POLYVANTIS

PRODUCT DATASHEET

LEXAN™ 8B28 FILM

DESCRIPTION

LEXAN™ 8B28 film is a one side velvet, one side fine matt translucent or opaque white polycarbonate film featuring high heat resistance and superior dimensional stability. It offers good printability and ease of processing (die-cutting, embossing, bending, folding, thermoforming and hydroforming). LEXAN 8B28 film can be used in wide variety of applications such as lamp shades, lamp diffusers for indirect lighting, exhibition stand panels, smart cards, labels, and dials.

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	63
Ultimate	ASTM D882	psi	9000	ISO 527	MPa	65
Tensile Modulus	ASTM D882	psi	300000	ISO 527	MPa	>2000
Tensile Elongation at Break	ASTM D882	%	100-160	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	80			
0.020" (0.50 mm)	ASTM D2176-69	double folds	N/A			
THERMAL						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hr/ft2/°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	148
Vicat Softening Temperature, B	ASTM 1525-00 modified	°F	312		°C	144
Heat Deflection Temp. by TMA at 1.8 Mpa		°F	290	ISO 75 Modified	°C	127
Shrinkage at 302°F (150°C)	ASTM D1204	%	1.10		%	1.40
Brittleness Temperature	ASTM D746	°F	-211		°C	-135
PHYSICAL						
Density	ASTM D792	$slug/ft^3$	2.3	ISO 1183	kg/m^3	1200
Water Absorption, 24 hrs.	ASTM D570	% change	0.35	ISO 62	% change	0.35
Energy (1^{st} / 2^{nd} surface)	ASTM D5946-01	-	35/35			
Surface Tension	Dyne Pens	Dyne	>34			

PROPERTY	ASTM TEST METHOD	UNITS (USCS)	VALUE	ISO TEST METHOD	UNITS (SI)	VALUE
OPTICAL						
Refractive Index @77°F (25°C)	ASTM D542A	-	N/A			
Light Transmission	ASTM D1003	%	45			
Yellowness Index	ASTM D1925	%	1.9			
Haze	ASTM D1003	%	103			
Gloss over Flat Black min/max @60°	ASTM D523-60	-	See chart	ISO 2813	-	See chart

*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.

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COLOR	NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
82728 – Translucent white	0.007-0.030" (0.175-0.750mm)	± 5%
805085 – Opaque white	0.010-0.030" (0.250-0.750 mm)	± 5%

GLOSS: (ASTM D523-60)

GAUGE	ANGLE		MATTE
0.010"	60°	Min	22
(0.250mm)		Max	46
0.015"	60°	Min	30
(0.375mm)		Max	57
0.020"	60°	Min	37
(0.500mm)		Max	64
0.030"	60°	Min	45
(0.750mm)		Max	69

GLOSS: (ASTM D523-60)

GAUGE	ANGLE		VELVET
0.010"	60°	Min	3
(0.250mm)		Max	7
0.015"	60°	Min	3
(0.375mm)		Max	7
0.020"	60°	Min	4
(0.500 mm)		Max	8
0.030"	60°	Min	5
(0.750mm)		Max	10

POLYVANTIS

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LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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