

Application Profile:  
ACRYLITE® EndLighten acrylic sheet

## Evonik Cyro Acrylic Sheet Helps Award-Winning Aluminum Frame LED Panels Outshine Competition



Retailers and designers are always looking to find the next best thing in point-of-purchase (P-O-P) and custom fixture displays; something that will captivate potential customers. Creating an eye-catching look that portrays elegance and beauty is not always a simple task. Fortunately for both, °element DESIGNS™ was able to create just that. The Charlotte, North Carolina-based manufacturer has introduced the innovative, award-winning °eluma™ custom panel. Its stunning visual appearance was made possible, in part, by the use of ACRYLITE® EndLighten acrylic sheet.

°element DESIGNS™ had a clear vision of how the custom aluminum frame LED panels should be designed. What they couldn't see was the overwhelming acceptance the custom panels would receive, as °eluma™ earned the "Best New Kitchen Product" award at K/BIS 2007 as well as second place in the Best New Product competition at GlobalShop 2008. What makes °eluma™ so distinctive is its ability to have a clear, slick mirror appearance when not illuminated while also achieving a fashionable, fully frosted look when lit. No other product of its kind can deliver two such unmistakable impressions.

Achieving such a look requires a complex design that integrates many components. °eluma™ custom panels, which °element DESIGNS developed with Tresco International, a leading lighting manufacturer, encase ACRYLITE® EndLighten acrylic sheet from Evonik Cyro LLC in an aluminum frame embedded with high-quality 50,000 hour LEDs. The LEDs not only guarantee long life of more than 11 years (when lit for up to 12 hours each day), they are environmentally friendly and energy efficient compared to conventional lighting methods.

"Our first thought when we were designing °eluma™ was to create an innovative lighting solution that could be used in numerous applications. With that in mind, we wanted plastic for its versatility in different applications," said Nelson Wills, VP Sales & Business Development, °element DESIGNS™.

In the initial design, the panels were to be made from a grooved acrylic made by a foreign manufacturer. However, the acrylic manufacturer Wills and his team had been working with was able to meet one criterion – appearance – but not the other two requirements – cost and delivery. The grooved acrylic was determined to be non-viable by °element DESIGNS™ regarding the costs to import, and it would take months, not weeks, to arrive at the fabricator. Additionally, the imported acrylic only came in standard sizes, a red flag for custom designers.

Unable to find a suitable acrylic, °element DESIGNS™ made the decision to alter its original design and incorporate etched tempered glass rather than acrylic. The glass could not achieve the even illumination that was desired, but it would be quicker to produce in standard patterns and cheaper for the fabricator and end-user.



## An Acrylic Solution

Acrylic reentered °element DESIGNS™ considerations when Wills, among others, attended the GlobalShop 2007 trade show. While walking the show floor, they came across ACRYLITE EndLighten acrylic sheet, a transparent, light diffusing acrylic that has special light-conducting properties. Made with embedded colorless diffuser particles that cause light to diffuse forward, ACRYLITE EndLighten acrylic sheet accepts light through its edge and redirects it to the surface, resulting in a bright and uniform illumination. That kind of performance allowed °element DESIGNS™ to revisit its original design idea.

“Glass was the only way we were manufacturing until we discovered the ACRYLITE EndLighten acrylic sheet,” said Wills. “It offered us continuous illumination and did it without grooves, unlike the original acrylic we evaluated. It was a much cleaner solution. For glass to achieve the same effect, it has to be etched, which adds a manufacturing step.”

Initial excitement was tempered by two concerns – scratching and durability during fabrication. Scratching would be a potentially major problem, as any and all imperfections, even hairline scratches, stand out when illuminated. Plus, the fabricator felt it would not be able to withstand the fabrication process without suffering damage. Thankfully, Evonik Cyro developed a solution. Prior to shipment to the fabricator, the acrylic is treated with an abrasion-resistant coating.

“The idea to use an abrasion-resistant coating was key,” said Wills. “During fabrication, the acrylic has been very good across the board. We can do most jobs in-house and Evonik Cyro has been very helpful along the way whether we need one sheet or thousands.”

## Horizons are Broadened

Using the ACRYLITE EndLighten sheet from Evonik Cyro enabled °element DESIGNS™ to offer a product with a wider array of applications and style capabilities. It is the only acrylic LED panel on the market with consistent and solid illumination. Similar competitive panels must use a less attractive grid pattern. By combining customization, short lead times and competitive pricing, °eluma™ aluminum frame LED panels provide a fresh look as backsplashes and cabinetry shelving in homes, and as displays, custom logo signage, and modesty panels in retail applications.

“By using the ACRYLITE EndLighten sheet, we were able to broaden the horizons of our product line,” said Wills. “Together with the glass options, we can offer the display industry an innovative way to highlight and bring attention to the products they want to sell. Interior designers and architects now have a truly unique way to brighten any kitchen and bath design as well.”

*For more information about ACRYLITE® EndLighten acrylic sheet, contact: Evonik Cyro LLC, 379 Interpace Parkway, Parsippany, NJ 07054, USA; Tel: 800-631-5384; Fax: 973-541-8445; or visit [www.Cyro.com](http://www.Cyro.com).*

## Company Information

Evonik Cyro LLC is an Evonik Degussa Corporation group company. Headquartered in Parsippany, NJ, Evonik Cyro is a leading manufacturer of acrylic sheet and molding compounds, and bulk and performance monomers. CYRO manufactures and markets its acrylic sheet products under the ACRYLITE® trade name in the Americas. These same products are manufactured and marketed under the PLEXIGLAS® trade name on the European, Asian, African and Australian continents.

Evonik Industries is the creative industrial group from Germany which operates in three business areas: Chemicals, Energy and Real Estate. Evonik is a global leader in specialty chemicals, an expert in power generation from hard coal and renewable energies, and one of the largest private residential real estate companies in Germany. Our strengths are creativity, specialization, continuous self-renewal, and reliability. Evonik is active in over 100 countries around the world. In its fiscal year 2008 about 41,000 employees generated sales of about Euro 15.9 billion and an operating profit (EBITDA) of more than Euro 2.2 billion.

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