

**BRADY B-449 THERMAL TRANSFER PRINTABLE REMOVABLE POLYPROPYLENE LABEL STOCK**

TDS No. B-449  
Effective Date: 06/11/2009

**Description:**

**GENERAL**

Print Technology: Thermal Transfer  
Material Type: White polypropylene  
Finish: Matte white  
Adhesive: Removable acrylic

**APPLICATIONS**

Temporary labeling applications requiring solvent resistance and print performance coupled with clean removability.

**RECOMMENDED RIBBONS**

Brady Series R4300 and R6200

**REGULATORY**

Brady B-449 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

**Details:**

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Total (substrate and adhesive)	0.0044 inch (0.112 mm)
Adhesion to:	ASTM D 1000	
-Stainless Steel	20 minute dwell 24 hour dwell	27 oz/inch (30 N/100 mm) 28 oz/inch (31 N/100 mm)
-Glass	20 minute dwell 24 hour dwell	23 oz/inch (25 N/100 mm) 25 oz/inch (31 N/100 mm)
-Aluminum	20 minute dwell 24 hour dwell	25 oz/inch (27 N/100 mm) 27 oz/inch (30 N/100 mm)
-Polypropylene	20 minute dwell 24 hour dwell	27 oz/inch (30 N/100 mm) 29 oz/inch (32 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack (1 second dwell, 1 cm/sec separation)	24 oz (700 g)
Tensile Strength and Elongation	ASTM D 1000 -Machine	24 lbs/inch (420 N/100 mm), 90%

Performance properties tested on B-449 printed with Series R4300 and R6200 ribbons on a BradyPrinter™ THT 300MVP thermal transfer printer. Printed samples were laminated to aluminum and allowed to dwell 24 hours before exposure to the indicated environmental conditions.

PERFORMANCE PROPERTIES	TEST METHOD	TYPICAL RESULTS
Long Term High Service Temperature	30 days at various temperatures	No visible effect to label at 194°F (90°C), surface cracks in label at 212°F (100°C), slight discoloration at 230°F (110°C), severe discoloration at 248°F (120°C).
Low Service Temperature	30 days at -40°F (-40°C) 30 days at -94°F (-70°C)	No visible effect
Humidity Resistance	30 days at 100°F (37°C)/ and 95% Relative Humidity	No visible effect
Weatherability <sup>1</sup>	ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer	Topcoat becomes chalky
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm (Fed. Std. 191A, Method 5306)	Appearance to print after 100 cycles: R4300: moderate to severe print removal;

print barely legible R6200: moderate print  
removal print legible

<sup>1</sup>B-449 is not recommended for long-term outdoor use.

## PERFORMANCE PROPERTY

## CHEMICAL RESISTANCE

Chemical resistance tested on B-449 printed with Series R4300 and R6200 ribbons on a BradyPrinter™ THT 300MVP thermal transfer printer. Test was conducted at room temperature except where noted. Testing consisted of 30 minute immersion in the specified test fluid. The samples were removed and rubbed 10 times with a cotton swab saturated with the test fluid. The rating scale below shows the effect to the quality of the print for each sample.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL STOCK/ADHESIVE	EFFECTS TO PRINTED IMAGE*	
		R4300	R6200
Acetone	No visible effect	1	3-4
Isopropyl Alcohol	No visible effect	1	1
Toluene	No visible effect	3	4-5
Mineral Spirits	No visible effect	1	1
Gasoline	No visible effect	1	2
Brake Fluid	No visible effect	1	4-5
20 wt oil @ 70°C	No visible effect	3-4	1
Formula 409®	No visible effect	1-2	5
Northwoods™ Buzz Saw Degreaser	No visible effect	5	5
Deionized Water	No visible effect	1	1

\*After printed image rubbed on; there was no visible effect without rub unless otherwise noted.

Rating Scale:

1=no visible effect

2=slight smear or print removal; detectable but minimal smear

3=moderate smear or print removal (print still legible)

4=severe smear or print removal

5=complete print and/or topcoat removal

NP=print completely removed from label

Product testing, customer feedback, and history of similar products, support a customer performance expectation of at least **two 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 degrees F (27°C) and 60% RH*. We are confident that our product will perform well beyond this time frame. However, it remains the responsibility of the user to assess the risk of using such product. We encourage customers to develop functional testing protocols that will qualify a product's fitness for use, in their actual applications.

### Trademarks:

BradyPrinter™ is a trademark of Brady Worldwide, Inc.

Formula 409® is a registered trademark of the Chlorox Company

Northwoods™ is a trademark of Superior Chemical Corporation

Polyken™ is a trademark of Testing Machines Inc.

ASTM: American Society for Testing and Materials (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.

Product compliance information is based upon information provided by suppliers of the raw materials used by Brady to manufacture this product or based on results of testing using recognized analytical methods performed by a third party, independent laboratory. As such, Brady makes no independent representations or warranties, express or implied, and assumes no liability in connection with the use of this information.

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Brady products are sold with the understanding that the buyers will test them in actual use and determine for themselves their adaptability to their intended uses. Brady warrants to the buyers that its products are free from defects in material and workmanship, but limits its obligation under this warranty to replacement of the product shown to Brady's satisfaction to have been defective at the time Brady sold it. This warranty does not extend to any persons obtaining the product from the buyers. This warranty is in lieu of any other warranty, express or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose, and of any other obligations or liability on Brady's part. Under no circumstances will Brady be liable for any loss, damage, expense, or consequential damages of any kind arising in connection with the use, or inability to use, Brady's products.

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