



## 449 Polyester

Liberty 449 is a high performance polyester label film. This facestock resists tearing, abrasion and heat. The gloss white surface makes label graphics easy to read. The durable 1 mil polyester over-laminate resists smudging and abrasion of the printed surface.

The high performance acrylic adhesive provides a permanent bond to a wide range of surfaces.

The release liner is a standard roll label liner.

Liberty 449 is UL Recognized for indoor and outdoor use, with limited exposure to lubricating oil and water. For further information please reference file # MH25432. The temperature limits of the recognition are listed below. Contact your Liberty Marking Systems representative for further information.

SURFACE	TEMPERAURE 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	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Acrylic Paint	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Polyester Powder Paint	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Polyester Powder Paint	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Polyester Powder Paint	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Epoxy Paint	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Epoxy Powder Paint	-40° F to 257° F (-40° C to 125° C)	Indoor/Outdoor
Epoxy / Polyester Paint Blend	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Epoxy Powder / Urethane Powder Paint Blend	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Epoxy Powder / Polyester Powder Paint Blend	-40° F to 257° F (-40° C to 125° C)	Indoor/Outdoor
Polyurethane Powder Paint	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Polyurethane Paint	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Epoxy / Polyurethane Paint Blend	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Polyester / Polyurethane Paint Blend	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Polyester Powder / Polyurethane Powder Paint Blend	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Porcelain	-40° F to 302° F (-40° C to 150° C)	Indoor/Outdoor
Nylon	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Melamine Plastic	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Polycarbonate	-40° F to 176° F (-40° C to 80° C)	Indoor/Outdoor
Phenolic	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Polystyrene	-40° F to 176° F (-40° C to 80° C)	Indoor/Outdoor
ABS Plastic	-40° F to 176° F (-40° C to 80° C)	Indoor/Outdoor
Unsaturated Thermoset Polyester	-40° F to 212° F (-40° C to 100° C)	Indoor/Outdoor
Polypropylene	176° F (80° C) No Cold Rating	Indoor Only
Polyphenylene Oxide	-40° F to 176° F (-40° C to 80° C)	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 is 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 - slight yellowing may occur

Storage Stability

Two years stored at 70° F (21° C) and 50% RH

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### PHYSICAL CHARACTERISTICS

Thickness	Film	2.0 mils +/- 10%
	Laminate	1.0 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)	Test Method
Glass	69 (759)	PSTC 1 (Modified for 72 hr dwell time)
Acrylic	71 (781)	
Stainless Steel	67 (737)	
Polypropylene	48 (528)	
Expected Shear (hours)	100+	PSTC 7 (1 hr. dwell, 1 sq. in., 4 lb. load)
Tack (gm/sq cm)	540	ASTM D 2979-71

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