PORTFOLIO
1. Babcock & Brown, San Francisco, CA
Main Reception
1-1/4″ Custom colors single sided panels in large block detail design
Flat & thermoformed, rabbet joint edged panels with concealed fastening frame

2. Mount Holyoke College, Holyoke, MA
Student Center
3/4″ Green ice suspended ceiling panels installed with hanger rods and capped fasteners

3. Phoenix Convention Center, Phoenix, AZ
1/2″ Custom ThruColor, double sided panels, predrilled holes
Installed with hanger rods and bolt type supports

4. Salem State College, Salem, MA
1/2″ Single sided custom color adhered to MDF
Installed with surface mounted fasteners

5. ADD Inc., Cambridge, MA
Sliding Wall
1/2″ Ice panels, double sided
Installed in frame on tracks

6. Oakwood Mall, New Orleans, LA
Fabricated boxes of Dry Ice (translucent white)
Colored LED’s illuminate boxes with changing colors

1. Wrigley Rooftops Bar, Chicago, IL
3/4″ Ice back panels with 1/2″ ice front panels with digital image printing
Installed with stand-off fasteners

2. Mount Holyoke College, Holyoke, MA
Student Center
3/4″ Green ice suspended ceiling panels installed with hanger rods and capped fasteners

3. Phoenix Convention Center, Phoenix, AZ
1/2″ Custom ThruColor, double sided panels, predrilled holes
Installed with hanger rods and bolt type supports

4. Salem State College, Salem, MA
1/2″ Single sided custom color adhered to MDF
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Sliding Wall
1/2″ Ice panels, double sided
Installed in frame on tracks

6. Oakwood Mall, New Orleans, LA
Fabricated boxes of Dry Ice (translucent white)
Colored LED’s illuminate boxes with changing colors
1. Starbucks
   Hand-off plane, Amber LightCast
2. Miller Beer Bar, Irving, TX
   Cotton LightCast installed in custom stainless steel frame with edge band
3. Tangy Sweet Yogurt Bar
   Washington, DC
   Ice with LED illumination
   Mechanically fastened to ceiling with steel support plate for counter leg embedded in walls
4. Private Residence
   Breakfast counter, Cotton LightCast
5. Legacy Bank, Phoenix, AZ
   Vanity counter, Cotton LightCast
   Below-counter lighting provides subtle illumination of countertop
6. Brigham & Women’s Hospital, Boston, MA
   Transaction top, Cotton LightCast
7-9. Table 1280, Woodruff Arts Center, Atlanta, GA
   Silk LightCast, bar & back bar, bottle steps, lounge table, maitre de desk
10-9. Art Institute of Chicago, Chicago, IL
   Cotton LightCast with sub-base

1. Wynn Hotel Poolside Tables,
   Las Vegas, NV
   Green Tea LightCast with sub-base
2. Social Restaurant, Aspen, CO
   Beeswax LightCast with custom edge and sub-base
3. Table 1280, Woodruff Arts Center,
   Atlanta, GA
   Silk LightCast, bar & back bar, bottle steps, lounge table, maitre de desk
4. Art Institute of Chicago, Chicago, IL
   Cotton LightCast with sub-base
1. Logo Sign, Seattle, WA
Substrate panels for corporate identity sign
3" single-sided custom colors
2. Seattle Art Museum
Back engraved wayfinding signs with in-filled color lettering
3. Bank of America
Identity wall & ATM surrounds
National rollout
Custom ThruColor with applied logo
4-5. Dallas Symphony Orchestra, Dallas, TX
Green Ice 2’ x 2’ high letters
Mounted in custom aluminum light track
6. Burj Khalifa, Dubai, UAE
Silk-screen design on Ice with raised acrylic letters solvent bonded to surface
7-8. W Hotel, Atlanta, GA
Fabricated parts using 3/4” Ice
Assembled in field by sign contractor
9. Alexandria, VA
Vinyl graphics with custom color background layer
1-2. Vera Wang Flagship Store, New York, NY
Custom shelving in Ice with waterfall edge detail, Ice wall partitions,
Floor light lens, custom stairway displays
3. Francis Martin Library, Bronx, NY
Custom color double sided casework cladding
Mechanically fastened to metal casework
4-5. Oakwood Mall, New Orleans, LA
Light Boxes with cover, custom colors,
Lighting analysis in LIGHTBLOCKS studios
Installed with hanger rods and bolt hardware
6-7. Logan Airport, Boston, MA
Custom fabricated, custom color
Light boxes, ceiling grid suspension,
design prefitted at factory for exact depth installation
LIGHTBLOCKS®
where light meets color...

LIGHTBLOCKS are luminous and inspiring colored resins with a renewable matte finish used for both architecture and design. We fabricate our LIGHTBLOCKS panels to your specifications in any thickness, any color, any opacity, any size, and any resin.

Our patented technique creates an extra-dimensional color that is super durable. Our surface is renewable, resists fingerprints, stains, and scratches, and is easy to clean.

