

Spartech PC Sungard®

Polycarbonate
Spartech Plastics

Message:

Sungard® Ultra Weatherable Polycarbonate Sheet. The first all polycarbonate weatherable sheet product, combines the impact strength of general purpose polycarbonate with outstanding U.V. stability. Sungard is highly resistant to weathering, discoloration, surface haze, loss of impact strength or other properties after prolonged outdoor exposure.

Sungard represents a scientific breakthrough in polycarbonate sheet technology which, through a unique extrusion process, imparts ultra-violet resistance to the polycarbonate structure itself.

Sungard has a twelve-year limited warranty against breakage (under normal conditions), excessive yellowing and loss of light transmission. For more information, contact Spartech Plastics.

Impact Strength. In addition to outstanding resistance to yellowness and haze, Sungard has the inherent impact strength of general purpose polycarbonate since no coating, lamination or foreign material is applied. And, unlike general purpose polycarbonate, the impact strength is retained over time.

Weatherability. The superior weatherability of Sungard polycarbonate sheet has been demonstrated in both accelerated and actual outdoor weathering test programs.

The following charts show comparisons of Sungard to general purpose polycarbonate, measuring yellowness index and haze.

Fabrication. Unlike some competitive polycarbonate sheet products, Sungard is all polycarbonate so that delamination, mold sticking and weathering away of post-applied coatings will not occur. Sungard can be drilled, routed, sheared and painted using the same fabrication and machining techniques as for general purpose polycarbonate. 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. Sungard 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 Sungard 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.)

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. Sungard can be vacuum-formed on virtually all thermoforming equipment from high-volume multi-station rotary machines to singlestation 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.

Painting. Sungard can be easily painted and silkscreened using standard materials and techniques. Based on thorough testing by Spraylat and Akzo, various products are suggested (see chart).

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.

General Information	
UL YellowCard	E139482-222846
Features	Impact resistance, high
	Good UV resistance
	Sprayable
	Machinable
	Good color stability
	Good weather resistance
Forms	Definition, high
Forms	Sheet
Processing Method	Thermoforming

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20	g/cm ³	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	123		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2380	MPa	ASTM D638
Tensile Strength (Yield)	64.5	MPa	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)	136	°C	ASTM D648
CLTE - Flow	6.3E-5	cm/cm/°C	ASTM D696
Additional Information	Nominal Value	Unit	
Thermoforming Molding Temperature	177 - 218	°C	
NOTE			
1.	No Break		

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Recommended distributors for this material

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