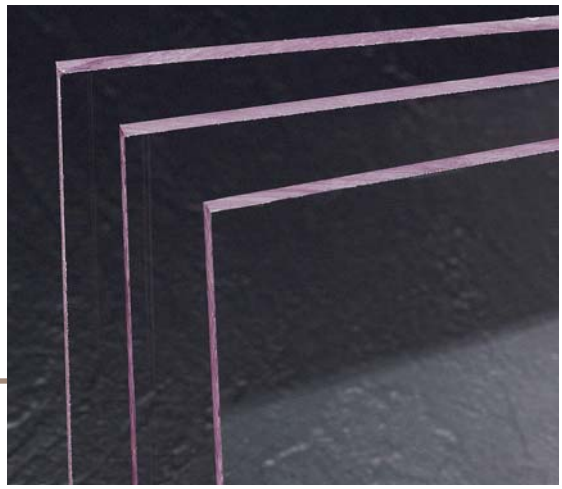
POLYCARBONATE

MAKROFOL® / MAKROLON® / SUSTANAT® / TECANAT™



Polycarbonate is a transparent, strong, and stiff thermoplastic material with outstanding impact resistance.

Polycarbonate's toughness and optical clarity make it ideal for a wide variety of applications including machine guards, indoor and outdoor signs, architectural glazing, face shields, skylights, and point-of-purchase displays.

Polycarbonate rod and plate are easy to machine and have excellent dimensional stability. Polycarbonate machining stock is used for numerous applications including electrical components, manifolds, sight glasses, and semiconductor machinery parts.

Polycarbonate thermoforms well, is easy to paint, and bonds well using solvents or adhesives.

Makrolon® AR is polycarbonate sheet with a transparent hard coat finish, which provides the material with enhanced weatherability, chemical resistance, and abrasion resistance. It is often used for glazing applications in high traffic areas such as bus shelters.

Makrolon Hygard® laminates are bullet-resistant sheet materials consisting of layers of polycarbonate or polycarbonate and acrylic with bonding interlayers. Makrolon Hygard® is used for security glazing applications including police stations and detention centers. The material is available in a variety of configurations depending on the level of protection required.

Sheffield Plastics Inc. A Bayer MaterialScience Company ENSINGER RÖCHLING Sustaplast

KEY CHARACTERISTICS:

- Outstanding toughness
- Good optical clarity
- Strong and stiff
- Easy to fabricate
- Thermoforms well after drying
- Replaces acrylic and PETG in high impact applications
- Available with a UL 94 V-0 flammability rating (0.220" thickness, clear)
- Brake formable (up to 0.100" thickness)
- Easy to solvent bond
- Bullet resistant grades available
- Abrasion resistant grades available
- UV resistant grades available
- Many colors and textures available
- FDA compliant grades available (non UV stabilized)
- Glass-filled grades available for enhanced strength and stiffness

APPLICATIONS:

- Machine guards
- Signs
- Point-of-purchase displays
- Architectural glazing
- Skylights
- Transparent manifolds
- Site glasses
- Semiconductor machinery components
- Nameplates
- Membrane switches

POLYCARBONATE TYPICAL PROPERTIES:

	UNITS	ASTM TEST	POLYCARBONATE	POLYCARBONATE 20% GLASS-FILLED
Tensile strength	psi	D-638	9,500	16,000
Flexural modulus	psi	D-790	345,000	800,000
Izod impact (notched)	ft-lbs/in of notch	D-256	12.0-16.0	2.0
Heat deflection temperature @264 psi	ºF	D-648	270	295
Maximum continuous service temperature in air	ºF		240	248
Water absorption (immersion 24 hours)	%	D-570	0.15	0.16
Coefficient of linear thermal expansion	in/in/ºFx10^{-5}	D-696	3.8	1.5

Standard Sizes: SHEET: 24"x48" (0.03"-4.0" thick), 48"x96" (0.03"-2.0" thick) ROD: diameter 0.25"-10.0"
FILM: 24"x48" (0.005"-0.030" thick) Roll stock and cut-to-size sheet also available

Length, width, thickness, and diameter tolerances vary by size and by manufacturer • Custom sizes and colors available upon request • Many of our materials are available as films with thicknesses of 0.029" or less. Values may vary according to brand name. Please ask your Curbell Plastics representative for more specific information about an individual brand.

Curbell Plastics has been supplying plastic sheet, rod, tube, films, adhesives, sealants, and prototyping materials for over 65 years

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