

## **ACRYLICS (AC):**

Acrylic is the generic name for polymethylmethacrylate or PMMA

### **LIGHTING - LG**

Lighting grade acrylic (RTI 90C) "Acrylic-LG" when the parts require excellent long-term resistance to yellowing f1 rating required. A.L.P. recommends a maximum operational temperature up to 80° Celsius to achieve optimum life. Colors are available per the price list options.

### **LED**

LED grade acrylics have standard UV stabilizer package, which is recommended for use in SSL lighting applications. A.L.P. recommends a maximum operational temperature up to 70° Celsius to achieve optimum life.

### **EXTRUSION**

Extrusion grade acrylics (RTI 90C) "Acrylic-EX" when the parts require excellent long-term resistance to yellowing f1 rating required. A.L.P. recommends a maximum operational temperature up to 80° Celsius to achieve optimum life.

### **GENERIC**

This "Generic" acrylic classification indicates that the product is made from a variety of wide-spec acrylic materials and that no UL recognition is available. This wide-spec acrylic material is not recommended for use in high heat or HID applications. Certain products may be offered in wide-spec acrylic to provide the customer with cost savings. This "Generic" classification of materials may vary in color, diffusion, impact modifier amounts, transmittance, impact strength, etc. A.L.P.'s criteria for these variances is wide and A.L.P. shall be the sole judge of whether a material is defective based on these criteria. Material certification is not generally available.

### **EDGE LIT - EL**

Edge lit grade acrylics have limited to no additives and minimal edge color and are only recommended for use in edge lit applications. A.L.P. recommends a maximum operational temperature up to 70° Celsius to achieve optimum life.

### **MOON GLOW™ - MG**

The Moon Glow designation indicates a customized pigment has been added to the PMMA resin. The appearance of Moon Glow products will be slightly translucent. Using products with a Moon Glow pigment can help to minimize glare and produce a desirable cosmetic effect. A.L.P. recommends a maximum operational temperature up to 80° Celsius to achieve optimum life.

### **INTERFACE®**

This uniquely foamed acrylic material provides diffuse reflection and an extreme white color. A.L.P. recommends a maximum operational temperature up to 80° Celsius to achieve optimum life.

### **LUMIEO™**

The Lumieo™ designation indicates a customized material has been added to the PMMA resin. The appearance of Lumieo products will be diffuse white. Using products with a Lumieo designation provides high transmittance with improved lamp hiding. A.L.P. recommends a maximum operating temperature up to 80° Celsius to achieve optimum life.

### **IMPACT**

The Impact designation indicates an impact modifier has been compounded into the PMMA resin. The impact modifier is to increase the ability of the acrylic to withstand higher impact loads in specific applications where required. A.L.P. recommends a maximum operating temperature up to 70° Celsius to achieve optimum life. When the parts require excellent long-term resistance to yellowing f1 rating is required.

### **FROST**

Frost AC is ideally suited for applications requiring a softened appearance, without the use of white pigments. Frost AC uses beads within the AC to diffuse light while maintaining high transmittance. A.L.P. recommends a maximum continuous use of 80° Celsius with this material. When the parts require excellent long-term resistance to yellowing f1 rating is required.

**Recycled - RAC**

This material is recycled internally with carefully controlled processes and has good clarity, transmittance and color consistency. A.L.P. ISO 9001 quality procedures will determine whether or not material is defective based on these criteria. Recycled Acrylic is an environmentally responsible solution for applications where UL recognition and material certifications are not required, such as post-tops, shades or other accessories.

**POLYCARBONATES (PC):**

**LIGHTING:**

Lighting grade polycarbonates key physical property is resistance to impact. It is virtually unbreakable. A.L.P. recommends a maximum operational temperature up to 90° Celsius to achieve optimum life. Polycarbonate should be used in areas where vandal resistance is a concern. When the parts require excellent long-term resistance to yellowing f1 rating is required. The optical clarity of polycarbonate is degraded by ultraviolet radiation. UvaLex® coating and/or UV guarded lamps are recommended. Colors are available per the price list options.

