

ACRYLITE[®] LED

Solutions for Signage

For over 30 years, Evonik Cyro has been the leading acrylic resource for the sign industry. Our trademarked product, ACRYLITE[®] offers outstanding optical clarity, superior impact strength, weather resistance and consistent performance.

ACRYLITE[®] acrylic comes in a number of grades and options to meet any need for interior and exterior signs.

What is ACRYLITE[®] LED sign grade (Resist SG) and Why Should I Use It?

ACRYLITE[®] LED sign grade (Resist SG) acrylic sheet is an impact modified acrylic sheet product developed specifically to meet the unique needs of the sign industry. What sets it apart from standard acrylic is its impact strength, which translates into reduced breakage during production, shipping, and installation.

ACRYLITE[®] LED (Resist SG) is a universal product that works perfectly for any sign application, from channel letters to formed letters and shapes to back-painted signs. In addition to superior strength, it offers easy fabrication, excellent weatherability, and remarkable color consistency.

When you add it all up, ACRYLITE[®] LED (Resist SG) is the most versatile acrylic sign material on the market, making it the clear choice over other plastics, such as conventional acrylic or polycarbonate.

The Flexible Choice for Channel Letters

For channel letter manufacturing, the biggest cost component is labor, and that's why ACRYLITE[®] LED (Resist SG) is the ideal choice for fabricators. It's a "forgiving" product that's easy to handle, routes much faster than other materials, resists chipping and melting, and offers superior impact resistance to prevent breakage.

Cementing set-up time is quicker, and it can be easily cemented to itself and to other acrylics, as well as to trim cap, creating strong bonds for channel letters.

"ACRYLITE[®] LED (Resist SG) saves us about 30 percent in fabrication costs," reports Brian Giles of CAL SIGN Wholesale, Inc. (Modesto, CA), a wholesale sign manufacturer who produces many recognized national sign programs. "We have virtually no breakage with it whatsoever, even when cutting difficult letters, and we have minimal scrap."

Can the cost of ACRYLITE[®] LED (Resist SG) Beat Imported Cast Sheet?

At first glance import sheet pricing looks appealing, however, lowering your total cost of use will save more money. ACRYLITE[®] LED (Resist SG) significantly increases yields through reduced breakage and quicker fabrication cycles, whereas standard acrylic can chip, forcing manufacturers to make replacement parts, raising material and labor costs.

Color and thickness consistency are two quality factors that can affect your overall costs. Cast sheet batches are small—usually 10–20 sheets—and can produce a wide range of thickness variations within a batch and even a single sheet. And since batches need to be color matched, there is even greater opportunity for color consistency errors.



ACRYLITE® LED (Resist SG) is continuously manufactured in runs of hundreds or thousands of sheets at a time, adhering to tight thickness tolerances during production, ensuring consistent results during fabrication.

Signs Last Longer, Even Outdoors

Sign manufacturers need to ensure that signs withstand the adverse effects of the sun, and a truly superior sign is one that lasts a long time. Signs made with ACRYLITE® LED (Resist SG) are built to last, and outdoor channel letters retain their color and impact strength for many years.

Even UV-protected polycarbonate sheet will show signs of weathering long before ACRYLITE® LED (Resist SG).

ACRYLITE® LED (Resist SG) acrylic versus Polycarbonate

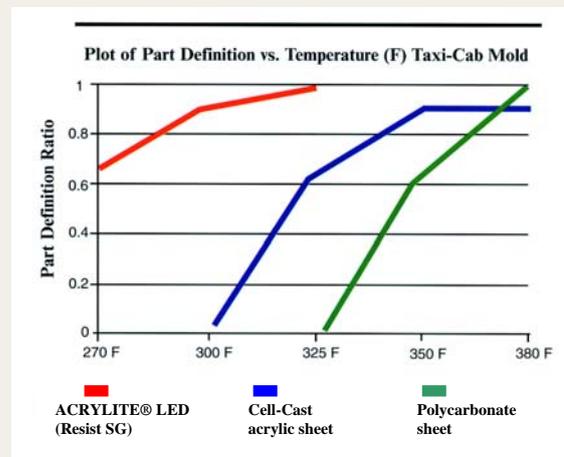
Why is ACRYLITE® LED (Resist SG) Sheet More Cost-Effective Than Polycarbonate?