LIGHTBLOCKS are used in tables, countertops, walls, ceilings, signs, casework, furniture, doors, displays, and lighting in settings that include corporate, hospitality, healthcare, cultural, education, residential, and retail.
LIGHTBLOCKS began 12 years ago in the studio of sculptor Mary Boone Wellington. Looking for a medium that was luminous, durable and colored in just the right subtle shades, she could find no commercial material that exactly suited her needs. Developing the tools and techniques for the emerging LIGHTBLOCKS took our original LIGHTBLOCKS to an urgency when she won the competition for a large outdoor public sculpture for the city of Flagstaff, AZ. Architects, inspired by the luminous quality and impressed with the durability of the new LIGHTBLOCKS, began to specify it for their projects. The first clients for the new material were Discovery Channel and IBM. As word spread about LIGHTBLOCKS, the studio, housed in a New Hampshire barn, grew too small to produce the volume of work demanded. “We love to recall the first year in the barn, there was so much activity and excitement as we explored the new medium, taking an artistic approach to polymer science, inventing and patenting the creations,” says Wellington. The studio quickly outgrew the barn and, in an extravagant gesture, Wellington purchased the barn across the street. That proved to be a good real estate investment but insufficient to the amazing growth of the studio as the innovative approach to material science created solutions to design dilemmas for architects worldwide. New space in an old mill building was located in Nashua, NH, and has grown to a 40,000-square-foot manufacturing plant that still buzzes with the creative forces that launched the first LIGHTBLOCKS back in the barn.

POINTS OF DISTINCTION

CUSTOM COLOR

Custom color for any size job at no extra cost. We will match anything from Pantone to a paint chip to a stain on your tie, and the amount of translucence is up to you as well.

Our custom samples are shipped to you fast, usually within 5 days of request. We will make prototype fabrication samples as well so you can see the effect you have specified. If you need samples quickly, checkout our StudioStandards colors, in-stock samples ready to go!

CUSTOM FABRICATION

Our superior craftsmanship makes it possible for you to dream big. Our motto is “YES.” Get our team of project developers on board early in your design process and let us share our years of experience and invention. We will fabricate your components and ship them with installation advice, confer with your on-site contractor, recommend an on-site installer, or even install the entire job ourselves if that is what it takes.

SUSTAINABLE POLYMERS

Any polymer can be used as a base for LIGHTBLOCKS so you are not limited in your design. All our products are made with safe industrial standards in practice. We can help you choose the greenest polymers for your project, including polymers with recycled content, and we can recycle the finished components when the end of their design life has been reached.

We have recycled more than 465,000 pounds of scrap back into useful products. All LIGHTBLOCKS products are 100% recyclable.

RENEWABLE SURFACE

LIGHTBLOCKS renewable surface technology makes designing the luminous beauty of LIGHTBLOCKS into high-traffic public spaces possible. The color and durability are there to stay. Casual wear may be touched up quickly with a 3M Scotch Bright™ pad, and even serious damage by vandals is no problem. LIGHTBLOCKS stands up to commercial paint remover and harsh chemical cleaners.

SELECTIONS

Any Color • Any Thickness • Any Level of Opacity

LIGHTBLOCKS

Our original LIGHTBLOCKS are a patented custom-colored, assembly of resins in the exact thickness and translucency required for the in the exact thickness and colored, assembly of resins are a patented custom-

Our original LIGHTBLOCKS are a selection of colors by our color team for their leading-edge designs and appeal. Even with these brilliant colors, you still have a choice for your specific need as StudioStandards colors are available in three opacities: Solid, Lucent and Jellies. StudioStandards colors are ready when you need them. Samples are in stock available for same day shipment to you for quick presentations and color approval.

LightCast

Monolithic and luminous, our LightCast acrylic resin is available in 9 in-stock and infinite custom colors (small minimums apply for Custom color). LightCast is recommended for heavy-use areas such as restaurant tables, counters and outdoor applications. The renewable surface and resin coat ensure amazing durability. In performance tests, LightCast outperforms any other resin currently available. LightCast cannot be stained and, like all LIGHTBLOCKS surfaces is NSF Listed. LightCast is available in 1” and 1-1/2” thicknesses with a variety of edge treatments to choose from.

CoolBlocks

CoolBlocks is LIGHTBLOCKS Fire Rated materials group, offering a variety of Class “A”, “B” & “C” materials as well as Class “A” equivalent materials to choose from. Our range of polyester CoolBlocks material with custom color and protective polycarbonate backing provides NFPA 286 “Equivalent to Class “A”’ rated product. CoolBlocks allows your creative designs to meet the challenges of strict safety codes. Our certified test results are, of course, always available; just ask.

StudioStandards09

LIGHTBLOCKS StudioStandards09 are available in three opacities: Solid, Lucent and Jellies. StudioStandards09 are ready when you need them. Samples are in stock available for same day shipment to you for quick presentations and color approval.

CREATIVE DESIGNS & ARCHITECTURAL MATERIALS

Any Color in Any Medium and any color in any thickness and any Level of opacity. Approval. Any Color in any medium and color is NSF Listed. LightCast is LIGHTBLOCKS surfaces are stain-resistant and, like all LIGHTBLOCKS, are a selection of colors by our color team for their leading-edge designs and appeal. Even with these brilliant colors, you still have a choice for your specific need as StudioStandards colors, in-stock samples ready to go! Our custom samples are shipped to you fast, usually within 5 days of request. We will make prototype fabrication samples as well so you can see the effect you have specified. If you need samples quickly, checkout our StudioStandards colors, in-stock samples ready to go!
DESIGNING WITH LIGHTBLOCkS

NOMINAL VS. ACTUAL THICKNESS Industry standards for polymer sheet thickness are nominal values with a variation in thickness within a single sheet or across a casting or extrusion of multiple sheets all of the same "nominal" thickness. It is best to make sure that connection channels and mountings have room to allow for this quality.

EXPANSION AND CONTRACTION Polymers expand and contract with heat, cold and moisture. Allow for this quality in your designs by incorporating reveals between panels and in your attachment methods, channels, frames, etc. We can specify the amount of space to allow for each polymer.

DEFLECTION Polymers are more flexible than glass and must be supported at closer intervals. Check with our Project Developers or your rep to get deflection data specific to your project.