**LED:**

LED grade polycarbonates have higher transmittance values as minimal additive packages are used. These grades are for use with sources with little or no UV output, and limited outdoor exposure.

**REFLECTOR:**

Reflector grade polycarbonates are custom developed for tool surface replication and coating compatibility. These grades contain limited release additives and can be black, white or clear.

**FROST:**

Frost PC is ideally suited for applications requiring a softened appearance, without the use of white pigments. Frost PC uses beads within the PC to diffuse light while maintaining high transmittance. A.L.P. recommends a maximum continuous use of 80° Celsius with this material. When the parts require excellent long-term resistance to yellowing f1 rating is required.

**FIRE RETARDANT GRADE (UL 5VA Rated):**

Fire retardant grade polycarbonates have flammability ratings based on UL standards. This grade contains additives that inhibit flammability while maintaining ability to be used in clear lenses or in colored polycarbonates. When the parts require excellent long-term resistance to yellowing f1 rating is required.

**SILICONES:**

**OPTICAL SILICONE**

This innovative molding material creates lenses that can sustain a 120°C operating temperature, excellent resistance to discoloration and are unbreakable.

**SHEET MOLDING COMPOUND (SMC):**

**NON-ENCLOSURE (HB Rated):**

This material, also referred to as SMC/BMC, is a fiberglass reinforced polyester sheet compound that is compression molded.

**ENCLOSURE (5V Rated):**

This material also referred to as SMC/BMC, is a self-extinguishing fiberglass reinforced polyester sheet compound that is compression molded.

**POLYSTYRENE:**

A.L.P. uses crystal polystyrene in the production of eggcrate louvers. This material is rigid, easily fabricated to different cut sizes and lower in cost than acrylic. A.L.P. adds either white or black styrene color concentrate to achieve the target color. A.L.P. recommends a maximum operational temperature up to 70° Celsius to achieve optimum life. White polystyrene is subject to color change if exposed to substantial UV. Most LED sources produce little or no UV.

**DIE CAST ALUMINUM:**

A.L.P. uses A380 in the manufacturing of Die cast products.

**STEEL (Gear Trays/Driver Trays):**

White, pre-painted cold rolled steel

**IMPORTANT NOTICES:**

1. All materials are subject to accelerated degradation when improperly applied. Exceeding recommended temperature limits, exposing to concentrated UV, chemicals or physical damage will result in decreased life and performance.
2. In the case of a conflict between customer drawings of A.L.P. proprietary products and A.L.P. drawings and specifications, A.L.P.'s version will govern.
3. All specifications are subject to change without notice. Please contact A.L.P. Technical Services Department for the latest material information by phone 231-547-6584 or e-mail [engtech@alplighting.com](mailto:engtech@alplighting.com).

**USE OF LENSES AND REFRACTORS WITH METAL HALIDE LAMPS**

Metal halide lamps are prone to violent end of life failure which can result in pieces of hot arc tube segments landing on the lens. NEMA Lighting Systems Division has published a document "Best Practices for Metal Halide Lighting" and NEMA has also issued a "Rationale" to UL for changing the 1598 standard. Our interpretation of these documents is that the best and safest solution for violent end-of-life lamp failures is the use of Type-O Open Rated metal halide lamps. Type-O lamps and exclusionary sockets have become more cost effective and are being commonly employed by lighting fixture OEMs on fixtures using bottom lenses.

We have also become aware that end users may fail to follow lamp and fixture manufacturer's guidelines for location of fixtures, maintenance, lamp life, etc. As a result, it is our recommendation that A.L.P. lenses not be used as lamp containment devices and that end users be notified that existing lamps should be replaced with Open Rated lamps. Our UL file E134182, which listed our "Polymeric Lamp Containment Barriers", was discontinued effective June 30, 2010.

**Trademark Information:**

Registered Trademarks of LexaLite Brand include:

LexaLite®, Lex-Efx Light Control Film®, Reflexor®, Interface®, LiteLid®, The Lindy®, and UvaLex®.

Trademarks of LexaLite include:

Lumieo™, Moon Glow™, Dur-iSil™ and SilOptic™.