

Materials Data Sheet - Handling & Printing

EdgeLexan®
Polycarbonate Film



For Edge® Printers

Full Materials Specifications are shown Pages 2-3.
Original Materials Manufacturer Specification from Copyright & Registered Trademark Owner

EdgeLexan®

Velvet/Gloss Polycarbonate Film

Gloss/Gloss Polycarbonate Film

Supplied Print Side Coated for Thermal Transfer Printing by Edge® Printers

Supplied under various Trade Names - EdgeLexan®, Armalex, LexEdge® etc.

Thermal Transfer Printed by EdgeFoil®s, GerberEdge® Foils, DuraCoat® Foils etc.

Roll Size	380mm (15inch) Wide x 45M Rolls
Print Feed	Tractor Feed Perforated
Thickness	250micron (10mill)
Shelf Life	12months Plus - Prior to Printing - Dry Storage in Supply Packaging
Protective Film	Print Side Protected - Gloss Side - OutSide Wound <i>Remove Protective Film Prior to Printing</i>
Post Print Handling	Intended for Reverse Thermal Transfer Printing Interleave Paper between Printed Film for Dwell Cure Time <i>Do not stack Print to Print</i>
Profile Cutting	Easy Cut Characteristics - Do NOT cut thro' full thickness of material <i>SCORE Print Side surface - Cut approx 125um deep - Press out scored areas</i> <i>Use 45 Degree Plotter Cutter Blades for Profile Surface 'Scoring'</i>
Temperature	Hi Temp Resistive - See Original Manufacturers Specs
Adhesive	Double Sided Adhesive - Twin Liner can be used <i>Polycarbonate Compatible</i>

Intended for Interior Use - Electronic Control Panels - Overlays - Membrane Overlays - Premier Labelling

www.EdgeFoil.co.uk

Lexan® is a Registered Trademark of SABIC Innovative Plastics IP BV Netherlands

Lexan® 8A35 Film - Velvet/Gloss

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Original Materials Specifications - Lexan® Polycarbonate Film

EdgeLexan® is Original Lexan® Polycarbonate Film

Further processed to enable Tractor Feed - Thermal Transfer Printing by Edge® Printers using EdgeFolios® Pure Resin Thermal Transfer Printing Folds

Product Datasheet

Description

Lexan 8A35 is one side velvet, one side polished transparent polycarbonate film. It offers high temperature resistance with excellent dimensional stability, good printability for multi-layer printing for applications such as overlays, floor graphics & high-performance labels. With additional specialised print side (gloss clear) coatings, it is an excellent media for Premier Thermal Transfer Printing and offers ease of processing for thermoforming, embossing, die-cutting, embossing, hydro-forming & bending. The velvet texture offers mark resistance, and can be used over light-emitting devices (LEDs).

Typical Property Values

Property	ASTM Test Method	Units (USCS)	Value	ISO Test Method	Units (SI)	Value
Mechanical						
Tensile Strength @ Yield	ASTM D382	psi	8500	ISO 527	MPa	62
Ultimate	ASTM D382	psi	9000	ISO 527	MPa	65
Tensile Modulus	ASTM D382	psi	300000	ISO 527	MPa	2508
Tensile Elongation at Break	ASTM D382	%	100-160	ISO 527	%	100-154
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/ft ² /°F/in	1.35		W/m ² /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	153
Vicat Softening Temperature, B	ASTM 1525-00 modified	°F	323		°C	160
Heat Deflection Temp. by TMA at 1.8 Mpa						
Shrinkage at 302°F (150°C)	ASTM D1204	%	1.40	ISO 75 Modified	°C	145
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
Surface Roughness (RMS)	ASME B46-1	l	55			
Surface Energy(1st surface/ 2nd surface)	ASTM D5846-01	-	34/34			
Surface Tension(1st surface/ 2nd surface)	Dyne Pens	Dyne	40-42/ 38-40			
Optical						
Refractive Index @77°F (25°C)	ASTM D542A	-	1.6			
Light Transmission	ASTM D1003	%	90			
Yellowness Index	ASTM D1925	%	0.9			
Haze	ASTM D1003	%	42			
Gloss over Flat Black min/max @ 60°	ASTM D523-60	-	see chart	ISO 2813	-	see chart

