Spartech PC PC-2000

Polycarbonate

Spartech Plastics

Message:

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.
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 highspeed 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.
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 highvolume 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 firstsurface clear overspray before exposing to sunlight.

General Information	
UL YellowCard	E139482-222844
Features	Impact resistance, high Workability, good Sprayable Machinable Adhesiveness Good weather resistance Heat resistance, high
Uses	Electronic display
Appearance	White Rough surface polishing Available colors

Forms	Films Sheet

Processing Method	Thermoforming

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm³	ASTM D792
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	118		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2410	MPa	ASTM D638
Tensile Strength (Yield)	64.5	MPa	ASTM D638
Tensile Elongation (Break)	100	%	ASTM D638
Flexural Modulus	2700	MPa	ASTM D790
Flexural Strength	103	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	920	J/m	ASTM D256
Dart Drop Impact [1] (23°C, 4.50 mm)	108	J	ASTM D3029
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	132	°C	ASTM D648
CLTE - Flow	6.8E-5	cm/cm/°C	ASTM D696

NOTE	
1.	No Break

Recommended distributors for this material

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