

"Spartech. The Leader In Sign Plastics."

• **A Leader In Quality.** Our customers are the focus of everything we do. We are dedicated to deliver a first class product on time, every time, to each of our customers.

• **A Leader In Service.** Regionally located manufacturing plants make Spartech Plastics the most responsive resource for plastic sheet in North America.

• **A Leader In Commitment And Support.** We stock the most complete signface sheet material product line in the industry.

• **A Leader In Technology.** Spartech Plastics' 40+ year reputation for innovation in thermoplastics is unsurpassed.

• **A Leader In The Industry.** With annual sales of over \$600 million, Spartech Plastics is the largest custom sheet extruder in the world.

• **ISO 9002 Certified Plants.** Spartech's full line of sign plastics are manufactured in ISO 9002 certified facilities.

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PC-2000

*Sign Grade
Polycarbonate*



*Made From Lexan® Resins
or Calibre® Resins*

PC-2000

Sign Grade Polycarbonate

Spartech PC-2000 Sign Grade Polycarbonate.

For backlit sign faces demanding structural integrity in an economic package, PC-2000 is the material of choice. Specially formulated to provide maximum impact resistance, greatly superior forming and fabrication characteristics, and high heat resistance, PC-2000 is highly versatile in a wide variety of sign applications.

PC-2000 is available in flat sheet and reels in either smooth or matte finish. Sign white and other standard and custom colors are available upon request; we also maintain an extensive inventory in clear sheet and reels for immediate delivery.

PC-2000	Very High	High	Average
Impact Strength	●		
Flexural Modulus		●	
Heat Deflection Temperature	●		
Formability	●		
Weather Resistance			●

Fabrication. PC-2000 can be drilled, routed, sawed, sheared, punched or die cut using the proper tools and techniques. High-speed carbide-tipped twist drills will give good results; drills must have sharp cutting edges to avoid "notching" the plastic. When shearing, use blades with a 45 degree angle or less.

Most conventional mechanical fixing methods such as screws and rivets can be used; adhesive and solvent bonding are possible. For proper mechanical fastening, always over-drill the hole by 1/16 of an inch to allow for expansion. Use an approved silicone sealant in the hole with the fastener to inhibit stress cracking at the hole.

Cutting. PC-2000 can be cut with standard high-speed metal working tools; carbide-tipped blades are recommended for longer life. Circular saws with triple chip or beveled tooth type blades with about two teeth per inch are recommended, with blade speeds in the 6000 to 8000 rpm range. Band saws having 10 to 18 teeth per inch and blade speeds of 2500 to 3000 feet per minute should be adequate for smooth, clean cuts.

Cementing. Bonding PC-2000 to itself and to other plastics can be accomplished. Excellent results can be obtained with urethane adhesives including Hartel #17017 and Weld-On #55 by IPS. Silicones by GE Plastics are also recommended. Solvent cementing may also be used. (For more information, contact your sign distributor.)

Painting. PC-2000 can be easily painted and silkscreened using standard materials and techniques. Based on thorough testing by Spraylat and Akzo the following products are suggested. Follow the manufacturer's guidelines for proper painting and paint removal procedures. Always remove solvents from plastic sheet as quickly as possible to prevent solvent attack.

Brand	Spray	Screen	Cleaner
Grip-Flex®	T-2003	T-1003	T-4000
Grip-Flex®	T-2004	T-1004 T-1007	
Lacryl®	400 Series	800 Series	206-T



PC-2000 polycarbonate sheet is manufactured from Lexan® resins or Calibre® resins. Lexan is a registered trademark of General Electric Company. Calibre is a registered trademark of Dow Chemical.

Physical Property Summary

PROPERTY	TEST METHOD	VALUE	UNIT
Specific Gravity	ASTM D-792	1.20	g/cc
Tensile Modulus	ASTM D-638	350,000	psi
Tensile Strength @ Yield	ASTM D-638	9,360	psi
Elongation	ASTM D-638	100	%
Flexural Modulus	ASTM D-790	391,000	psi
Flexural Strength @ Yield	ASTM D-790	15,000	psi
Izod Impact	ASTM D-256 (73° F)	17.2	ft.-lbs/in
Falling Dart Impact	ASTM D-3029 (.177" samples at 73° F)	960 (no break*)	ft.-lbs
Heat Deflection Temperature	ASTM D-648 (264 psi, unannealed)	270	°F
Coefficient of Thermal Expansion	ASTM D-696	3.8 x 10 ⁻⁵	in/in/°F
Hardness	ASTM D-785	118	Rockwell "R"

*This is the maximum output of the test equipment.

These typical results are based on test procedures which are believed to be reliable. Due to variable conditions or methods of processing, NO GUARANTEES OR WARRANTIES ARE EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES, nor any recommendations made to infringe on patents.

Thickness in inches	Drying Time
.093"	4 hours
.118"/.125"	5 hours
.150"	8 hours
.177"/.187"	12 hours
.236"/.250"	24 hours

For optimum results, remove protective film and space sheets one inch apart in an air-circulating oven.

Pre-Drying.

The most critical step in the thermoforming process is proper drying of the sheet. The most efficient temperature is 250 F.

Drying time is dependent upon oven configuration, air circulation, sheet thickness etc. See chart for suggested starting points. Note: Always remove protective film when drying sheet at over 200° F.

Thermoforming.

PC-2000 can be vacuum-formed on virtually all thermoforming equipment from high-volume multi-station rotary machines to single-station or shuttle presses; pressure forming techniques have also been highly successful. Excellent forming detail can usually be obtained at sheet temperatures of 350° - 425° F; all normal tooling materials such as aluminum, epoxy and various hardwoods can be used.

Optimum Weatherability.

For improved performance with PC-2000 in terms of long-term weatherability, use a first-surface clear overspray before exposing to sunlight.