Pound for pound, ACRYLITE® LED (Resist SG) saves manufacturers up to 25 percent over polycarbonate. In addition to material cost-savings, ACRYLITE® LED (Resist SG) saves on labor and energy expenses because it fabricates more quickly and easily.

Why pay more for polycarbonate's excessive strength? ACRYLITE® LED (Resist SG) acrylic provides the strength needed to withstand harsh weather conditions. And its superior weatherability means it will look good longer than a sign made with polycarbonate sheet.

What are the Fabrication Advantages of ACRYLITE® LED (Resist SG) Sheet?

ACRYLITE® LED (Resist SG) was designed to be more versatile and easier to fabricate than polycarbonate. While requiring the same tooling used for standard acrylic, it processes over a broader range of feed rates and tool speeds to accelerate production and quicken cycle times.



This chart demonstrates ACRYLITE® LED (Resist SG) sheet's lower thermoforming temperatures.



Signs thermoformed with ACRYLITE® LED (Resist SG) have superior light transmission, clarity and mold definition.

What are the Thermoforming Advantages of ACRYLITE® LED (Resist SG) Sheet?

ACRYLITE® LED (Resist SG) thermoforms at lower temperatures than polycarbonate, cell cast and standard acrylic—even as low as 270°F—resulting in quicker cycle times and lower energy costs. It also does not need to be pre-dried for thermoforming, unlike polycarbonate. The graph on the previous page illustrates ACRYLITE® LED (Resist SG) sheet's ability to achieve excellent part definitions at lower temperatures compared to polycarbonate and standard acrylic. It has consistently low shrinkage characteristics (less than three percent), and there is no breakage during mold release, so fabricators are assured the same results every single time. ACRYLITE® LED (Resist SG) can be heated with infrared heaters, circulating air ovens, and other conventional heating methods.

Why is ACRYLITE® LED (Resist SG) Better for Outdoor Applications?

Weatherability is another reason why ACRYLITE® LED (Resist SG) sheet outperforms polycarbonate. Polycarbonate will yellow and become hazy after only a few years of UV exposure, and it will lose much of its impact strength.

Acrylic withstands the effects of weathering much better than polycarbonate, and ACRYLITE® LED (Resist SG) sheet has been specially formulated to combat the elements without losing its color or impact strength for many years. In fact, even polycarbonate that has been pre-treated with UV-protection will show signs of weathering much sooner than ACRYLITE® LED (Resist SG).

ACRYLITE® Optical (MR) For Interior Signs

How Do I Choose the Best Product for Indoor Sign Applications?

You need to consider three qualities in choosing the right material for interior signs: safety, performance, and cost. Glass offers performance because it stands up to public environments, but it's heavy, difficult to fabricate and handle, and time-consuming to replace. Glass can also shatter

and compromise safety, making it a risky choice for public areas, especially with children. Tempered glass will improve safety, however, it's more expensive, cannot be cut to size, and has the same drawbacks associated with glass.

Another choice is standard acrylic, which is half the weight of glass, easy to fabricate, and shatter resistant. But standard acrylic can scratch and often doesn't have the chemical resistance necessary for cleaning and maintenance. That's why mar resistant ACRYLITE® Optical (MR) sheet is the perfect choice for interior signs. Signs made with ACRYLITE® Optical (MR) sheet will last far longer and retain their superior optical clarity.

What Benefits Make Mar Resistant ACRYLITE® Optical (MR) a Better Choice for Signs?

