Acrylic

PMMA, Poly(methyl methacrylate) Acrylite®, Lucite®, Plexiglas®

Description and Overview

Acrylic is a versatile thermoplastic often used as a lightweight alternative to glass. Its excellent optical properties and resistance to impact make it an ideal material for applications where glass may shatter.

Acrylic performs well in harsh weather conditions and features excellent fabricating, thermoforming and solvent bonding capabilities.

Acrylic is produced in two basic variations: cast and extruded grades. Acrylic comes in a variety of colors, textures as well as specialty grades for a wide range of applications.

Applications and Uses

Cast acrylic offers a higher molecular weight versus extruded, which translates to easier machining, polishing and solvent bonding techniques. Cast acrylic also offers enhanced chemical resistance versus extruded grade acrylic.

Extruded grade acrylic has closer thickness tolerances and is more cost-effective versus cast.

- Glazing and windows
- Glass substitute
- Industrial, commercial, and consumer lenses
- Machine guards
- Bullet-resistant glass applications
- Sneeze guards
- Sound dampening
- Aquariums
- Light dispersion panels, light shelves
- Decorative lighting installations
- Greenhouses
- Skylights
- Point-of-purchase (POP) displays
- Signage
- Framing
- Exhibits

Acrylic is available in cast, extruded, opaque, translucent, tinted, mirror, textured & specialty grades.

Full sheet: 48" x 96" (Available in many thicknesses) Rod: (0.25" through 6.0" diameter)

Properties and Specifications

| Property | Cast | Extruded |
|--|-------------|-------------|
| Specific Gravity | 1.19 | 1.19 |
| Water Absorption @ 24 hrs. | 0.2% | 0.2% |
| Tensile Strength @ Yield (psi) | 10,000 | 10,000 |
| Light transmission | 92% | 92% |
| Elongation at break | 4.2% | 4.5% |
| Flexural strength (psi) | 16,500 psi | 17,000 |
| Hardness, Rockwell | M94 | M93 |
| Refractive index | 1.49 | 1.49 |
| Maximum service temperature | 180°F | 160°F |
| Heat Deflection Temperature @ 264 psi | 239°F | 195°F |
| Affixable Properties | Chem / Mech | Chem / Mech |

Properties are typical

Chem is an abbreviation for chemically affixed with glues, chemicals, or adhesive. Mech is an abbreviation for mechanically affixed bonding.

Field testing is recommended for any application.



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WARNING:This product can expose you to chemicals including Ethyl acrylate, CAS 140-88-5, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.