Embrace□?LV Copolyester

Copolyester

Eastman Chemical Company

Message:

The world's leading shrink film just got better with the introduction of Eastman Embrace™ LV to the Eastman Embrace™ family of resins. LV stands for LOW shrink force and VERSATILE shrink curve. Living up to its name, it demonstrates its versatility with its ability to be produced with 40 to 50% reduction in shrink force, compared with other polyester shrink films and with a shrink curve that is similar to both PVC and OPS while still maintaining ultimate shrinkage greater than 75%. This versatility is achieved by making changes to the extruders manufacturing process. Eastman Embrace™ LV emulates all visually satisfying attributes expected from the current Eastman Embrace™ such as high gloss and clarity.
This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED®.
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This product has been CRADLE TO CRADLE CERTIFIED Silver.
The CRADLE TO CRADLE CERTIFIED 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 www.mbdc.com. Choose Eastman Chemical Company under Company Name in C2C Certified products to display a list of our products.

General Information			
Features	Excellent Printability		
	High Clarity		
	High Gloss		
	High Shrinkage		
Uses	Cosmetic Packaging		
	Film		
	Food Packaging		
	Labels		
	Packaging		
	Pharmaceutical Packaging		
	Shrink Wrap		
Forms	Pellets		
Processing Method	Cast Film		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.30	g/cm³	ASTM D1505
Color			ASTM D2244
a : 50.0 µm	0.020		
b : 50.0 µm	0.38		
L : 50.0 µm	96		

Inherent Viscosity [1]			Internal Method
23°C, 50.0 µm	0.70		
23°C, 250.0 µm	0.70		
Surface Tension			
Harmonic Mean, Dispersive : 23°C, 50.0 µm	44	mN/m	
Harmonic Mean, Polar : 23°C, 50.0 µm	3.0	mN/m	
Harmonic Mean, Total : 23°C, 50.0 µm	48	mN/m	
Tear Propagation Resistance [2]			ASTM D1938
MD : 23°C, 250.0 µm	34	kN/m	
TD : 23°C, 250.0 µm	37	kN/m	
Tear Strength			ASTM D2582
MD : 23°C, 250.0 µm	51	N	
TD : 23°C, 250.0 µm	62	N	
Ultimate Shrinkage (90°C, 50.0 µm)	78	%	

Films	Nominal Value	Unit	Test Method
	50		
Film Thickness - Tested	250	µm	
Secant Modulus			ASTM D882
MD : 50 µm	2000	MPa	
MD : 250 µm	1900	MPa	
TD : 50 µm	5300	MPa	
TD : 250 µm	1900	MPa	
Tensile Strength			ASTM D882
MD : Yield,50 µm	43.0	MPa	
TD : Yield,50 µm	105	MPa	
MD : Break, 50 µm	49.0	MPa	
MD : Break, 250 µm	51.0	MPa	
TD : Break, 50 µm	258	MPa	
TD : Break, 250 µm	50.0	MPa	
Tensile Elongation			ASTM D882
MD : Yield, 50 µm	3.0	%	
TD : Yield, 50 µm	4.0	%	
MD : Break, 50 µm	480	%	
MD : Break, 250 µm	4.0	%	
TD : Break, 50 µm	42	%	
TD : Break, 250 µm	4.0	%	
Elmendorf Tear Strength			ASTM D1922
MD : 50 µm	240	g	
MD : 250 µm	700	g	

TD : 250 μm	860	g	
Oxygen Permeability			ASTM D3985
30°C, 50 μm, 68% RH	3.9	$cm^3 \cdot mm/m^2/atm/24\ hr$	
30°C, 250 μm, 68% RH	7.4	$cm^3 \cdot mm/m^2/atm/24\ hr$	
Water Vapor Transmission Rate			ASTM F1249
38°C, 100% RH, 50 μm	25	$g/m^2/24\ hr$	
38°C, 100% RH, 250 μm	6.7	$g/m^2/24\ hr$	
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	71.0	°C	ASTM D1525
Vicat Softening Temperature	69.0	°C	ASTM D1525
Optical	Nominal Value	Unit	Test Method
Gloss			ASTM D2457
60°, 50.0 μm	110		
60°, 250 μm	161		
Transmittance			ASTM D1003
Total, 50.0 μm	92.0	%	
Regular, 50.0 μm	87.0	%	
Total, 250 μm	92.0	%	
Regular, 250 μm	89.0	%	
Clarity			ASTM D1746
50.0 μm	98.0		
250 μm	99.0		
Haze			ASTM D1003
50.0 μm	3.8	%	
250 μm	1.4	%	
NOTE			
1.	EMN-A-AC-G-V-1		
2.	Split Tear Method, 254 mm/min		

Recommended distributors for this material

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