ultimate shrinkage up to 70%. Benefits of Embrace High Yield such as UV and visible light protection, and optimum MD growth that is ~30% less dense than other copolyesters, enabling more film per weight, offer a robust packaging solution that is appealing to the consumer and functional for the brand owner. Unique shelf appeal, marketing benefits of full body shrink film labels along with the ability to shrink around highly contoured containers makes Eastman Embrace HY™ copolyester another new and fresh idea from Eastman Chemical Company that will further differentiate your product.

This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.

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Typical Properties (Preliminary)

Property ^a	Test ^b Method	Typical Value, Units ^c
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Film Properties (Oriented Film)

Thickness of Film Tested		63.5 microns (2.5 mils)
Density	D 1505	0.89 g/cm ³
Color (CIELAB, D65, 10°)		

L*	E1331	93.4
a*		-0.17
b*		-0.26
Opacity		91.4
Yellowness Index	E 313	1.71
Gloss @ 60°	D 2457	8
Water Vapor Transmission Rate ^d	F 1249	38.2 g/m ² ·24h (2.5 g/100in. ² ·24h)
Gas Permeability, CO ₂ @ 30°C (86°F), 68% RH	D 1434	42.7 cm ³ ·mm/m ² ·24h·atm (108.5 cm ³ ·mil/100in. ² ·24h·atm)
Gas Permeability, O ₂ @ 30°C (86°F), 68%, 100% RH	D 3985	10.4 cm ³ ·mm/m ² ·24h·atm (26.4 cm ³ ·mil/100in. ² ·24h·atm)
Tensile Strength @ Break		
M.D.	D 882	23 MPa (3400 psi)
T.D.		117 MPa (17000 psi)
Elongation @ Break		
M.D.	D 882	380%
T.D.		22%
Tensile Modulus		
M.D.	D 882	850 MPa (1.2 x 10 ⁵ psi)
T.D.		3000 MPa (4.3 x 10 ⁵ psi)
Glass Transition Temperature (T _g) ^e		77°C (171°F)
Surface Tension, Harmonic Mean ^f		
Dispersive		36.3 dynes/cm
Total		36.3 dynes/cm
Shrinkage @ 95°C, 10 seconds		
T.D.		73%
M.D.		-1%
UV Transmittance ^g		
@ 300 nm		0.2%
@ 325 nm		6.0%
@ 350 nm		9.8%
@ 375 nm		11.5%
@ 400 nm		12.5%

^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.

^d Test conducted at 38°C (100°F) and 100% relative humidity.

^e Eastman test method EMNR-A-AS-G-DTP-1-1; 2nd heating scan

^f Eastman test method ECRL-A-PA-G-TEN-3-2

^g UV Transmittance generated utilizing an integrating sphere; performed on sample of Embrace Copolyester + 25% High Yield HY1000 Compound.

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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