POLYVANTIS

PRODUCT DATASHEET

LEXAN™ 8B38 FILM

DESCRIPTION

LEXAN™ 8B38 film is a transparent polycarbonate film, velvet on one side and fine matte on the other, that offers excellent clarity, high heat resistance, and superior dimensional stability in all thicknesses. LEXAN 8B38 film can be printed using traditional solvent-based inks as well as IR and UV curing inks. It offers ease of processing for thermoforming, hydroforming, embossing, die-cutting and bending. Since the surface of LEXAN 8B38 film is low gloss, it is ideal for overlays, back-lit dials, and clusters, second surface printed applications, dead-front graphics, display protection and poster protection.

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	130			
0.020" (0.50 mm)	ASTM D2176-69	double folds	35			
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)	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	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
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	$slug/ft^3$	2.3	ISO 1183	kg/m^3	1200
Water Absorption, 24 hrs.	ASTM D570	% change	0.35	ISO 62	% change	0.35
Surface Roughness (RMS)	ASME B46-1	-	29			
Surface Energy (1^{st} / 2^{nd} surface)	ASTM D5946-01	-	39/38			
Surface Tension (1^{st} / 2^{nd} surface)	Dyne Pens	Dyne	>44/38-40			
OPTICAL						
Refractive Index @77°F (25°C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	85			
Yellowness Index	ASTM D1925	%	1.5			
Haze	ASTM D1003	%	86			
Gloss over Flat Black min/max @60°	ASTM D523-60	-	3.6	ISO 2813	-	3.6

*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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MANUFACTURING SPECIFICATIONS

NOMINAL GAUGE RANGES	MIN./MAX LIMIT OF NOMINAL
0.010" (0.250)	± 8%
0.015-0.020" (0.375- 0.500 mm)	± 5%

GLOSS: (ASTM D523-60)

ANGLE		VELVET	MATTE
60°	Minimum	2.8	20
	Maximum	4.3	40

POLYVANTIS

Polycarbonate products are sold globally under the trademark LEXAN™ Film & Sheet, owned by SABIC or its subsidiaries or affiliates.

www.polyvantis.com

LEXAN™ POLYCARBONATE FILM & SHEET Tough, Virtually Unbreakable

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