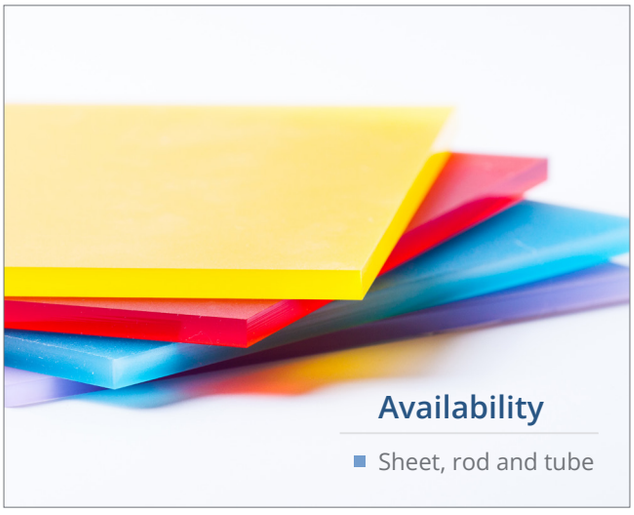
THAMES STOCKHOLDERS
A Division of SMITHS

Acrylic (PMMA)

ENGINEERING PLASTIC



Availability

- Sheet, rod and tube

Product Overview

Acrylic (also known as **PMMA** or Polymethyl-Methacrylate) is an amorphous thermoplastic.

The material offers a high strength-to-weight ratio, is optically transparent and unaffected by water. Often used as an alternative to glass, it should not be considered for structural applications due to the thermoplastic's poor impact resistance. Trade names for Acrylics include Acrylite ®, Lucite ® and Plexiglass ®.

Whilst acrylics are not recommended for use with chlorinated or aromatic hydrocarbons, ester or ketones, the material is unaffected by aqueous solutions of most detergents, acids, alkalis and laboratory chemicals.

Key Features

- UV-resistant, low-water absorption
- Good insulation properties
- Good stiffness and abrasion resistance
- Clear/colourable - clarity is excellent

Applications

- Liquid chemical pumps, water tank liners
- Master cylinders
- Dashboard lighting
- Hard contact lenses, helmet visors

Mechanical Properties

Tensile Strength	(psi)	8,000 - 11,000
Tensile Modulus	(psi)	350,000 - 500,000
Tensile Elongation at break	(%)	2
Flexural Strengh	(psi)	12,000 - 17,000
Flexural Modulus	(psi)	350,000 - 500,000
Compressive Strength	(psi)	11,000 - 19,000
Compressive Modulus	(psi)	-
Hardness	Rockwell	M80 - M100
IZOD Notched Impact	(ft-lb/in)	0.3

Thermal Properties

Coefficient of Thermal Expansion	(x 10 in./in./°F)	5 - 9
Flammability Rating	UL94	-
Heat DeflectionTemperature @264	(psi)	150 - 210 / 65 - 100
Melting Temp	(°F / °C)	265 - 285 / 130 - 140
Max Operating Temp	(°F / °C)	150 - 200 / 65 - 93

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