Topflight Italia spa

DATA SHEET

Lexan 8B35 Film

DESCRIPTION

Lexan* 8B35 Film is a one side velvet, one side matte transparent polycarbonate film. 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 processi ng for thermoforming, embossing, die-cutting, hydro-forming and bending. The velvet texture offers mar resistance, and can be used over light-emitting devices (LEDs). Recent technology improvements now in effect reduce texture and color variation by 50% and allow improved gauge control (see below).

Typical Property Values [1]

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	%	100-156	ISO 527	%	100-154
Gardner Impact Strenght at 0.03 in. (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
Propogation	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 inch (0.25 mm)	ASTM D2176-69	double folds	60			
0.020 inch (0.50 mm)	ASTM D2176-69	double folds	20			
Thermal						
Coefficient of Thermal Conductivity	ASTM D5470	$Btu/hr/ft^2/^oF/in$	1.35		W/m^oK	0.2
Coefficient of Thermal Expansion	ASTM E831	$(x\ 10^{-5}/^oF)$	3.2	ISO 11359	$(x\ 10^{-5}/^oC)$	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	ASTM 1525-00 Modified	°F	323		°C	160
Heat Deflection Temp. by TMA at 1.8 MPa		°F	290	ISO 75 Modified	°C	145
Shrinkage at 302 °F (150 °C)	ASTM D1204	%	1.40%		%	1.40%
Brittleness Temperature	ASTM D746	°F	-211		°C	-135

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" (0.500 mm)	± 3%

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Physical						
Density	ASTM D792	slug/ft³	2.3	ISO 1183	kg/m³	1200
Water Absorption, 24 hrs.	ASTM D570	% change	0.35	ISO 62	% change	0.35
Surface Roughness (RMS)	ASTM D5946-01	-	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	-	see chart	ISO 2813	-	see chart
UV cutout	UV/Visual Spectroscopy	%	0.3			

Gloss by Gauge: (ASTMD 523-60)

	Gauge	Angle		Velvet	Matte
8B35	0.003" (0.075 mm)	60°	Minimum	3	5
			Maximum	8	15
	0.005-0.020" (0.125-0.500 mm)	60°	Minimum	3	5
			Maximum	4.5	15

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