FORMING AND CURVES Thermo forming: This is done by placing flat sheets in an autoclave over a wooden form and heating the polymer till it relaxes into the shape of the form. The sheet must be cooled very slowly to retain the shape. A too rapidly cooled sheet will continue to tighten its radius over time. Cold forming: As polymers are flexible, some materials may be safely forced into a curve by clamping the sheet along two sides. Each polymer has its own maximum safe bending radius per thickness.

HARDWARE Mechanical fasteners—nuts and bolts, cables and stands-offs—are all acceptable methods of installing polymers. Rubber washers and collars are useful to hold parts firm while allowing for expansion and contraction.

FABRICATION Polymers may be cut and assembled with adhesives and mechanical fasteners, heat formed and surfaced into many finished design elements. LIGHTBLOCkS floating invisible seams for countertops and tables highlight the incredible depth and beauty of a completed design. Fabricated components, including display fixtures, lighting lenses, drop edges, integral sign graphics and etching, are all possibilities to create a unique and compelling component for your space.

FIRE RATING Not all polymers fit the requirements for Class A fire rating. In fact, most polymers available for fire-rated applications are either Polycarbonate or Polyester. Acrylics can be used in many applications for Light Emitting Plastics. LIGHTBLOCkS offers a variety of fire-rated materials. Please consult your rep or one of our Project Developers to discuss your application and to select the best material to meet your requirements.

SPECIFYING LIGHTBLOCkS LIGHTBLOCkS can provide you with CSI-formatted specifications for your use in specifying LIGHTBLOCkS in your project. Using this text in your specification guarantees that all aspects of the application, including correct products, colors, materials, handling, installation, and maintenance, are properly specified, resulting in a successful project.

LIGHTBLOCkS SAMPLES LIGHTBLOCkS StudioStandards samples (2’x 3”) are readily available for same or next-day shipment to you. Custom color and custom translucency samples (3’x 3”) are also available upon request and usually take less than 5 days to process. We are happy to provide samples until we achieve the color you are looking for (within reason). We can also provide larger samples, custom fabrication detail samples, or prototypes for a small fee.

Go to our web site to view our complete catalog for more details about Designing with LIGHTBLOCkS.

MATERIAL SELECTIONS LIGHTBLOCkS are manufactured from various polymers selected to fit your design. There are numerous options to consider, from material optimization to application and installation, as well as the most efficient fabrication methods when selecting materials.

Acrylic: LIGHTBLOCkS acrylic polymer provides the clearest material available for your designs. Acrylic is strong, lightweight and UV stable.

Polyester (PET & PETG): LIGHTBLOCkS polyester polymer is an alternative to acrylic for certain applications. Polyester has a slightly frosted tinge to the raw material and is not quite as vibrant as acrylic.

Polycarbonate: LIGHTBLOCkS polycarbonate is used for fire-rated applications and can be colored the same as any of our other materials. Structural polycarbonates are excellent for an industrial design appearance or where added strength is required.

Sheet Sizes: LIGHTBLOCkS is available in multiple sheet sizes; 4’x8’, 5’x10’, 6’x12’, 8’x10’ and more in most thicknesses.

Thicknesses: Materials are available from V16” to 2+”. We will work with you to select the correct thickness for your application and advise solutions when consistency is critical.

PRODUCT MAKE-UPS LIGHTBLOCkS are available in several different product assemblies, each designed to meet your particular design requirement. In virtually all the products, the LIGHTBLOCkS color layer is always protected so the color cannot be scratched or damaged. Our surface is always protected with our durable finish, ensuring design integrity longevity.

Single Layer: LIGHTBLOCkS Single Layer products are single thickness solid color or clear materials. This family includes our popular “ICE,” “Dry Ice,” “White Ice” and “Green Ice” as well as a variety of custom and standard “Thru-Colors.”

Multi Layer: LIGHTBLOCkS Multi Layer products are available in both Single Sided (used when only one side of the material is visible) and Double-Sided (used when panels are visible from both sides). MultiLayer products are hand colored (any color you require) on the back side and finished with a protective backer or substrate to protect the color, make the color opaque, or to apply an adhesive for installation.

In the coloring process, any level of translucency can be formulated, offering you a unique signature look for your design. Any LIGHTBLOCkS material can be used to make a Multilayer product. Double Sided Multilayer products can be two different colors; one on each side.

Cristal & Reflexion: LIGHTBLOCkS “Cristal” is Dichroic material. LIGHTBLOCkS “Reflexion” are bright, jewel-toned reflective materials.

LightCast: LIGHTBLOCkS LightCast polymer is recommended for use in high moisture environments for restaurant tables and counters, bar top, kitchens and baths.

Color: Custom color is our standard. We will custom match any color you select (BW, SW, PM, Pantone or R.A.M.) at no extra charge. You can also select the level of translucency for your custom color selection. All our colors are hand applied by studio artisans using the LIGHTBLOCkS patterned coloration process.

Surface Finish: A LIGHTBLOCkS signature is its renewable custom matte finish. This finish resists fingerprints, stains, marks and scratches. In addition, this durable finish is 100% renewable, ensuring lasting beauty and a long lifecycle of use.
**Polymer**
- Acrylic ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Polyester ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Polycarbonate ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

**Environment**
- Interior ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Exterior* ✓ ✓ ✓ ✓

**Opacity**
- Translucent ✓ ✓ ✓ ✓ ✓
- Opaque ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

**Recommended Applications**
- Walls ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Partitions ✓ ✓
- Room Dividers ✓ ✓
- Doors (Inserts, Framed) ✓ ✓ ✓ ✓ ✓ ✓
- Ceilings ✓ ✓ ✓ ✓
- Countertops (for dry applications) ✓ ✓ ✓ ✓ ✓
- Countertops (for wet applications) ✓ ✓
- Signs ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Table Tops ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Displays ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Lighting (Lenses, Diffusers) ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

*Special conditions may apply—Consult factory for specific application
Under certain installation conditions some product make-ups may be suitable for applications not shown.

