

# Acrylic Rod & Tube Product Information

## Acrylic Extrusions - a versatile material

Clear, lightweight acrylic extrusions enhance the beauty and functional value of your products. They are easy to fabricate without costly tooling.

## Beneficial Properties

### Optical Properties

Acrylic's high light transmittance and high refractive index create a play of light that attracts customers and highlight details of design and quality. Acrylic rod can be readily heat-formed or bent to direct light. Acrylic's striking prismatic effect enhances the beauty of chandeliers and other lighting fixtures.

### Water Resistance

Prolonged exposure to moisture, or even total immersion in water, does not significantly effect and causes no evident warping, swelling or loss of transparency. Acrylic extrusion are ideal for bathroom towel bars, kitchen articles and certain laboratory fixtures.

### Weather ability

Acrylic extrusion, made with a UV stabiliser, exhibit excellent resistance to sunlight and exceptionally long life in outdoor applications such as illuminated signs. They do not yellow or embrittle significantly on exposure to light. Outdoors. Extrusions keep their sparkle and bright new look, rain-or-shine.

### Chemical Resistance

Acrylics are unaffected by aqueous solutions of most common laboratory chemicals. detergents. cleaners. dilute inorganic acids. alkalies and aliphatic hydrocarbons Acrylic is not recommended for use with chlorinated or aromatic hydrocarbons, esters and ketones

### Mechanical Properties

The light weight of Acrylic – less than half that of glass, and only 43% that of aluminium – recommends it where weight saving is important.

### Fabrication

Inquire about recommended procedures for fabricating acrylic extrusion they are easily sawed, drilled, milled, engraved and finished with sharp, carbide-tipped woodworking or metal working tools. Cut surfaces are quickly wet or dry sanded and polished Acrylic is also readily bent or thermoformed at low temperature using simple jigs or fixtures. Rod or tube ends can be heated, expanded and molded to fit brackets or other parts. Solvent bonding of properly fitting parts produces a strong visible joint.

Property	Test Conditions	Acrylic
Refractive Index, nD	ASTM D-542	1.49
Specific Gravity	ASTM D-792	1.18
Tensile Strength	ASTM D-638 1/4 specimen (0.2"/min.) Max. psi	9,600
Tensile Modulus		410,000
Flexural Strength	ASTM D /90 Span-depth ratio 16 (0.1 "/min.) Max. psi	15,000
Compressive Strength	ASTM D-695 (0.2"/min.) Max. psi	14,500
Impact Strength	ASTM D-256 Izod Molded Notch (per inch of notch) ft. lbs	0.4
Rockwell Hardness	ASTM D-785	M-89
Light Transmission "As Received"	ASTM D-1003 Total White, %	92
Effect of Accelerated Weathering on Appearance of Clear Material	Fed. Test Std 406 Test Method 6024 (240 hours) Crazing Discolouration Warping Unmolding	None None None None
Deflection Temperature Under Load, Unannealed	ASTM D-648 3.6°F/min., 264 psi	176°F
Dielectric Strength	ASTM D-149 Volts/mil	500
Dielectric Constant	ASTM D-150, 60 Hz	3.7
Flammability	ASTM D-635 Burning Rate in./min.	0.6
Water Absorption	ASTM D-570 Wt. Gain on 24 hours water immersion Dimensional change on immersion. %	0.3 None

## Colours and Decorative Treatments

Standard. crystal clear extrusions are fully stocked. Coloured extrusions can be furnished on volume orders. Acrylics may be printed, embossed, plated, metalised or hot-stamped with metal or plastic foils, creating an unlimited variety of decorative.

Manufactured with FDA Approved Ingredients

**CAUTIONS** Since acrylics are combustible, appropriate fire precautions should be observed. For building use, check for national and local codes. Impact resistance depends upon mounting, conditions of use, material thickness and surface integrity. Avoid exposure of acrylics to neat and aromatic solvents. Clean with soap or detergents and water only. Avoid abrasive cleaner.

- CNC
- Designing
- 3D Printing
- Consulting
- Engineering
- 3D Scanning

## Cammthane Pty Ltd

18 Rivulet Crescent, Albion Park Rail, NSW 2527

Ph: 02 4257 3201 Fax: 02 4257 3202

Email: info@tceg.com.au Web: www.cammthane.com.au