



**THE DATASHEET OF  
B33C-2000-437YL**



**BRADY B-437 THERMAL TRANSFER PRINTABLE LABEL STOCK**

TDS No. B-437  
Effective Date: 05/21/2021

**Description:**

**GENERAL**

**Print Technology:** Thermal transfer  
**Material Type:** Topcoated polyvinylfluoride  
**Finish:** Matte  
**Adhesive:** Permanent acrylic

**APPLICATIONS**

Cable and wire bundle applications and label applications where self-extinguishing properties are required

**RECOMMENDED RIBBONS**

Brady Series R4300

**REGULATORY APPROVALS**

For information on the Weee-RoHS compliance status for a Brady Product go to one of the following websites:

- In Canada: [www.bradycanada.ca/weee-rohs](http://www.bradycanada.ca/weee-rohs)
- In Europe: [www.bradyeurope.com/rohs](http://www.bradyeurope.com/rohs)
- In Japan: [www.brady.co.jp/products/labelsuse/rohs](http://www.brady.co.jp/products/labelsuse/rohs)
- All other regions: [www.bradyid.com/weee-rohs](http://www.bradyid.com/weee-rohs)

**SPECIAL FEATURES**

B-437 has been judged to be self-extinguishing by laboratory testing, and exhibits good solvent and heat resistance.

B-437 is available in white, yellow and various other colors.

B-437 meets the requirements of MIL-M-87958, Pressure Sensitive Adhesive Wire or Cable Marker and Identification specification.

**Details:**

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	0.0026 inch (0.066 mm) 0.0010 inch (0.025 mm) 0.0036 inch (0.091 mm)
Adhesion to: -Stainless Steel	ASTM D 1000 20 minute dwell	50 oz/inch (55 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack 1 second dwell	28 oz (800 g)
Tensile Strength and Elongation	ASTM D 1000 -Machine	20 lbs/inch (350 N/100 mm), 150%
Dielectric Strength	ASTM D 1000	5000 Volts
Flammability	ASTM D 1000 Average Burn Time	Less than 10 seconds

Performance properties tested on B-437 printed with Series R4300 using the BradyPrinter™ THT Model 300X thermal transfer printer. Printed samples were laminated to aluminum and allowed to dwell 24 hours before exposure to the indicated environments. Unless noted, results are the same for both ribbons.

PERFORMANCE PROPERTIES	TEST METHOD	TYPICAL RESULTS
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High Service Temperature	30 days at 275°F (135°C)	At 135°C no visible effect to slight topcoat color fade (depending upon specific color). At 145°C slight color fade all colors except yellow, which had severe color fade. No visible effect to print and labels well adhered at 135°C and 145°C. Slight shrinkage at 145°C
Low Service Temperature	30 days at -94°F (-70°C)	No visible effect
Humidity Resistance	30 days at 100°F (37°C) and 95% R.H.	No visible effect
UV Light Resistance	30 days in UV Sunlighter™ 100	No visible effect
Weatherability	ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer	Slight to moderate topcoat fade depending upon specific colors. All colors distinguishable. No visible effect to print.
Salt Fog Resistance	ASTM B 117 30 days in 5% salt fog solution chamber	No visible effect
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm, 100 cycles (Fed. Std. 191A, Method 5306)	R4300: Moderate print removal and print smear. Print still legible  R6200: Slight print removal. Print still legible

<b>PERFORMANCE PROPERTY</b>	<b>CHEMICAL RESISTANCE</b>
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Samples printed with Series R4300 and R6200 ribbons and laminated to aluminum panels and allowed to dwell 24 hours prior to testing. Test conducted at room temperature. Testing consisted of 15 minute and 24 hour immersions in the specified test fluid followed by rubbing on print 10 times with cotton swab saturated with test fluid.

