POLYVANTIS

PRODUCT DATASHEET

LEXAN™ 8A13V FILM

DESCRIPTION

LEXAN™ 8A13V Film is a one side matte, one side polished transparent polycarbonate film. It provides high heat resistance and superior dimensional stability for graphic art applications which require UL94 flammability performance. LEXAN 8A13V Film has good printability without pretreatment 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 matte texture offers mar resistance, and can be used over light-emitting devices (LEDs). Its low gloss level reduces glare in automobile interiors and office environments. Recent technology improvements now in effect reduce texture variation by 50% and allow improved gauge control (see below).

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	2100
Tensile Elongation at Break	ASTM D882	%	100-155	ISO 527	%	100
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		kN/m	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” (0.50 mm)	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)	7
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	ASTM 1525-00 modified	°F	323		°C	150
Heat Deflection Temp. by TMA at 1.8 Mpa		°F	290	ISO 75 Modified	°C	135
Brittleness Temperature	ASTM D746	°F	-211		°C	-135

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
PHYSICAL						
Density	ASTM D792	slug/ft^3	2.4	ISO 1183	kg/m^3	1230
Water Absorption, 24 hrs.	ASTM D570	% change	0.35	ISO 62	% change	0.35
Surface Roughness (RMS)	ASME B46-1	µ	55			
Surface Energy(1st surface/ 2nd surface)	ASTM D5946-01	-	34/36			
Surface Tension(1st surface/2nd surface)	Dyne Pens	Dyne	>44/38-40			
OPTICAL						
Refractive Index @77°F (25°C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	87			
Yellowness Index	ASTM D1925	%	0.7			
Haze	ASTM D1003	%	99			
Gloss over Flat Black min/max @ 85°	ASTM D523-60	-	10	ISO 2813	-	10

- 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. Reported values are based on 0.250 mm (0.010") thickness film unless otherwise noted.

MANUFACTURING SPECIFICATIONS

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
0.005-0.007" (0.125-0.175 mm)	+/- 10%
0.010-0.015" (0.250-0.375 mm)	+/- 5%
0.020" (0.500 mm)	+/- 3%

UL FLAMMABILITY RATING / PERFORMANCE LEVELS

THICKNESS	RATING
0.010-0.015" (0.250-0.375 mm)	UL94V-2
0.015" (0.375 mm) and greater	UL94V-2
File Number	E539157

GLOSS BY GAUGE: (ASTMD 523-85)

GAUGE	ANGLE		MATTE
0.005" (0.125 mm)	85°	Minimum	4
		Maximum	15
0.006-0.025" (0.150-0.625 mm)	85°	Minimum	4

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