Manufacturing Specifications

Nominal Gauge Ranges 0.010-0.015" (0.250-0.375 mm) 0.020" (0.500 mm)	Min./Max Limit of Nominal +/-5% +/-3%
Retardation (birefringence)	300(nm)

Gloss: ASTMD 523-85

	Gauge	Angle	Velvet
8A35	0.008 - 0.020" (0.200 - 0.500mm)	85°	Minimum 8 Maximum 19

Lexan® 8010 Film - Gloss/Gloss

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Original Materials Specifications - Lexan® Polycarbonate Film

EdgeLexan® is Original Lexan® Polycarbonate Film

Further processed to enable Tractor Feed - Thermal Transfer Printing by Edge® Printers using EdgeFoil® Pure Resin Thermal Transfer Printing Foils

Product Datasheet

Description

Lexan® 8010 Polycarbonate Film offers excellent clarity in all thicknesses. High Heat Resistance with Superior Dimensional Stability for Graphic Art Applications. Derived from one of the world's toughest polymers, Lexan® 8010 film also provides a High Gloss Surface Finish & meets additional requirements of added UV stability. Additional enhancements allow improved gauge control, see details 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	2506
Tensile Elongation at Break	ASTM D882	%	100-150	ISO 527	%	100-154
Gardner Impact Strength at 0.03 in. (0.75 mm)	ASTM D3029	ft-lb	23	ISO 6803-1	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	130			
0.020 inch (0.50 mm)	ASTM D2176-69	double folds	35			
Thermal						
Coefficient of Thermal Conductivity	ASTM D5470	Btu/hrft ² °F/in	1.35		W/m ² K	0.2
Coefficient of Thermal Expansion	ASTM E831	(x 10 ⁻⁵ /°F)	3.2	ISO 11359	(x 10 ⁻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	153
Vicat Softening Temperature, B	ASTM 1525-00 Modified	°F	323		°C	160
Heat Deflection Temp. by TMA at 1.8 MPa		°F	2 90	ISO 75 Modified	°C	145
Shrinkage at 302 °F (150 °C)	ASTM D1204	%	1.4		%	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
Surface Roughness (RMS)	ASME B46-01		NA			
Surface Energy	ASTM D5946-01		34			
Surface Tension	Dyne Pen	Dyn	38-40			
Pencil Hardness	ASTM D3363		b-hb			
Taber Abrasion	ASTM D1044	delta Haze	28			
Bayer Abrasion	Colts Lab Test	Ratio	0.38			
Steel Wool Abrasion	Colts Lab Test	Haze Gain	15.44			
Steel Wool Abrasion	Colts Lab Test	Ratio	0.08			
Optical						
Refractive Index @ 77 °F (25 °C)	ASTM D542A		1.6			
Light Transmission	ASTM D1003	%	91			
Yellowness Index	ASTM D1925	%	0.7			
Haze	ASTM D1003	%	0.4			
Gloss over Flat Black min/max @ 60°	ASTM D523-60		170	ISO 2813	-	170
UV % Transmission at 380nm	UV/Visual Spectroscopy	%	29			
Electrical Dielectric Strength in oil, short time						
@ 72°F (23°C), 10 mils (0.25 mm)	ASTM D149- 97a Method A	kv/mil	1.8	IEC 60243	kv/mm	71
Dielectric Constant						
@ 60 Hz	ASTM D150		2.32	IEC 6025	-	2.32
@ 1,000,000 Hz	ASTM D150	-	2.3	IEC60250		2.3
Dissipation Factor						
@ 60 Hz	ASTM D150	-	0.001	IEC 6025		0.001
@ 1,000,000 Hz	ASTM D150	-	0.006	IEC 60250		0.006
Volume Resistivity	ASTM D257	H-cm	8.65E+16	IEC 60093	H-cm	8.65E+16
Surface Resistivity	ASTM D25	H/square	5.24E+15	IEC 60083	H/square	5.24E+15
Arc Resistance, Tungsten Electrodes	ASTM D495	s	70			