

ACRYLITE® LED light guiding edge lit



PRODUCT

Ultra-thin panel lighting can be created by using ACRYLITE® LED light guiding edge lit. When LED strip modules are used at the edges of the sheet, the acrylic glows uniformly across its two perpendicular surfaces. The product is also available in a rod form. The special light-diffusing particles inside the material extract the light uniformly through the sheet and direct it toward the viewer. ACRYLITE® LED light guiding edge lit is a transparent colorless material offered in various grades and thicknesses.

PROCESSING

The product can be machined with the same parameters and equipment as standard ACRYLITE®:

- The bending radius needs to be 6 times larger than the material thickness so the light can follow the shape.
- With fine polishing, surface scratches can be removed and the lighting properties are restored.

APPLICATIONS

Typical applications for ACRYLITE® LED light guiding edge lit:

- Thin profile single or double sided poster walls, menus, and signs for advertising
- Transparent illuminated partitions
- Decorative ambient light panels or rods for

architecture and interior design

- Ultra-slim architectural luminaires

PROPERTIES

ACRYLITE® LED light guiding edge lit possesses the following properties:

- Highly efficient light distribution via the perpendicular surfaces
- Uniform luminance across the panel simply by selecting the appropriate grade
- Simple to change panel sizes
- Surface structuring, etching or printing not needed
- Double surface illumination possible without adding materials
- Single surface illumination possible with white reflective material on backside
- Crystal clear material allowing the viewer to see through the panel
- Brightest light rays directed perpendicular from panel surface
- Patented technology

The typical setup consists of ACRYLITE® LED light guiding edge lit illuminated with LED strip modules at one, two, or four sides. A transparent protection sheet can be used to protect the poster and light guide. A secondary diffuser can be used to improve the light scattering in certain applications.

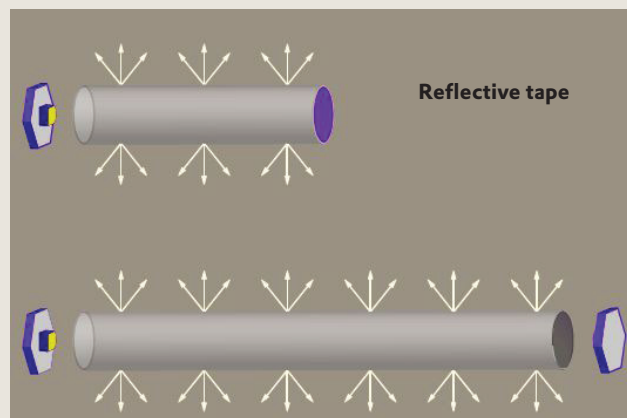
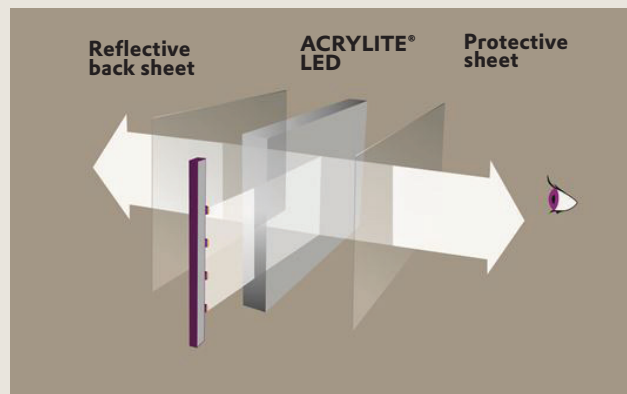
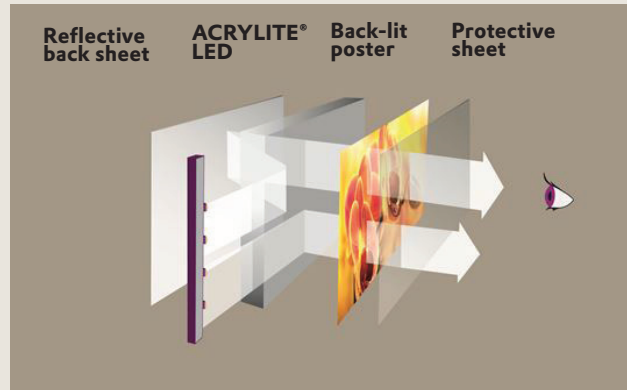
Notes:

- Complete functionality is only provided after removing the masking film.
- Maximum luminous efficiency and homogenous light distribution are achieved using the recommended grades (SM, L, XL, XXL).
- To obtain optimal luminous efficiency, it is recommended to polish all edges or use a laser-cut method. Mirror or white reflector materials (such as tape) can be used on edges without LEDs to enhance uniformity and efficiency.
- Bonding, lamination, and printing on the front or back-side surfaces will disturb the light transport and therefore create non-homogenous illumination.
- Install LEDs close to the edge so that the entire light cone enters the sheet/rod.
- The thickness of the material should be greater than the width of the LEDs to assure optimal light coupling.
- One weak link in an LED system design (such as poor LED selection or lack of thermal management) can cause the overall results to be less than optimal. See full technical information on ACRYLITE® LED light guiding edge lit for recommended complimentary components.

Top: Front side poster back-lit sheet application

Middle: Transparent illumination panel sheet application

Bottom: Single and double sided rod application



ADDITIONAL ACRYLITE® RECOMMENDED MATERIALS

Item	Product	Product Description
Reflective back sheet (opaque, white)	ACRYLITE® WT020 ACRYLITE® Hi-Gloss 7M807 C1	Reflector side white, reverse silver
Diffusers instead of Back-lit Poster + Protection	ACRYLITE® Satinice WD008 DF ACRYLITE® LED optimized WH14 ACRYLITE® Satinice 0D010 DF	White appearance White appearance High efficient light scattering
Transparent protective	ACRYLITE® Optical 0A570 HC ACRYLITE® 0A000 AC2 ACRYLITE® 0A000	Hard coated and special UV protection Anti-reflective Basic

PRODUCT RANGE

	SM	L	XL	XXL
Single sided edge-lit [inch]	Up to 6"	6 – 12"	12 – 24"	24 – 39"
Two or Four sided edge-lit [inch]	Up to 12"	12 – 24"	24 – 48"	48 – 78"
Sheet thickness [inch]	-	.157" (4mm) .236" (6mm) .315" (8mm)	.157" (4mm) .236" (6mm) .315" (8mm) .394" (10mm)	.315" (8mm) .394" (10mm)
Rod diameter [mm]	-	0N001 L , D20, D40	0N002 XL , D20, D40	-
LED light guiding edge lit: sheet extruded grade 1, 2	0E010 SM	0E011 L	0E012 XL	0E013 XXL

1. Standard sizes 49" x 97" or 80" x 120", Custom sizes and thicknesses upon request
2. Recommended for applications with or without graphic overlay

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