#### 15 MINUTE IMMERSION

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE	
	EFFECT TO LABEL STOCK	R4300
Methyl Ethyl Ketone	Slight adhesive ooze and slight color fade on yellow with immersion	No visible effect to print without rub, complete print and topcoat removal with rub
1,1,1-Trichloroethane	Slight adhesive ooze and slight color fade on yellow with immersion	No visible effect to print without rub, complete print removal with rub
Isopropyl Alcohol	No visible effect	No visible effect with or without rub
Methyl Alcohol	No visible effect	No visible effect with or without rub
Gasoline	Slight adhesive ooze	No visible effect without rub, slight print removal with rub
JP-8 Jet Fuel	No visible effect	No visible effect with or without rub
Mineral Spirits	No visible effect	No visible effect without rub, slight print removal with rub
SAE 20 WT Oil at 70°C	No visible effect	No visible effect without rub, severe print removal with rub
Mil 5606 Oil	No visible effect	No visible effect with or without rub
Speedicut Cutting Oil	No visible effect	No visible effect with or without rub
Skydrol® 500B-4	Slight adhesive ooze	No visible effect without rub, slight print removal with rub
Deionized Water	No visible effect	No visible effect with or without rub
5% Alconox® Detergent	No visible effect	No visible effect with or without rub
10% Sodium Hydroxide Solution	No visible effect	No visible effect with or without rub
10% Sulfuric Acid Solution	No visible effect	No visible effect with or without rub

#### 24 HOUR IMMERSION

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE	
	EFFECT TO LABEL STOCK	R4300
Methyl Ethyl Ketone	Softening of adhesive. No to severe topcoat fade depending on color*	Print degradation with immersion, complete print and topcoat removal with rub
1,1,1-Trichloroethane	Slight adhesive ooze. No to severe topcoat fade depending on color*	Complete print removal with rub
Isopropyl Alcohol	No visible effect	No visible effect without rub, moderate print removal with rub
Methyl Alcohol	Slight discoloration of green topcoat	No visible effect with or without rub
Gasoline	Slight adhesive ooze and topcoat discoloration on white label	No visible effect without rub, slight print removal with rub
JP-8 Jet Fuel	No visible effect	No visible effect without rub, slight print removal with rub
Mineral Spirits	No visible effect	No visible effect without rub, slight print removal with rub
SAE 20 WT Oil at 70°C	Slight topcoat discoloration on white label*	No visible effect without rub, severe print removal with rub
Mil 5606 Oil	Slight topcoat discoloration on white label	No visible effect with or without rub
Speedicut Cutting Oil	No visible effect	No visible effect with or without rub
Skydrol® 500B-4	Slight adhesive ooze	No visible effect without rub, slight print removal with rub
Deionized Water	No visible effect	No visible effect with or without rub
5% Alconox® Detergent	No visible effect	No visible effect with or without rub
10% Sodium Hydroxide Solution	Moderate to severe topcoat discoloration or fade on all colors.	Complete print and topcoat removal with rub
10% Sulfuric Acid Solution	No visible effect	No visible effect with or without rub

**\*Yellow and green labels had moderate to severe fade or discoloration in this solvent, all other labels had no visible effect unless mentioned. Overall the green topcoat had slight to severe discoloration in the following chemicals: Methyl Ethyl Ketone, 1,1,1-Trichloroethane, Methyl Alcohol, Gasoline, Mineral Spirits, SAE 20 Wt Oil, Skydrol® 500B- 4 and 10% NaOH.**

Shelf life is three years from the date of receipt for this product as long as this product is stored in its original packaging in an environment below 80° F (27° C) and 60% RH. It remains the responsibility of the user to assess the risk of using this product. We encourage customers to develop testing protocols that will qualify a product's fitness for use in their actual applications.

#### Trademarks:

Alconox® is a registered trademark of Alconox Co.

Polyken™ is a trademark of Testing Machines Inc.

Skydrol® is a registered trademark of the Monsanto Company

Sunlighter™ is a trademark of the Test Lab Apparatus Company

ASTM: American Society for Testing and Materials (U.S.A.)

SAE: Society of Automotive Engineers (U.S.A.)

All S.I. Units (metric) are mathematically derived from the U.S. Conventional Units.

**Note:** All values shown are averages and should not be used for specification purposes.

Test data and test results contained in this document are for general information only and shall not be relied upon by Brady customers for designs and specifications, or be relied on as meeting specified performance criteria. Customers desiring to develop specifications or performance criteria for specific product applications should contact Brady for further information.

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