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Toll Free: 888-568-1230

E-mail: sales@lanshack.com

**BRADY B-439 THERMAL TRANSFER PRINTABLE COLORED VINYL LABEL****Description:**

B-439 is a colored vinyl film with an acrylic pressure sensitive adhesive and a topcoat specifically formulated for thermal transfer printing. Vinyl colors include the following: Red, Yellow, Orange, and White.

B-439 is designed for applications requiring various colors such as finished product identification, rating plates and general purpose identification.

B-439 is designed for use in ambient conditions with limited solvent exposure.

Recommended ribbons are Brady Series R4900 and R6000 black ribbons and R4400W white ribbon.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	0.0035 inch (0.0889 mm) 0.0010 inch (0.0254 mm) 0.0045 inch (0.1143 mm)
Adhesion to: -Stainless Steel	ASTM D 1000 20 minute dwell 24 hour dwell	62 oz/in (68 N/100 mm) 95 oz/in (103 N/100 mm)

Tack	ASTM D 2979 Polyken™ Probe Tack 1 second dwell	34 oz (953 g)
Tensile Strength and Elongation	ASTM D 1000 -Machine Direction -Cross Direction	14 lbs/in (245 N/100 mm), 130% 11 lbs/in (196 N/100 mm), 181%

The following testing was performed with **B-439** printed on a BradyPrinter™ THT 300X using Brady Series R4900, and R6000 ribbons. Samples laminated to aluminum panels. All samples allowed to dwell 24 hours prior to testing. Unless noted, results the same for both ribbons.

PERFORMANCE PROPERTIES	TEST METHODS	EFFECT TO TAPE	EFFECT TO PRINT
High Service Temperature	30 days at 104°F (40°C)	No visible effect	No visible effect
Low Service Temperature	30 days at -40°F (-40°C)	No visible effect	No visible effect
Humidity Resistance	30 days at 100°F (37°C), 95% R.H.	No visible effect	No visible effect
UV Light Resistance	30 days in UV Sunlighter™ 100	Slight material shrinkage	No visible effect
Weatherability	ASTM G 26 30 days in Xenon Arc Weatherometer	Slight material shrinkage and color loss	No visible effect
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm (Fed. Std. 191A, Method 5306)	No visible effect	Print legible up to: R4900 50 cycles R6000 280 cycles

Samples printed with Series R4900 and R6000 ribbons using a BradyPrinter™ THT Model 300X Thermal Transfer Printer. Labels printed using a 3:1 ratio barcode with a 5 mil narrow X dimension bar. Test was conducted at room temperature after 24 hour dwell. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical reagent followed by 30 minute recovery period. Samples rubbed 10 times with cotton swab immersed in test fluid after final immersion.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE			
	EFFECT TO LABEL STOCK	PRINTING IMMERSIONS ONLY¹	R4900 PRINT WITH COTTON SWAB RUB	R6000 PRINT WITH COTTON SWAB RUB
Isopropyl Alcohol	NVE	NVE	NVE	NVE
Mineral Spirits	NVE	NVE	NVE	NVE
JP-4 Jet Fuel	NVE	NVE	NVE	NVE
ASTM #3 Oil	NVE	NVE	NVE	NVE
Mil 5606 Oil	NVE	NVE	NVE	NVE
Super Agitene®	NVE	NVE	NVE	NVE
Alphametals BIOACT® EC-7R™	NVE	NVE	NVE	NVE
Deionized Water	NVE	NVE	NVE	NVE
3% Alconox® Detergent	NVE	NVE	NVE	NVE
10% Sodium Hydroxide Solution	NVE ²	NVE	NVE	NVE
10% Sulfuric Acid Solution	NVE	NVE	NVE	NVE

¹Results the same for R4900 and R6000 ribbons.

²NVE = No Visible Effect

B-439 is not recommended for use in harsh solvents such as 1,1,1 -Trichloroethane, Methyl Ethyl Ketone or Toluene.