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## Product Data Sheet



### 447 Clear Polyester Construction

Liberty 447 is a high performance clear polyester label film construction. The base material is printed with a high performance film ink to the proper colors and laminated with a thermal transfer printable overlamine. The stock resists tearing, abrasion and heat. The durable topcoat resists smudging and abrasion when printed with resin based thermal transfer ribbons.

A high performance acrylic adhesive (A-121) provides a permanent bond to a wide range of surfaces. The release liner is a standard roll label liner compatible with most thermal transfer printers.

Liberty 447 is UL Recognized for indoor and outdoor use, with limited exposure to lubricating oil and water. For further information on printer and ribbon combinations please reference file # MH25432 or contact your Liberty Marking Systems representative. The temperature limits of the recognition are listed below.

Surface	Temperature Limits	Recognition
Stainless Steel	-20° F to 302° F (-29° C to 150° C)	Indoor/Outdoor
Aluminum	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Galvanized Steel	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Alkyd Enamel	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Polyester Paint	-20° F to 302° F (-29° C to 150° C)	Indoor/Outdoor
Acrylic Paint	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Porcelain	-20° F to 302° F (-29° C to 150° C)	Indoor/Outdoor
Nylon	-20° F to 212° F (-29° C to 100° C)	Indoor/Outdoor
Melamine Plastic	-20° F to 212° F (-29° C to 100° C)	Indoor/Outdoor
Polycarbonate	-20° F to 212° F (-29° C to 100° C)	Indoor/Outdoor
Phenolic Plastic	-20° F to 212° F (-29° C to 100° C)	Indoor/Outdoor
Polystyrene	-20° F to 176° F (-29° C to 80° C)	Indoor/Outdoor
ABS Plastic	-40° F to 176° F (-40° C to 80° C)	Indoor/Outdoor
Unsaturated Plastic (Thermoset Polyester)	-40° F to 176° F (-40° C to 80° C)	Indoor/Outdoor
Polypropylene	80° C No Cold Rating	Indoor Only

### Product Performance and Suitability

All of the descriptive information and recommendations for the use of Liberty Marking Systems products are to be used only as a guide. The furnishing of such information and recommendations shall in no event constitute a warranty of any kind by Liberty Marking Systems. All purchasers of Liberty Marking Systems products shall independently determine the suitability of the material for the purpose for which it is purchased. No distributor, salesman, or representative of Liberty Marking Systems is authorized to give any warranty, guarantee, or to make any representation in addition or contrary to the above.

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Service Temperature Range See page 1 for exact surface	-40° F to 302° F (-40° C to 150° C)
Minimum Application Temperature	50° F (10 C)
Expected Exterior Life	Two years
Storage Stability	Two years stored at 70° F (21° C) and 50% RH

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### PHYSICAL CHARACTERISTICS

Thickness	Film	3.4 mils +/- 10%
	Adhesive	0.8-0.9 mils +/- 0.1
	Liner	3.1 mils +/- 10%

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### ADHESION PROPERTIES

	Average oz/in (N/m)	Expected Range oz./in (N/m)	Test Method
Glass	62 (682)	55-80 (605-880)	PSTC 1 (Modified for 72 hr dwell time)
Acrylic	57 (627)	45-70 (495-770)	
Stainless Steel	66 (726)	55-75 (550-825)	
Expected Shear (hours)	25		PSTC 7 (1 hr. dwell, 1 sq. in., 4 lb. load)
Tack (gm/sq cm)	125		ASTM D 2979-71