

Specification Guide

1 Product

Select from over 100 standard Lumicor products from our nine product families: Botanicals, Metals, Embosses, Colorways, Neutrals, Patterns, Woodworks, Glassworks, and Stoneworks; or, create your own custom Lumicor by combining decors. For example, combine Colorway fabrics with Metals or Embosses to add color and depth, or mix Botanicals like leaves and grasses with Neutral fabrics for added interest and texture. Lumicor can also incorporate Customer Owned Materials (C.O.M.). Call for more details.

2 Size

Sheet Thickness

Lumicor is available in gauges from 1/16" to 1" with a tolerance of +/- 10%.

1/16"	.060"	1.5mm
1/8"	.118"	3.0mm
5/32"	.160"	4.0mm
3/16"	.196"	5.0mm
1/4"	.236"	6.0mm
3/8"	.354"	9.0mm
1/2"	.472"	12.0mm
17/32"	.531"	13.5mm
5/8"	.590"	15.0mm
3/4"	.708"	18.0mm
1"	.944"	24.0mm

The appropriate thickness will depend on the application. Typically, 1/16" and 1/8" are used for light duty applications such as cabinet doors and display fixtures or where flexibility is desired. Our most common gauge is 1/4" and is suitable for a wide range of glazing applications such as office partitions and relites. For horizontal applications, a thickness of 1/2" or greater is recommended. Lumicor provides an online interactive tool to determine estimated deflection: www.lumicor.com > Product Information.

Sheet Dimensions

Many Lumicor products are available in the following sheet sizes:

4' x 8'	Standard
4' x 10'	Oversize*
5' x 8'	Oversize*
5' x 10'	Oversize*

*Some decors are not available in oversize sheets. Minimums may apply.

3 Texture

Lumicor is available in a variety of surface textures to provide different aesthetics. You can specify different textures on each side of the sheet. The most common surface textures are matte and gloss. A matte texture provides a medium level of translucency and a softer view of the decor. In contrast, a gloss finish provides a high level of translucency and a sharper view of the decor. Both matte and gloss textures can be resurfaced if damaged during service (see online fabrication guide for details). Lumicor's heavier textures such as frost and satin provide better protection against minor surface scratches, but they cannot be resurfaced.

The last 2 letters at the end of each sample part number indicate the textures for each side.

H - Matte	A - Gloss	C - Mesh
K - Frost	L - Satin	U - Moiré
T - Diffusion	E - Adobe	

4 Resin

Lumicor is manufactured using several high performance engineering resins, including acrylic, cross-linked acrylic, and PETG. The resin used will depend on the performance requirements of your project.

Acrylic – Outstanding clarity, UV resistance, scratch resistance, and renewable surface.

Cross-linked Acrylic– All the benefits of acrylic plus enhanced chemical and stain resistance.

PETG – Superior impact resistance, lower flammability, and greater flexibility.

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Resin Comparison Chart

Flammability Properties	Test Method	Cross-Linked Acrylic	Acrylic	PETG
Fire Rating	ASTM D 635	PASS, CC2	PASS, CC2	PASS, CC1
Self-Ignition Temperature	ASTM D 1929	PASS, 960F	PASS, 960F	PASS, 800F
Smoke Density	ASTM D 2843	PASS, < 75%	PASS, < 75%	PASS, < 75%
Flame Spread	ASTM E 84/UL 723	PASS, < 150	PASS, < 150	CLASS II, < 75*
Smoke Developed	ASTM E 84/UL 723	> 450	> 450	PASS, < 120*
Horizontal / Vertical Burn	ASTM UL 94	PASS, UL 94-HB	PASS, UL 94-HB	PASS, UL 94-V2

* Note: This data was collected while the sheet samples remained in the original test fixture position and do not include the material that ignited on the furnace floor. Furthermore, a Class II material can be used in place of a Class I material when installed with an approved automatic fire suppression system.

Mechanical Properties	Test Method	Cross-Linked Acrylic	Acrylic	PETG
Specific Gravity	ASTM D 792	1.19	1.19	1.27
Water Absorption (24hr Immersion)	ASTM D 570	0.25%	0.22%	0.20%
Impact Resistance Notched	ASTM D 256	0.3 ft - lbs/in	.45 ft - lbs/in	1.7 ft - lbs/in
Rockwell Hardness	ASTM D 785	M-95	M-95	M-115
Stain / Chemical Resistance		Excellent, PASS ANSI Z 124	Good	Good
Microbial Resistance		Excellent	Excellent	Excellent
Formability		Excellent	Good	Excellent
Bonding		Fair	Good	Fair
Renewable Surface		Excellent	Excellent	Fair

Optical / Audio Properties	Test Method	Cross-Linked Acrylic	Acrylic	PETG
UV Absorption		Excellent	Excellent	Fair
Weather Resistance		Excellent	Excellent	Fair
Light Transmittance	ASTM D 1003	93%	93%	86%
Optical Refractive Index	ASTM D 542	1.49	1.49	1.57
Sound Transmission	E-90 / E413	27 db	27 db	25 db

Thermal Properties	Test Method	Cross-Linked Acrylic	Acrylic	PETG
Maximum Continuous Service Temp.		180F	180F	155F
Softening Temperature		210-220F	210-220F	180-190F
Melting Temperature		320-380F	300-315F	220-240F
Thermoforming Temperature		340-380F	280-350F	280-320F
Deflection Temperature (264 psi)	ASTM D 648	190F	190F	157F

5 Protective Finish Options

Lumicor is available with Tedlar and/or Marker Board finishes on **one or both** sides of the sheet.