**COMPETITIVE PRICING FOR YOUR PROJECTS**

LIGHTBLOCKS Project Developers work with you in crafting the best quality materials and most economical solution for your design. We will be glad to create a specific quote for your project. However, to get started, some pricing guidelines will be helpful in beginning your project. Following are some important things to know about pricing LIGHTBLOCKS:

The simple square-foot price of LIGHTBLOCKS raw materials does not represent the final cost; it is actually the first step in compiling the cost components that combine to create your LIGHTBLOCKS design. When we optimize your design on a sheet of material, we calculate the drops from the sheet at a cost only basis. You don’t pay full price for an entire sheet unless you use the entire sheet.

LIGHTBLOCKS base prices include the raw material polymer, our patented coloring process in any color you select, our renewable, scratch, fingerprint and stain resistant matte finish and either a saw cut, CNC or unfinished edge.

To this base cost we add various options to fulfill your design intent and integrity, resulting in your ready-to-install comprehensive price.

- A backer is typically added to the polymer to protect the color on single sided materials
- Edge treatments, including matte, hand polished, flame polished or structural edges, carry additional per-foot charges
- Custom fabrication and/or CNC machining time
- Components supplied with your order

**BUDGET QUOTATION**

This is a project quote based on your current design—an estimate of costs before the final solutions are worked out.

**FIRM QUOTATION**

The firm quote reflects the price of the project ready to be ordered and includes all components, plus crating and shipping if needed.

**SAMPLES & PROTOTYPES**

Since custom is our standard and our goal is to help you fulfill your vision in any color and any translucency, the custom color samples we produce for you are typically free. Although we do have a few rules about samples. One of the great advantages of working with LIGHTBLOCKS is that we will fabricate your parts for you. If you need a prototype to inspect or approve before final production, we will be happy to accommodate your request.

**RULE OF THUMB PRICE RANGES**

So now that we have explained how LIGHTBLOCKS pricing works, you still may need some benchmark to decide if our product is compatible with your budget. A good rule of thumb is based on our average project data compiled over the most recent 12-month period. LIGHTBLOCKS average projects are 110 square feet and cost $65.00 per square foot. However, taking into account a spectrum of variables, it is possible to create a project design that costs $35.00 a square foot up to $280.00 a square foot. We are happy to assist in the pricing process to guide you and your design to an affordable solution.

**PACKAGING & SHIPPING CHARGES**

LIGHTBLOCKS takes great pride in making sure your LIGHTBLOCKS arrive safe and sound. We take special care in packaging, crating and shipping your order. All projects are quoted FOB Nashua, NH. We can provide you an estimated range for the packaging and shipping or give you a firm quote if we know when and to where your project will ship. All projects receive a firm packaging and shipping quote prior to final invoicing.

Visit our website for complete details and our Terms & Conditions of Sale.
LIGHTBLOCKS®
where light meets color...

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LIGHTBLOCKS are used in tables, countertops, walls, ceilings, signs, casework, furniture, doors, displays, and lighting in settings that include corporate, hospitality, healthcare, cultural, education, residential, and retail.
LIGHTBLOCKS technical specifications manual provides guidelines for use and technical information to be considered in the design and fabrication of LIGHTBLOCKS products. All technical information is applicable to LIGHTBLOCKS Acrylic products. Where noted, information may be pertinent to Polyester or Polycarbonate products only. Please consult one of our Project Developers for special applications not covered in this guide or for application in special uses.
### Physical Properties

<table>
<thead>
<tr>
<th>Specification</th>
<th>Test</th>
<th>Acrylic (0.236 Thickness)</th>
<th>Polycarbonate (0.125 Thickness)</th>
<th>Polyester (0.125 Thickness)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lightblocks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mechanical</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>ASTM D-792</td>
<td>1.19</td>
<td>1.20</td>
<td>1.27</td>
</tr>
<tr>
<td>Refractive Index</td>
<td>ASTM D-542</td>
<td>1.49</td>
<td>1.586</td>
<td>1.57</td>
</tr>
<tr>
<td>Light Transmission</td>
<td>ASTM D-1003</td>
<td>92%</td>
<td>86%</td>
<td>86%</td>
</tr>
<tr>
<td><strong>Thermal Properties</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat Deflection Temp.</td>
<td>ASTM D-648</td>
<td>210°F</td>
<td>270°F</td>
<td>157°F</td>
</tr>
<tr>
<td>Coefficient of Thermal Expansion</td>
<td>ASTM D-696</td>
<td>4.0 x 10⁻⁶ in./in./°F</td>
<td>3.75 x 10⁻⁶ in./in./°F</td>
<td>3.8 x 10⁻⁶ in./in./°F</td>
</tr>
<tr>
<td>Coefficient of Thermal Conductivity</td>
<td></td>
<td>1.3 BTU-in/hr-ft²-°F</td>
<td>1.35 BTU-in/hr-ft²-°F</td>
<td></td>
</tr>
<tr>
<td>Temperature (max. continuous service temperature)</td>
<td></td>
<td>160°F-180°F</td>
<td>250°F</td>
<td></td>
</tr>
</tbody>
</table>

*Some values will change with thickness*
**MATERIAL PROPERTIES**

**SHEET SIZE**

<table>
<thead>
<tr>
<th>Material</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic</td>
<td>48&quot; x 96&quot;</td>
</tr>
<tr>
<td>Acrylic</td>
<td>48&quot; x 120&quot;</td>
</tr>
<tr>
<td>Acrylic</td>
<td>60&quot; x 96&quot;</td>
</tr>
<tr>
<td>Acrylic</td>
<td>72&quot; x 96&quot;</td>
</tr>
<tr>
<td>Acrylic</td>
<td>60&quot; x 120&quot;</td>
</tr>
</tbody>
</table>

Custom sheet sizes are also available. Some thicknesses are not available in all sizes.

