Plexiglas® **ELiT II**

EDGE-LIT TECHNOLOGY ACRYLIC SHEET

Plexiglas® ELiT II acrylic sheet is a melt calendared acrylic sheet that has the ability to diffuse light coming from light sources located at the edges of the sheet. Light is diffused towards the front face creating bright and evenly illuminated display panels. This effect is achieved through technology that will reorient the light source towards the surface of the sheet.

APPLICATIONS

- ■ **Poster boxes or light boxes**

- ■ **Illuminated signs for airports, subways, train stations, bus shelters, and terminals**

- ■ **Display panels for restaurants, hotels, department stores, banks, movie theaters, and casinos**

- ■ **Menu boards or information directory panels**

FEATURES

- ■ **Can utilize either Fluorescent or LED light sources**

- ■ **Edge Lit technology allows for extremely thin frames for light boxes**

- ■ **Can be edge lit from one or two sides, depending on sheet size**

- ■ **Weatherability is comparable to standard Plexiglas® MC sheet**

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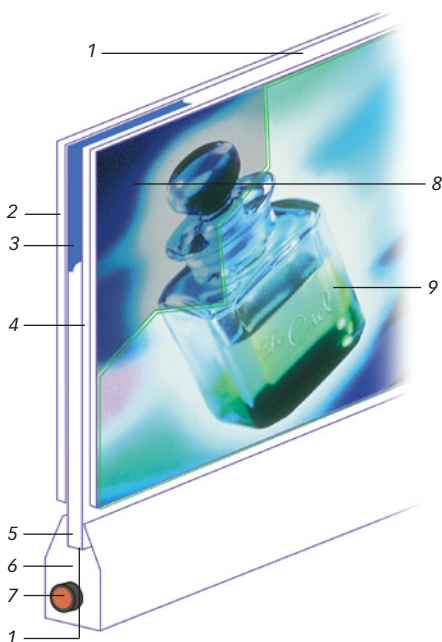
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TYPICAL STANDARD PROPERTIES - Plexiglas® ELiT II

PROPERTIES	TEST METHOD	UNIT	VALUE
PHYSICAL			
Nominal Thickness for data unless otherwise noted		in	0.197"
Specific Gravity	ASTM D-792	---	1.19
Rockwell Hardness	ASTM D-785	M scale	90
OPTICAL			
Refractive Index (ND @ 73°F)	ASTM D-542	---	1.49
Luminous Transmittance[1]	ASTM D-1003	%	92.0
Haze[1]	ASTM D-1003	%	< 7.0
MECHANICAL			
Tensile Strength, maximum	ASTM D-638	psi	10,200
Tensile Strength, yield	ASTM D-638	psi	10,200
Tensile Elongation	ASTM D-638	%	4.5
Tensile Modulus of Elasticity	ASTM D-638	psi	450,000
Flexural Strength, maximum	ASTM D-790	psi	15,000
Flexural Modulus of Elasticity	ASTM D-790	psi	450,000
Notched Izod Impact @ 73°F (23°C)	ASTM D-256	ft-lb / in	0.3
Un-notched Charpy @ 73°F (23°C)	ASTM D-256	ft-lb / 0.5"x1" section	7.0
THERMAL			
Deflection Temperature under Flexural Load @ 264psi – unannealed[1]	ASTM D-648	°F	200
Coefficient of Thermal Expansion at 60°F	ASTM E-831	in / in / °F x 10^{-5}	3.6
Maximum Recommended Continuous Service Temperature	N/A	°F	170 – 190
Recommended Thermoforming Temperature	N/A	°F	275 – 350
FLAMMABILITY[2] & SPECIFICATION COMPLIANCE			
Self Ignition Temperature	ASTM D-1929	°F	860
Standard Specification for PMMA Acrylic Plastic Sheet	ASTM D-4802	---	Category B-1, Finish 1

Data given are average values and should not be used for specification purposes.
1. This property will change with thickness.. The value given is for the thickness indicated in the column heading unless otherwise noted.
2. Flammability tests are small scale tests and may not be indicative of how materials will perform in an actual situation.

RECOMMENDATIONS

- Diamond-polish the edges of Plexiglas® ELiT II sheet to maximize the amount of light entering the panel.

- When choosing a light source, use the highest correlated color temperature available. A 6500K light source best replicates that of daylight.

- Place reflective materials (such as Mylar® films) around each light source to maximize the amount of light directed into the sheet edges. This can boost lighting efficiency up to 20%.

- Utilize metalized reflective adhesive tapes (3M silver polyester film tape #850) to cover the non-illuminated edges to prevent light from escaping the panel.

- Avoid gluing or bonding any materials to Plexiglas® ELiT II sheet, which could inhibit its light transmitting properties.

- If forming Plexiglas® ELiT II sheet, do not exceed a 20" radius of curvature. This will minimize the light diffusing effect.

- Be careful not to scratch the surface of Plexiglas® ELiT II sheet as this will show up as a bright spot when the panel is lit.

- Utilize graphics made of double printed paper, polyester (Duratrans®), or vinyl to improve light diffusion and color contrast.

- A white backing material for a one-sided sign will enhance illumination through the opposite surface.

- If illuminating a sign between 24"– 48" in length, light sources on both edges are preferred. Signs less than 24" in length can be illuminated from one edge.

Plexiglas® ELiT II Acrylic Sheet
(Edge-Lit Technology)

1. Diamond polished edge
2. Reflective white backing (for one-sided signs)
3. Reflective adhesive tape
4. Plexiglas® white diffusing sheet (optional)
5. Plexiglas® ELiT II acrylic sheet
6. Reflective frame
7. Light Source
8. Graphic
9. Plexiglas® colorless sheet covering (optional)

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