Tedlar® Finish

Tedlar is high performance clear film developed by DuPont. Tedlar can be applied to one or both sides of Lumicor acrylic products. With the Tedlar protective film applied, Lumicor can be used in environments requiring superior stain and chemical resistance. Tedlar is available in all Lumicor textures, but cannot be renewed if damaged.

Marker Board Finish

A clear protective film that enables the surface to be used as a marker board with dry-erase pens.

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6 Fabrication

Lumicor is easily fabricated using standard woodworking tools equipped with blades designed for cutting plastic. Many Lumicor products can be thermoformed into unique shapes for dramatic design possibilities. If your Lumicor application will be exposed to moisture, it is important to seal the edges after fabrication to prevent wicking. A detailed fabrication guide is available online.

7 Cold Bend Radius

Lumicor- Acrylic	Lumicor Thickness Bend Radius		Lumicor- PETG	Lumicor Thickness Bend Radius	
	Thickness	Radius		Thickness	Radius
	1/16"	21"		1/16"	6"
	1/8"	41"		1/8"	12"
	3/16"	69"		3/16"	20"
	1/4"	83"		1/4"	24"
	3/8"	124"		3/8"	38"
	1/2"	166"		1/2"	48"
	5/8"	207"		5/8"	60"
	3/4"	249"		3/4"	71"
	1"	331"		1"	95"

Note: The bend radii listed are based on an 8' sheet. Some embedded decors may restrict the bend radius.

8 Frame Depth

Acrylic and PETG

When installing Lumicor into framed systems, it is important to use adequate frame depth to maintain the panel within the system. The recommended frame depth is based on sheet length.

Sheet Length	Frame Depth
24"	7/16"
36"	5/8"
48"	3/4"
60"	7/8"
72"	7/8"
84"	1"
96"	1 1/8"
108"	1 1/8"
120"	1 1/4"

9 Expansion / Contraction

Lumicor will expand and contract nominally with changes in temperature. Please allow for expansion / contraction when installing fasteners, hardware, frame systems, or when edge butting sheets. The formula below can be used to calculate the appropriate allowance for expansion and contraction:

$$\left(\begin{array}{c} \text{Length} \\ \text{in Inches} \end{array} \right) \times \left(\begin{array}{c} \text{Anticipated Change} \\ \text{in } ^\circ\text{F Temperature} \end{array} \right) \times (.00004) = \begin{array}{c} \text{Expansion} \\ \text{Allowance} \end{array}$$

$$\text{Example: } (48") \times (31^\circ\text{F}) \times (.00004) = 1/16"$$

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10 Weight

Acrylic Weight*	1/8"	5/32"	3/16"	1/4"	3/8"	1/2"	17/32"	5/8"	3/4"	1"
	.120"	.160"	.196"	.236"	.354"	.472"	.531"	.590"	.708"	.944"
	3mm	4mm	5mm	6mm	10mm	12mm	13.5mm	15mm	18mm	24mm
Lbs. per Sq. Foot	.73	.97	1.21	1.46	2.19	2.92	3.22	3.65	4.38	5.84
4'x8' Sheets										
Lbs. per Sheet	23	31	39	47	70	93	103	117	140	187
5'x8' & 4'x10' Sheets										
Lbs. per Sheet	29	39	48	58	88	117	129	149	175	234
5'x10' Sheets										
Lbs. per Sheet	37	49	61	73	110	146	161	183	219	292

PETG Weight*	1/16"	1/8"	5/32"	3/16"	1/4"	3/8"	1/2"	17/32"	5/8"	3/4"	1"
	.060"	.118"	.160"	.196"	.236"	.354"	.472"	.531"	.590"	.708"	.944"
	1.6mm	3mm	4mm	5mm	6mm	9mm	12mm	13.5mm	15mm	18mm	24mm
Lbs. per Sq. Foot	.43	.8	1.2	1.3	1.57	2.35	3.13	3.47	4	4.7	6.23
4'x8' Sheets											
Lbs. per Sheet	14	26	38	42	50	75	100	110	128	150	200
5'x8' & 4'x10' Sheets											
Lbs. per Sheet	17	32	48	52	63	94	125	138	160	188	250
5'x10' Sheets											
Lbs. per Sheet	22	40	60	65	79	118	157	173	200	235	312

* Estimated weights; actual weights will vary depending on decor.

11 Deflection

Lumicor will deflect to varying degrees based on part dimension, resin type, decor, and applied load. Lumicor provides an online interactive tool to determine estimated deflection: www.lumicor.com > Product Information.

Disclaimer - This data is based on information we believe to be reliable. The information is offered in good faith, but without guarantee, as conditions and method of use are beyond our control. We recommend prospective users determine the suitability of Lumicor materials before purchasing. In no case is Schober Inc. / Lumicor liable for direct, consequential, economic, or other damages. Schober disclaims all other warranties, expressed or implied, including the warranty of merchantability and fitness for a particular purpose.