**THICKNESS**

Acrylic LIGHTBLOCKS is available in all standard gauges, with a thickness tolerance of 10%-15% depending on gauge.

<table>
<thead>
<tr>
<th>Thickness Fraction (in.)</th>
<th>Thickness Fraction (decimal)</th>
<th>Min.-Max. Class 2 G-1</th>
<th>Metric (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/16</td>
<td>0.060</td>
<td>0.032 - 0.084</td>
<td>1.5</td>
</tr>
<tr>
<td>1/8</td>
<td>0.118</td>
<td>0.088 - 0.138</td>
<td>3.0</td>
</tr>
<tr>
<td>3/16</td>
<td>0.177</td>
<td>0.140 - 0.200</td>
<td>4.5</td>
</tr>
<tr>
<td>1/4</td>
<td>0.236</td>
<td>0.191 - 0.261</td>
<td>6.0</td>
</tr>
<tr>
<td>3/8</td>
<td>0.354</td>
<td>0.294 - 0.384</td>
<td>9.0</td>
</tr>
<tr>
<td>1/2</td>
<td>0.472</td>
<td>0.402 - 0.502</td>
<td>12.0</td>
</tr>
<tr>
<td>5/8</td>
<td>0.708</td>
<td>0.629 - 0.739</td>
<td>18.0</td>
</tr>
<tr>
<td>1</td>
<td>0.944</td>
<td>0.858 - 0.968</td>
<td>24.0</td>
</tr>
<tr>
<td>11/8</td>
<td>1.250</td>
<td>1.156 - 1.302</td>
<td>31.8</td>
</tr>
<tr>
<td>11/4</td>
<td>1.500</td>
<td>1.379 - 1.539</td>
<td>38.1</td>
</tr>
<tr>
<td>11/2</td>
<td>1.750</td>
<td>1.613 - 1.799</td>
<td>44.5</td>
</tr>
<tr>
<td>2</td>
<td>2.000</td>
<td>1.848 - 2.058</td>
<td>50.8</td>
</tr>
</tbody>
</table>

Many of the above thicknesses can be laminated together to create even more possibilities.

**WEIGHT**

Approximate weight of LIGHTBLOCKS—Glass Comparative

<table>
<thead>
<tr>
<th>Thickness (in./decimal)</th>
<th>Weight (lbs./sq. ft.)</th>
<th>Glass Comparison (lbs./sq. ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/16&quot;/0.118&quot;</td>
<td>0.75</td>
<td>1.6</td>
</tr>
<tr>
<td>1/8&quot;/0.177&quot;</td>
<td>1.10</td>
<td>2.4</td>
</tr>
<tr>
<td>1/4&quot;/0.236&quot;</td>
<td>1.50</td>
<td>3.3</td>
</tr>
<tr>
<td>3/8&quot;/0.354&quot;</td>
<td>2.25</td>
<td>4.9</td>
</tr>
<tr>
<td>1/2&quot;/0.472&quot;</td>
<td>3.00</td>
<td>6.4</td>
</tr>
<tr>
<td>5/8&quot;/0.708&quot;</td>
<td>4.50</td>
<td>9.6</td>
</tr>
<tr>
<td>1&quot;/0.944&quot;</td>
<td>6.00</td>
<td>12.8</td>
</tr>
<tr>
<td>11/8&quot;/1.25&quot;</td>
<td>7.50</td>
<td>16.1</td>
</tr>
<tr>
<td>11/4&quot;/1.50&quot;</td>
<td>9.00</td>
<td>19.2</td>
</tr>
<tr>
<td>2&quot;/2.00&quot;</td>
<td>12.00</td>
<td>25.6</td>
</tr>
</tbody>
</table>

**IMPACT RESISTANCE**

Acrylic LIGHTBLOCKS—Glass Comparative

<table>
<thead>
<tr>
<th>Material</th>
<th>Thickness</th>
<th>Wt. of Free Falling Steel Ball (lb.)</th>
<th>F50 Energy to Break (ft.-lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic LIGHTBLOCKS</td>
<td>0.118&quot;</td>
<td>2.00</td>
<td>4.7</td>
</tr>
<tr>
<td>Acrylic LIGHTBLOCKS</td>
<td>0.236&quot;</td>
<td>5.0</td>
<td>18.1</td>
</tr>
<tr>
<td>Single Strength Window Glass</td>
<td>0.100&quot;</td>
<td>0.25</td>
<td>0.8</td>
</tr>
<tr>
<td>Double Strength Window Glass</td>
<td>0.125&quot;</td>
<td>0.25</td>
<td>1.8</td>
</tr>
<tr>
<td>Plate Glass</td>
<td>0.187&quot;</td>
<td>0.25</td>
<td>2.0</td>
</tr>
<tr>
<td>Plate Glass</td>
<td>0.250&quot;</td>
<td>0.25</td>
<td>1.0</td>
</tr>
<tr>
<td>Laminated Safety Glass</td>
<td>0.250&quot;</td>
<td>0.25</td>
<td>1.1</td>
</tr>
</tbody>
</table>
EXPANSION & CONTRACTION

LIGHTBLOCKS panels will expand and contract nominally with changes in temperature and humidity. This movement is eight times that of glass, and needs to be accounted for as part of the design. The coefficient of thermal expansion for LIGHTBLOCKS is 0.00004 (in./in./°F).

