

# 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"x96" (Available in many thicknesses)  
Rod: (.250" through 6.0" diameter)

## Properties and Specifications

Property	Cast	Extruded
Specific Gravity	1.19	1.19
Water Absorption @ 24 Hours	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	17,000
Hardness, Rockwell	M94	M93
Refractive Index	1.49	1.49
Maximum Service Temperature	180° F	160° F
Heat Deflection Temperature @ 264psi	239° F	195° F
Affixable Properties	Chem / Mech	

Properties are typical.  
Chem is an abbreviation for chemically affixed with glues, chemicals or adhesives.  
Mech is an abbreviation for mechanically affixed bonding.  
Field testing is recommended for any application.