

**Technical Data Sheet**  
**TDS No. B-350**  
**Effective Date: 01/23/2003**



**BRADY WORLDWIDE, INC.**  
 P.O. Box 2131  
 Milwaukee, WI 53201-2131  
 Tel. 414/358-6600  
 Fax 800/292-2289

**BRADY B-350 THERMAL TRANSFER PRINTABLE WATER INDICATING  
 POLYESTER/PAPER LAMINATE LABEL STOCK**

**Description:**

**GENERAL**

**Print Technology:** Thermal Transfer  
**Material Type:** Water Indicating Polyester/Paper Laminate  
**Finish:** Gloss White  
**Adhesive:** Acrylic

**APPLICATIONS**

Locations where clear evidence of water intrusion is desired for controlling invalid warranty claims, failure analysis, design assistance or trouble shooting (service and repair).

**RECOMMENDED RIBBONS**

Brady Series R6000, R4900, R7961\* black and R4400 colored (red, blue, green)

\*Note: The R7961 ribbon series is only available in Europe

**AGENCY APPROVALS**

N.A.

**SPECIAL FEATURES**

B-350 is designed to permanently change colors (white to red) when water based solutions contact the edge of the label. It will withstand high heat and humidity environments without false indication appearing. B-350 is available in both thermal transfer printable configurations and blank indicating shapes/designs.


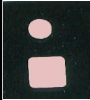

**Details:**

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D1000 -Total (excluding liner)	0.009 inch (0.2286 mm)
Adhesion to: -Stainless Steel -Textured ABS -Polycarbonate	ASTM D1000 20 minute dwell 24 hour dwell	Data unobtainable due to the polyester layer delaminating from the paper layer during testing after both 20 minute and 24 hour dwell for all test

		surfaces.
Tack	ASTM D 2979 Polyken™ Probe Tack 0.5 second dwell	Tacks are greater than 35 oz (1000 g) and exceed the equipment testing range of 1000 g.

**PERFORMANCE PROPERTIES - ENVIRONMENTAL**

Performance properties tested on B-350 printed with R6000 ribbon on Bradyprinter™ 300 MVP thermal transfer printer. Printed samples were laminated to glass microscope slides and allowed to dwell 24 hours prior to exposure to the indicated environments.

ENVIRONMENT	TEST METHOD	TYPICAL RESULTS
Long Term High Service Temperature	30 days at elevated temperatures	No visible effects to label, print or adhesive at 194°F (90°C). Material discolored (slightly browned) but functional up to 248 °F (120° C).
Long Term Low Service Temperature	30 days at -70°C	 No visible effect. (0.16" dia circle & 0.25" square shown)
Humidity Resistance	30 days at 122 °F (50°C)/95% relative humidity	 Slight discoloration (very slight pink) to label. (0.16" dia circle & 0.25" square shown)
Water Exposure	Water Immersion - 5 seconds	 Labels turn red immediately. Labels will turn completely red with longer immersions. (0.16" dia circle & 0.25" square shown)
Weatherability*	ASTM G 26 30 days in Xenon Arc Weatherometer	No visible effect to print or adhesive, layers of the label separate and indicates water.
UV Light Resistance	30 days in UV Sunlighter™ 100	No visible effect to print, label or adhesive.

\*B-350 is not recommended for outdoor use.

**PERFORMANCE PROPERTIES - CHEMICAL**

Samples of B-350 (label size 0.5" x 1.625" (1.27 cm x 4.13 cm) were printed with the R6000

ribbon on the Bradyprinter 300 MVP thermal transfer printer. Printed samples were laminated to glass microscope slides and allowed to dwell 24 hours prior to testing. Samples were immersed in the test solvent for 10 minutes. 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 print and effect to the label.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE	
	Effects to Print after Rub*	Effects to Label
Isopropyl Alcohol	1	1
Household Cleaner	1	4
Window Cleaner with Ammonia	1	4
Beer	1	4
Coca Cola®	1	4
Black Coffee	1	4
Deionized Water	1	4
Tap Water	1	4

\*print was unaffected by fluid immersion

**Rating Scale:**

Effect on Thermal Transfer Print Effect on Film

1=no visible effect 1=no visible effect

2=slight fade/smear/bleed 2=slight color change (light pink)

3=moderate fade/smear/bleed 3=moderate color change (pink)

4=print removed 4=severe color change (deep red)

**Storage Stability:**

Product testing, customer feedback and history of similar products, support a customer performance expectation of at least one year 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 and 60% relative humidity. 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 and References:** BradyPrinter™ is a trademark of Brady Worldwide, Inc.

Polyken™ is a trademark of Testing Machines Inc.

Sunlighter™ is a trademark of the Test Lab Apparatus Company

Coca Cola® is a registered trademark of The Coca-Cola Company

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

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.

**WARRANTY**

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.**

Copyright 2003 Brady Worldwide, Inc., All Rights Reserved  
Material may not be reproduced or distributed in any form without permission.