The formula below can be used to calculate the total movement of a panel, and thus the appropriate allowance for expansion and contraction.

\[
\text{Panel Length (IN)} \times \frac{\text{Change in Temperature (°F)}}{8} \times \text{Coefficient (0.0004)} = \text{Total Movement (IN.)}
\]

Example: 48" X 96" Acrylic LIGHTBLOCKS Panel

\[
(96") \times (32°F) \times (.00004) = 0.123" (1/8")
\]

Minimum Expansion Requirements

<table>
<thead>
<tr>
<th>Panel Length</th>
<th>Minimum Allowance¹</th>
<th>Panel Length</th>
<th>Minimum Allowance²</th>
</tr>
</thead>
<tbody>
<tr>
<td>2' 0&quot;</td>
<td>1/16&quot;</td>
<td>6' 0&quot;</td>
<td>3/32&quot;</td>
</tr>
<tr>
<td>3' 0&quot;</td>
<td>1/16&quot;</td>
<td>8' 0&quot;</td>
<td>1/8&quot;</td>
</tr>
<tr>
<td>4' 0&quot;</td>
<td>1/32&quot;</td>
<td>10' 0&quot;</td>
<td>5/32&quot;</td>
</tr>
<tr>
<td>5' 0&quot;</td>
<td>1/32&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Coefficient of Thermal Expansion Comparison (in./in.°F)

<table>
<thead>
<tr>
<th>Material</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylic</td>
<td>0.0000400</td>
</tr>
<tr>
<td>Polycarbonate</td>
<td>0.0000375</td>
</tr>
<tr>
<td>Glass</td>
<td>0.0000050</td>
</tr>
<tr>
<td>Solid Surface</td>
<td>0.0000180</td>
</tr>
<tr>
<td>Aluminum</td>
<td>0.0000129</td>
</tr>
<tr>
<td>Steel</td>
<td>0.0000063</td>
</tr>
</tbody>
</table>

1 Estimated maximum possible temperature change
2 At 30°F Temperature Difference

COLD BENDING RADIUS DATA

The minimum (tightest) radius that Acrylic LIGHTBLOCKS can be cold formed is approximately 300-350 times the material thickness.

Examples: (minimum radius for framed installation)

<table>
<thead>
<tr>
<th>Material Thickness</th>
<th>Radius</th>
<th>Material Thickness</th>
<th>Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/16&quot;</td>
<td>18&quot;-21&quot;</td>
<td>1/8&quot;</td>
<td>71&quot;-83&quot;</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>35&quot;-41&quot;</td>
<td>5/32&quot;</td>
<td>106&quot;-124&quot;</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>53&quot;-62&quot;</td>
<td>1/4&quot;</td>
<td>142&quot;-165&quot;</td>
</tr>
</tbody>
</table>

The minimum (tightest) radius that Polycarbonate LIGHTBLOCKS can be formed is approximately 100 times the material thickness.

Examples: (minimum radius for framed installation)

<table>
<thead>
<tr>
<th>Material Thickness</th>
<th>Radius</th>
<th>Material Thickness</th>
<th>Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/16&quot;</td>
<td>6.25&quot;</td>
<td>1/8&quot;</td>
<td>25&quot;</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>12.5&quot;</td>
<td>5/32&quot;</td>
<td>37.5&quot;</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>18.5&quot;</td>
<td>1/4&quot;</td>
<td>50&quot;</td>
</tr>
</tbody>
</table>

SOUND TRANSMISSION DATA

<table>
<thead>
<tr>
<th>Thickness</th>
<th>Acrylic LIGHTBLOCKS</th>
<th>Polycarbonate LIGHTBLOCKS</th>
<th>Glass</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>23-25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>3/16&quot;</td>
<td>26</td>
<td>29</td>
<td>-</td>
</tr>
<tr>
<td>1/8&quot;</td>
<td>28-29</td>
<td>31</td>
<td>27</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>30</td>
<td>34</td>
<td>-</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>32-33</td>
<td>34</td>
<td>32</td>
</tr>
</tbody>
</table>
LIGHTBLOCKS can be fabricated with most conventional woodworking tools, as well as tools designed specifically for plastic. The following information provides general guidelines for working with our material. More detailed information is available by contacting our Technical Support department.

Please carefully inspect all products upon receipt and prior to installation or fabrication. Inform LIGHTBLOCKS immediately of any damages or defects. Failure to do so may jeopardize your rights to warranty replacement. When you install or fabricate LIGHTBLOCKS material you are deemed to have accepted the product in its existing condition.

Precautions should be taken to ensure that the material is not scratched or damaged during handling and fabrication. The original protective masking should remain in place during all operations, and for as long as possible during and after installation. Remove only what is necessary, leaving the masking intact until the final stages of the project. If it is necessary to remove some or all of the protective masking prior to the jobs completion, the LIGHTBLOCKS panels should be remasked with a suitable masking or in some other manner protected from damage.

**THE MATTE FINISHED SIDE OF LIGHTBLOCKS IS THE FRONT SIDE OF THE MATERIAL ON SINGLE SIDED PRODUCTS.**

**THE GLOSSY SIDE IS THE BACK. ON DOUBLE SIDED MATERIAL, BOTH THE FRONT AND BACK SURFACES ARE MATTE FINISHED.**

Be sure to follow all manufacturers’ safety recommendations for equipment and materials used in fabricating LIGHTBLOCKS. Tools should be sharp, clean, and free from damage to ensure safe operation. Always wear adequate personal safety protection. Where appropriate, obtain and review the Material Safety Data Sheet (MSDS) for materials used in the fabrication of LIGHTBLOCKS.

