POLYVANTIS

PRODUCT DATASHEET

LEXAN™ 8B35V FILM

DESCRIPTION

LEXAN™ 8B35V Film is a one-side velvet, one side matte transparent polycarbonate film for applications, which require UL94 flammability performance. It offers high temperature resistance, excellent dimensional stability, as well as good printability without pre- treatment making it an excellent candidate for multi-layer printing for applications such as overlays, floor graphics, high performance labels and in-mould decoration. It can be screen printed using traditional solvent based or water based inks, as well as UV or infrared drying inks and offers ease of processing for thermoforming, embossing, die cutting, hydro-forming and bending. The velvet texture offers mar resistance, and can be used over light-emitting devices (LEDs).

TYPICAL PROPERTY VALUES*

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
MECHANICAL						
Tensile Strength @ Yield	ASTM D882	psi	8500	ISO 527	MPa	62
Ultimate	ASTM D882	psi	9000	ISO 527	MPa	65
Tensile Modulus	ASTM D882	psi	300000	ISO 527	MPa	2506
Tensile Elongation at Break	ASTM D882	%	100-160	ISO 527	%	100-154
Gardner Impact Strength at 0.03” (0.75 mm)	ASTM D3029	ft-lb	23	ISO 6603-1	J	31
Tear Strength						
Initiation	ASTM D1004	lb/mil	1.4-1.8		kN/m	245
Propagation	ASTM D1922	g/mil	30-55		g/mil	10-20
Puncture Resistance (Dynatup)	ASTM D3763	ft-lb	9		J	12
Fold Endurance (MIT)						
0.010”(0.25 mm)	ASTM D2176-69	Double folds	60			
0.020”(0.50mm)	ASTM D2176-69	Double folds	20			
THERMAL						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft^2/°F/in	1.35		W/m°K	0.2
Coefficient of Thermal Expansion	ASTM E831	(x10^{-5}/°F)	3.2	ISO 11359	(x10^{-5}/°C)	5.8
Specific Heat @ 40 °F (4 °C)	ASTM E1269	Btu/lb/°F	0.3		KJ/Kg-°C	1.25
Glass Transition Temperature	ASTM D3417/D3418	°F	307	ISO 11357	°C	153
Vicat Softening Temperature, B	D3418	°F				
Heat Deflection Temp. by TMA at 1.8 MPa	ASTM 1525-00 Modified	°F	323	ISO 75 Modified	°C	135
Shrinkage at 302°F (150°C)	ASTM D1204	°F	1.40		%	1.40
Brittleness Temperature	ASTM D746	°F	-211		°C	-1.35

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
PHYSICAL				**ISO 1183**		
Density	ASTM D792	Slug/ft^3	2.3	ISO 62	kg/m^3	1200
Water Absorption, 24 hrs.	ASTM D570	% change	0.35	ISO 62	% change	0.35
Surface Roughness (RMS)	ASTM D5946-01	L	See chart			
Surface Energy (1st surface / 2nd surface)	Dyne Pens	Dyne	37/31			
Surface Tension (1st surface / 2nd surface)	ASTM D3363	-	>44/38-40			
Taber Abrasion	ASTM D1044	Delta Haze	<1			
OPTICAL						
Refractive Index @ 77 °F (25 °C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	80			
Yellowness Index	ASTM D1925	%	2.2			
Haze	ASTM D1003	%	102			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-				
UV cutout	UV/Visual	%				
	Spectroscopy	-	0.3			

- These are typical properties and are not intended for specification purposes. If minimum certifiable properties are required, please contact your local POLYVANTIS representative or the POLYVANTIS Quality Services Department.

MANUFACTURING SPECIFICATIONS

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
0.003” (0.075 mm)	± 10%
0.005-0.007” (0.125-0.175 mm)	± 8%
0.010-0.015” (0.250-0.375 mm)	± 5%
0.020-0.007” (0.500 mm)	± 3%

UL FLAMMABILITY RATING / PERFORMANCE LEVELS

THICKNESS	RATING
>0.003” (0.075 mm)	UL94V-2
<0.015” (0.375 mm)	UL94V-2
<0.015” (0.375 mm) and greater	UL94V-2
File Number	E539253/E539157

GLOSS BY GAUGE (ASTMD 523-60)

GAUGE ANGLE VELVET	ANGLE		VELVET	MATTE
>0.003” (0.075 mm)	60°	Minimum	3	5
		Maximum	8	15
<0.005” – 0.020” (0.125 mm–0.500mm)	60°	Minimum	3	5
		Maximum	4.5	15

RMS BY GAUGE

GAUGE		MATTE
>0.003” (0.075 mm)	Minimum	45
	Maximum	165
<0.005” – 0.020” (0.125 mm–0.500mm)	Minimum	10
	Maximum	55

© POLYVANTIS PV_DS_001_8B35V-FILM_ENG_08-24