POLYVANTIS

PRODUCT DATASHEET

LEXAN™ 8A13E FILM

DESCRIPTION

LEXAN™ 8A13E film is a transparent polished / fine matte polycarbonate film, that offers excellent clarity, high heat resistance, and superior dimensional stability in all thicknesses. LEXAN 8A13E 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.

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	60			130
0.020" (0.50 mm)	ASTM D2176-69	double folds	30			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	micro-inch	30 (FM)			
Surface Roughness, min/max (Ra).	-			ISO4288	um	0.5-.0(FM)
Surface Energy (1st / 2nd surface)	Dyne Pens	Dyne	38 FM/34 POL		nm	40
Surface Tension	Dyne Pens	Dyne	>34			
OPTICAL						
Refractive Index @77°F (25°C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	88-91			
Yellowness Index	ASTM D1925	%	0.6			
Haze	ASTM D1003	%	90			
Gloss over Flat Black min/max @85°	ASTM D523-60	-	12 (FM)	ISO 2813	%	12 (FM)
Gloss Black back paint, min/max @60°	ASTM D523-60	%	1.9-4.5 (FM)	ISO 2813	%	1.9-4.5 (FM)

*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
0.005-0.010" (0.125-0.250 mm)	-/+ 5%
0.015-0.020" (0.375-0.500mm)	-/+ 3%

POLYVANTIS

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

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LEXAN™ POLYCARBONATE FILM & SHEET | Tough, Virtually Unbreakable

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