**SAWING**

Cutting sheets of LIGHTBLOCKS is best accomplished using a sliding table saw or a vertical panel saw. However, with some care, a stationary table saw can also be used. Hand circular saws are not recommended for finished cuts, but can be used if rough trimming is required.

Saw blades should have teeth that are tungsten carbide tipped with a modified triple chip grind. A 10-inch blade should have 60-80 teeth. The feed rate should be adjusted to maximize cut quality and to prevent melting along the edge. Making practice cuts in scrap material is recommended.

All material should be supported as necessary to prevent chatter during cutting. Thin material especially should be well supported or clamped to minimize vibration. If proper care is not taken, damage to the panel such as cracking or chipping may occur.

Sawing single sided LIGHTBLOCKS, which has a clear 10 mil protective backer, is not recommended for most applications (see Routing). Call our Technical Support department for detailed instructions if this procedure is necessary.

Band saws and jig saws can also be used to successfully cut LIGHTBLOCKS. For band saw blades, metal cutting blades work better than blades designed for cutting wood. Blade width, number of teeth, and type of teeth depend on the thickness of the material, the type of cut, and the band saw being used. For jig saws, blades specifically designed for cutting plastic are available and are the best choice.
ROUTING
LIGHTBLOCKS can be routed using portable routers as well as stationary machinery, such as Computerized Numerically Controlled (CNC) routers. This method can be used for cutting panels to size, trimming edges, and for cutting panels to a shape. It can also be used for cutting openings and for producing holes of all sizes.

Routing is the most effective method for trimming a small amount of material from the edge of a panel. A handheld router is best suited for this operation, along with a straight edge. If using clamps to hold a straight edge to guide the router, care must be taken to not overtighten the clamps. Excessive clamp pressure on some LIGHTBLOCKS products could leave visible marks within the finished panel.

CNC routing is the best method for cutting panels with a 10 mil protective backer (single-sided LIGHTBLOCKS). For detailed information on this process, please contact our Technical Support department.

LASER CUTTING
LIGHTBLOCKS Acrylic, Polycarbonate, and Polyester (PETG) panels can be supplied with intricate patterns and details that are achieved with laser cutting. Under some circumstances it is possible for this process to be completed by the contractor. For most installations, however, this procedure is part of the manufacturing process and completed before the product is shipped.

DRILLING
When drilling holes in LIGHTBLOCKS, best results will be obtained by using drills that are specifically designed for plastic fabrication (60°-90° tip angle). These drill bits are readily available at most hardware and plastics supply stores. In some applications, standard twist drills can be used, but extra care is needed to prevent damage to the LIGHTBLOCKS panel and to produce satisfactory results. In either case, it is important to properly back up the panel with scrap material to prevent break-out of the back surface. Feed rate, drill bit speed (rpm), and force will all vary with hole size and material thickness. All holes that receive fasteners must be oversized to allow for expansion and contraction of the material.

TAPPING & THREADED INSERTS
Standard machine shop tools and techniques can be used for cutting threads directly into LIGHTBLOCKS for receiving fasteners. This can be a slow process requiring a great degree of precision, but satisfactory results can be obtained for some applications. If greater strength is required, or repeated disassembly is anticipated, then threaded metal inserts are recommended. Press-in inserts are available in a variety of styles and thread sizes. LIGHTBLOCKS can supply your panels with inserts installed to your specifications. It should be noted that in some applications this hardware will be visible from the surface of the material.

FORMING–COLD FORMING
LIGHTBLOCKS panels can be cold formed to a smooth contour and held in curved channel supports. Exceeding the design criteria may result in cracking or crazing of the panel. The shape and size of the panel will also influence the minimum radius that can be obtained. In some cases, a considerable amount of force may be needed to hold the panel to the desired shape. Cold forming LIGHTBLOCKS is best accomplished using a full framing system rather than a point fastening system. Call LIGHTBLOCKS for design assistance.

FORMING–THERMOFORMING & LINE BEND
A variety of LIGHTBLOCKS products can be thermoformed (drape formed) into curves to match the requirements of most projects. All panels needing to be heat formed will be supplied from our factory ready for installation. Some LIGHTBLOCKS products can be bent at an angle along a straight line. Panels are supplied with all necessary bends included.

ADHESIVES–GLUING
Many LIGHTBLOCKS products can be adhered to substrates such as MDF and particle board. Contact adhesives, mastics, and construction adhesives are all options that can be used in this process. In order to ensure that the material specified for your project is suitable for this type of application, please contact LIGHTBLOCKS for assistance.

Structural bonds are also possible with many LightBlocks products. All such gluing is done at our factory by our well-trained fabricators. Because of our unique materials and processes, these bonds are not suitable for customer fabrication.

ADHESIVES–SHEET ADHESIVES
LIGHTBLOCKS can be supplied with “sheet adhesive” (full coverage) pre-installed on the back side of the material. The adhesive comes with a protective mask on the face which when removed allows the material to be adhered to many smooth surfaces. Consult LIGHTBLOCKS for specific applications and uses.

GRAPHICS
LIGHTBLOCKS products can be used for all types of signage and feature walls. Our material can be screen printed and engraved, or receive virtually any surface-applied graphics. LIGHTBLOCKS can furnish signs ready for installation or supply material to be used as a substrate for applied graphics.

ATTACHMENT: POINT FASTENING & FRAMING
LIGHTBLOCKS panels can be installed using a sufficient number of mechanical fasteners, such as standoffs, bolts, or machine screws. Fasteners should be located as needed to adequately support the panel, as well as to ensure a flat, uniform appearance. Recommended spacing is 18°-24°, depending on panel size, thickness, and application. When installing hardware, care should be taken to not overtighten the fasteners. Rubber or nylon washers and/or grommets may be used if needed.