ACRYLITE® Optical (MR) combines acrylic's easy fabrication and handling, with a proprietary abrasion resistant coating. This makes it many times more resistant than standard acrylic to scratching and marring from frequent public contact. Manufacturers have the option of using a one-sided abrasion resistant sheet, while the uncoated side is ideal for silk-screening.

Because of its chemical resistance, ACRYLITE® Optical (MR) can be cleaned with a number of standard household glass cleaners while maintaining its superior optical clarity. Additional sheet options include ultraviolet light filtering and a glare reducing surface texture.

Why Is ACRYLITE® Optical (MR) the Cost-Effective Choice?

When you look at the total cost of use, ACRYLITE® offers unbeatable savings. While the material cost of ACRYLITE® Optical (MR) is higher than standard acrylic or non-tempered glass, the difference is negligible. In fact, for most interior signs, it's only a few dollars. ACRYLITE® stands up much longer than standard acrylic and will not shatter like glass, so replacement costs are lower. And while glass is difficult to fabricate, ACRYLITE® Optical (MR) can be easily cut to size, so ordering is fast and simple.

With top quality performance, increased safety, and easy installation and cleaning, the savings quickly add up, making ACRYLITE® acrylic sheet the material of choice for mall directories, back-lit signs, or any other interior sign.



ACRYLITE® Optical (MR) is the ideal choice for this indoor mall directory.

ACRYLITE® Optical (MR) is used for this directory at the busy Hartsfield Airport in Atlanta.

Extra Thick ACRYLITE® extruded (FF) For Push-thru Letters

What Material Characteristics Do You Need for Push-Thru Letters?

For push-or press-thru lettering, you need a product that routs easily and quickly, provides superior optical clarity, and gives you consistent results. That's why fabricators rely on economical, continuously-manufactured thick ACRYLITE® extruded (FF) acrylic. It's the ideal choice for push thru letters because of easy fabrication and blemish-free appearance. And it gives you the flexibility of run-to-size orders to match your needs.

ACRYLITE® sheet is preferred by Baltimore-based Triangle Sign & Service for push-thru letters. "Other plastics will melt or bind around the bit during fabrication, but not ACRYLITE® sheet," says Albert Nitsch of Triangle's routing department. "ACRYLITE® sheet is beautifully clear, which is important since we use high output lamps with a white background. We can count on the material

without worrying about imperfections, and that comes in very handy," he adds.

Don't You Need a Cast Acrylic for Thick Push-Thru Letters?

Some people question whether a continuously-manufactured product can be machined into push-thru letters as efficiently as cast acrylic sheet. But so long as you have proper tooling, thick ACRYLITE® extruded (FF) acrylic will fabricate smoothly and quickly. For example, Triangle Sign uses a single-flute Onsrud Cutter bit for fabricating, which gives letters a polished look.

Evonik Cyro can run thick ACRYLITE® extruded (FF) sheet to size to accommodate bigger letters and different shapes, so you end up with less scrap and higher yields. Plus, ACRYLITE® extruded sheet comes with a limited 30 year warranty guaranteeing no change in light transmission in excess of three percent. Why take a chance? If you're limited by size restrictions and not sure about the quality of imported sheet, how much do you really think you're saving?

Can I Use ACRYLITE® LED (Resist SG) for Sign Faces?

Most push-thru letter operations use aluminum for sign faces, however, impact-modified ACRYLITE® LED (Resist SG) acrylic is an excellent choice if you need a translucent plastic. "For sign jobs requiring extra illumination, we can use 1/8" or 3/16" ACRYLITE® LED (Resist SG) for the face, and thick ACRYLITE® extruded sheet for push-thru letters," Nitsch says.

ACRYLITE® LED (Resist SG) is rigid and tough, and it resists chipping and melting, making it an excellent alternative to metal faces. And its superior weatherability gives you a durable sign that will last a long time. It's one more reason why ACRYLITE® products offer you the best options for any sign application.

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