



LIGHTS PHYSICAL PROPERTIES DATA SHEET*

General: **LIGHTS** are a 4 mil (.004”) two-ply laser etchable and mechanically engravable plastic material with 1 mil (.001”) acrylic pressure sensitive adhesive. They are completely flexible yet extremely durable, with excellent exterior properties and resistance to water, solvents, abrasion, and extreme temperatures. **LIGHTS** can also be embossed, ink and thermal printed, sandblasted and cut with a plotter. They are available in Black/White, White/Black, Red/White, Blue/White, Safety Yellow/Black, Brushed Brass/Black, Brushed Silver/Black, Black/Gold, Smooth Silver/Black, Smooth Gold/Black, and Brushed Bronze/Black.

Applications: **LIGHTS** are typically used in a wide variety of nameplate and industrial-labeling applications. Industries include award and promotional products, signage, electronics, appliances, computers, packaging, aviation and automotive.

MATERIAL DATA:

PROPERTY		UNIT OF MEASURE	TYPICAL VALUES	ASTM METHOD
Gauge Tested			92A	
End Use			Industrial	
Ultimate Tensile Strength	MD	kg/mm ² (kpsi)	20 (29)	D 882
	TD		24 (34)	
Strength @ 5% Elongation	MD	kg/mm ² (kpsi)	10 (15)	D 882
	TD		10 (14)	
Modulus	MD	kg/mm ² (kpsi)	490 (710)	D 882
	TD		510 (740)	
Elongation	MD	%	116	D 882
	TD		91	
Density		gm/cm ³	1.390	D 1505
Melt Point		°C	254	DSC
Dimensional Stability @ 105°C	MD	%	0.6	D.P. Test
	TD		0.9	
@ 150°C	MD	%	1.8	
	TD		1.1	
Specific Heat		cal/gm/°C	0.28	
Coefficient of Thermal Expansion		in/in/°C	1.7 x 10 ⁻⁵	D 696
UL94 Flame Class			Slow to self-extinguishing	94VTM-2
Wear Resistance		RCA Taber Abrader CS17 @ 500 gm. No wear through to substrate after minimum of 70 cycles.		
Accelerated Weathering (Humidity & UV)		No change @ 300 hours in QUV chamber (equates to 5 years South Florida), except Brushed Brass/Black and Smooth Gold/Black which began to fade @ 150 hours in QUV chamber (equates to 2.5-3 years)		



LIGHTS PHYSICAL PROPERTIES DATA SHEET (Contd.)*

ADHESIVE INFORMATION:

General: LIGHTS are backed with a 1 mil (.001”) acrylic pressure sensitive adhesive designed for industrial applications. The adhesive has excellent exterior properties and resistance to water, solvents and extreme temperatures. It bonds exceptionally well to metals, plastics, rubbers and foams. The adhesive has good initial tack, and fully sets up over 72 hours.

Applications: Typical applications in which this adhesive is used include nameplates, electronics, appliances, recreational vehicles, computers, packaging, aviation and automotive.

ADHESIVE DATA:

Peel Strength	<u>1 Hour</u>	<u>1 Week @ 158°F</u>	<u>1 Week @ -40°F</u>	PSTC-7
S. Steel 115		128	100	(oz/in @ 3 mil)
PVC		115	112	128

Shear Strength 24+ hours for 1 sq.in. (6.54 sq.cm.) @ 2.2 lb. (1kg)

Temperature Information:

Laminating Temp. (@ glue line)	50-150°F	10-65°C
Application Temp. (Range)	50-150°F	10-65°C
Maximum (Continuous)	200°F 93°C	
Maximum (Intermittent)	250°F 121°C	

Storage/Shelf Life 1 year @ 70°F (21°C) 50% relative humidity out of direct sunlight.

* These are typical performance data for **LIGHTS**, and are not intended for use as design data. The information presented is believed to be complete and accurate. Spectrum Marking Materials, LLC strongly recommends that users test the material for suitability in their specific application.