When drilling holes to support LIGHTBLOCKS by a point fastening system, please follow these guidelines to allow for proper expansion/contraction space:
1. The hole diameter should be at least \(1/4\) - \(1/2\) larger than the fastener diameter. This hole size should be adjusted for large panels and/or panels with numerous fasteners.
2. The distance from the edge of the sheet to the center of the hole should be at least 3 times the hole diameter. This distance should be adjusted for large panels and/or panels with numerous fasteners.
3. Through holes should be predrilled. In some applications it is possible to drill and tap LIGHTBLOCKS or to install threaded inserts.
MATERIAL HANDLING AND MAINTENANCE

MATERIAL HANDLING
Your LIGHTBLOCKS panels will arrive with protective paper masking applied to the finished surfaces. This masking should remain in place for as long as possible, and only be removed when absolutely necessary. Continue to protect the panels during installation and from construction damage until the entire project is complete. The paper masking can be removed by peeling it from the LIGHTBLOCKS surface. Never use scrapers or sharp objects to remove this masking.

The back of multilayer LIGHTBLOCKS has a protective layer consisting of either a 10 mil clear-gloss film or various clear or opaque solid polymer materials, depending on the application. The function of these backers is to protect the LIGHTBLOCKS color layer from damage and should not be removed or altered for any reason. Please keep in mind that these backers are on the back of multilayer product only.

LIGHTBLOCKS panels can have sharp edges, and large panels can be heavy. Suitable precautions should be exercised at all times, and hand protection should be used when moving and handling the material. Do not use suction cups or hooks to move material, and take care not to scratch the surface or chip the edges. When handling unmasked sheets, make sure hands are clean and oil free: cotton gloves are recommended.

STORAGE
LIGHTBLOCKS should be stored indoors in a cool, dry, well-ventilated area out of direct sunlight and away from heat sources. Avoid temperature extremes during storage, and allow the material to acclimate to ambient room temperature before installation.

Panels can be left on their shipping pallets for a short period of time, but should be removed if installation is substantially delayed. For long-term storage, the material should be stored fully supported on edge at a 10° angle from the vertical. Horizontal storage should be done on a flat, sag-free surface, clear of dirt and debris.

Protective foam should be used between all layers of material during storage, and the factory-installed masking should remain in place. Do not allow water to come into direct contact with the material during storage. This could cause the material to warp, stain, or delaminate, and may make the masking difficult to remove.

CLEANING & MAINTENANCE
LIGHTBLOCKS panels do not require special care or maintenance. Their attractive appearance can be maintained with periodic cleaning or dusting. All finished surfaces have a clear resin applied, which helps the panels resist marking and makes them easier to clean.

Day-to-day cleaning can be accomplished by lightly wiping the panels with a damp, soft cloth or chamois. This will reduce static electricity and dust attraction. If the panels are dirty, they should be washed with lukewarm water and mild soap or detergent (such as dishwashing liquid) and rinsed clean. Avoid getting any water into exposed edge seams of multilayer or laminated LIGHTBLOCKS.

More stubborn dirt and marks not easily removed by the above method can be cleaned with household surface cleaners such as Fantastik® or Formula 409®, or an acrylic cleaner such as 20/20 Plasti-Cleaner®. A rinse with soap and water may be necessary after using any of these cleaning agents. Always follow manufacturer’s directions and safety recommendations, and refer to the Material Safety Data Sheet (MSDS) for any chemicals used.

Caution: Do not use kitchen scouring compounds, or solvents such as acetone, lacquer thinner, benzene, gasoline, or undiluted alcohol.

Always use soft fabric for cleaning cloths. Do not use abrasive compounds, paper towels, squeegees, scrapers, or other objects that might scratch the surface of the material. Keep cleaning cloths free of grit by frequent rinsing in clean water.

TABLE & COUNTERTOP CARE
While LIGHTBLOCKS surfaces are heat resistant, it is not recommended that hot pans or cookware be placed directly on the surface. These temperatures will damage most surfaces, including LIGHTBLOCKS. Always use a hot pad under pans and cookware that are to be placed directly on a LIGHTBLOCKS counter or table.

LIGHTBLOCKS surfaces are tough and durable, but they should not be used as a cutting board. Be sure to use an appropriate surface for all kitchen cutting, chopping, and dicing operations.

SCRATCH REMOVAL & REPAIRS
Even if scratched, many LIGHTBLOCKS panels can be restored to their original condition. Some minor scratches can be removed in the field with careful use of a 3M Scotch-Brite® pad. By returning the damaged panel to our factory, it can be refinished and have the top sealer coat reapplied. This process will not affect the color or other panel features.

CONTACT TECHNICAL SUPPORT
For technical assistance or recommendations on repairs for LIGHTBLOCKS please contact our Project Developers at 603-889-1115.
LIGHTBLOCKS®
where light meets color...

LIGHTBLOCKS are luminous and inspiring colored resins with a renewable matte finish used for both architecture and design. We fabricate our LIGHTBLOCKS panels to your specifications in any thickness, any color, any opacity, any size, and any resin.

Our patented technique creates an extra-dimensional color that is super durable. Our surface is renewable, resists fingerprints, stains, and scratches, and is easy to clean.

LIGHTBLOCKS are used in tables, countertops, walls, ceilings, signs, casework, furniture, doors, displays, and lighting in settings that include corporate, hospitality, healthcare, cultural, education, residential, and retail.

For more information about LIGHTBLOCKS
603.889.1115  www.lightblocks.com