

Credits

Magazine: Countertops & Architectural Surfaces

Edition: Volume 18, issue 4

Published By: International Surface Fabricators Association

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Excerpt: Pages 24-27

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Integration of Lighting into Translucent Surfaces

By Joe Hittle | Evo-Lite, LLC

In today's design-forward world, surfaces are no longer just static elements — they're immersive, functional features that engage and inspire. At the center of this evolution is backlighting: a powerful tool that transforms everyday materials into standout design moments.

Backlit elements can be found in all types of applications — from private residences to large commercial projects. Integrated lighting is an excellent tool for enhancing both the beauty and functionality of any environment.

This burgeoning trend presents a strategic opportunity for fabricators to expand their capabilities and capture new revenue streams. By incorporating lighting into their surface work, fabricators can differentiate themselves in a crowded market, offer higher-value solutions and become a one-stop resource for both design and illumination.



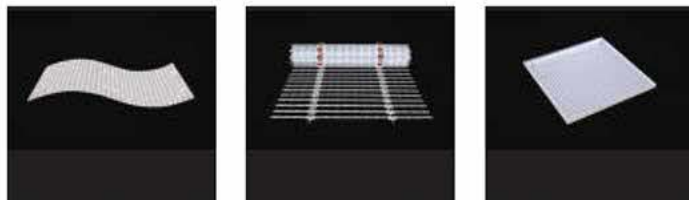
Backlighting 101: Subtle Way to Create Extraordinary Results

Backlighting is more accessible than ever and the field is growing right along with the capabilities of modern LED lighting systems. These lighting systems are energy-efficient, compact, safe, long-lasting and easy to install. They unlock a new world of potential that previous lighting technology could never realize.

Backlit elements require three things to be successful. The relationship between the lighting system, diffusion and forward-facing material is integral.

First, the lighting system needs to produce bright, consistent and energy-efficient illumination. The best backlighting tools are flexible LED light sheets, reticular LED arrays and edgelit light panels. If you want your clients to enjoy decades of maintenance-free performance, be sure to purchase from a reputable company.

Modern lighting systems are available in single color white, tunable white (adjustable from warm to cool white) and dynamic color changing RGB/RGBW. Each of these has its time and place, but the possibilities are endless!



Next, diffusion should be leveraged to produce silky-smooth illumination, eliminating hotspots and ensuring that no LEDs are visible. The amount of diffusion required will ultimately depend on your forward-facing material. Testing is essential. There are three types of diffusion:

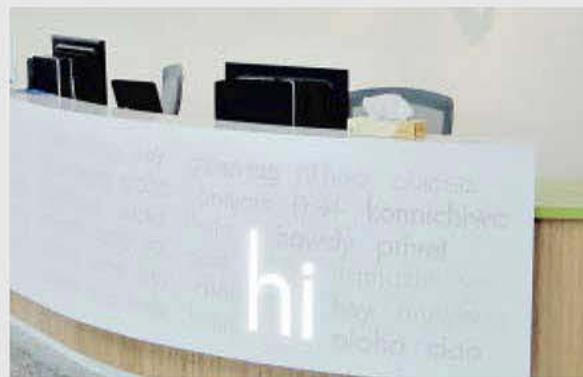
1. **Inherent diffusion:** the natural properties of the forward-facing material.
2. **Optical diffusion:** a material layer (such as frosted acrylic) placed between the light source and forward-facing material.
3. **Spatial diffusion:** the gap between the light source and material. More space creates more diffusion.



Inherent Diffusion



Optical Diffusion



Spatial Diffusion





With today's advanced LED systems and an ever-expanding range of compatible materials, fabricators have an unprecedented opportunity to elevate their craft, delight clients and grow their businesses.

Last, to allow for light transmission, the backlit material will need to be semi-transparent or have cutouts/reveals. A wide range of material options are available today including natural stone such as Rainbow Onyx or Cristallo Quartzite, engineered surfaces, painted glass, acrylics and more.

Enhancing Experiences and Solving Design Challenges

Backlighting isn't just about creating a moment of awe — it's about shaping how people feel, move and interact within a space. Let's take a practical look at what backlighting can accomplish in a few real-world applications:

- **Retail:** call attention to key merchandise displays with illuminated shelving, encourage foot traffic into and throughout the store, establish a vibe, create branding elements or bespoke signage.
- **Hospitality:** create a luxurious feel with feature walls, call attention to reception desks, or add some energy with backlit bar tops.
- **Health care:** create calmness with faux skylights or warmly backlit materials in waiting areas. Introduce clarity with large stretched-membrane ceiling lights in examination rooms or physical therapy spaces. Backlight wayfinding signage to help visitors navigate.
- **Corporate:** promote brand aesthetics or set an upscale vibe with unique welcome desks, feature walls or elevator cabs.
- **Residential:** provide an air of luxury with backlit backsplashes, fireplace surrounds or illuminated floors.

The takeaway? Backlighting is incredibly capable, producing memorable effects both aesthetically (accent lighting) and functionally (task lighting).



The Fabricator's Opportunity

Lighting integration is more than a design trend — it's a strategic advantage. It transforms traditional surfaces into immersive, high-performance features that deliver both form and function. With today's advanced LED systems and an ever-expanding range of compatible materials, fabricators have an unprecedented opportunity to elevate their craft, delight clients and grow their businesses.

For projects big or small, subtle or bold, backlighting is a tool that turns surfaces into experiences — and experiences into lasting impressions. ©

ABOUT THE CONTRIBUTOR

Evo-Lite leads North America in backlighting innovation — trusted by fabricators, architects and designers who push the boundaries of surface design. Our award-winning lighting systems transform surfaces into high-performance, visually stunning installations — empowering you to deliver designs that stand out, perform flawlessly and drive lasting results. See what's possible at www.evo-lite.com.

