

Technical Data Sheet**TDS No. B-423****Effective Date: 10/11/2000****BRADY WORLDWIDE, INC.**

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BRADY B-423 THERMAL TRANSFER PRINTABLE GLOSSY WHITE POLYESTER LABEL STOCK

Description:

B-423 is a glossy white polyester film with a permanent acrylic pressure sensitive adhesive and a topcoat specifically formulated for **thermal** transfer printing.

B-423 is designed for applications such as topside of printed circuit boards and rating plates that utilize high quality/density alphanumerics, barcodes and graphics. B-423 is designed to withstand numerous solvents while maintaining outstanding image quality.

Recommended ribbons are the Brady Series R4900 and R6000 black and R4400 colored (red, blue, green, and white) ribbons for optimal print performance.

B-423 is a UL-recognized component and CSA accepted material when printed with Brady Series R4900 and R6000 ribbons. See UL file MH17154 and CSA Acceptance Record LS 41833 for specific details.

B-423 is also available web cleaned and packaged for introduction into ISO Class 5 cleanroom applications. This cleanroom product is supplied on a film release liner for standard benchtop **thermal** transfer printers (THT) and Brady's TLS2200® printer family (PTL). The change to the film release liner may affect some adhesive performance characteristics noted in this Technical Data Sheet. However, short term test studies conducted showed the impact on adhesive performance to be minimal.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	0.002 inch (0.0508 mm) 0.001 inch (0.0254 mm) 0.003 inch (0.0762 mm)
Adhesion to: -Stainless Steel	ASTM D 1000 20 minute dwell 24 hour dwell	46 oz/inch (50 N/100 mm) 55 oz/inch (60 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack 1 second dwell	24 oz (700 g)
Tensile Strength and Elongation	ASTM D 1000 -Machine	40 lbs/inch (700 N/100 mm), 70%
Dielectric Strength	ASTM D 1000	7000 Volts

Performance properties tested on B-423 printed with Series R4900 and R6000 ribbons using the BradyPrinter™ THT Model 203 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
High Service Temperature	30 days at 248°F (120°C)	No visible effect
Low Service Temperature	30 days at -40°F (-40°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 G 26 30 days in Xenon Arc Weatherometer	No visible effect
Salt Fog Resistance	ASTM B 117 30 days in 5% salt fog solution chamber	No visible effect

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE
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Samples printed with Series R4900 and R6000 ribbons using a BradyPrinter™ THT Model 203 thermal transfer printer. Samples laminated to aluminum panels and allowed to dwell 24 hours prior to testing. Test conducted at room temperature. Testing consisted of 5 cycles of 10 minute immersions in the specified test fluid followed by a 30 minute recovery period. After final immersion, samples rubbed 10 times with cotton swab saturated with test fluid.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL STOCK	R4900	R6000
Methyl Ethyl Ketone	Slight adhesive ooze	No visible effect w/o rub, complete print removal after rub	No visible effect w/o rub, complete print removal after rub
1,1,1-Trichloroethane	Slight adhesive ooze	No visible effect w/o rub, complete print removal after rub	No visible effect w/o rub, complete print removal after rub
Toluene	Slight adhesive ooze	No visible effect w/o rub, complete print removal after rub	No visible effect w/o rub, complete print removal after rub
Freon® TMS	No visible effect	No visible effect w/o rub, moderate print removal after rub	No visible effect w/o rub, slight print removal after rub
Isopropyl Alcohol	No visible effect	No visible effect w/o rub, slight print removal after rub	No visible effect
Mineral Spirits	No visible effect	No visible effect	No visible effect
JP-8 Jet Fuel	Slight adhesive ooze	No visible effect	No visible effect
ASTM #3 Oil	No visible effect	No visible effect	No visible effect
Mil 5606 Oil	No visible effect	No visible effect	No visible effect
Gasoline	Slight adhesive ooze	No visible effect	No visible effect
Skydrol® 500B-4	Slight adhesive ooze	No visible effect w/o rub, complete print removal after rub	No visible effect w/o rub, complete print removal after rub
Super Agitene®	No visible effect	No visible effect	No visible effect
Alphametals BIOACT® EC-7™	Slight adhesive ooze	No visible effect	No visible effect
Deionized Water	No visible effect	No visible effect	No visible effect

Deionized water	NO visible effect	NO visible effect	NO visible effect
3% Alconox® Detergent	No visible effect	No visible effect	No visible effect
10% Sodium Hydroxide Solution	No visible effect	No visible effect	No visible effect
10% Sulfuric Acid Solution	No visible effect	No visible effect	No visible effect

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 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 and References: Alconox® is a registered trademark of Alconox Co.
BIOACT® is a registered trademark of Petroferm, Inc.
BradyPrinter™ is a trademark of Brady Worldwide, Inc.
EC-7™ is a trademark of Petroferm Inc.
Freon® is a registered trademark of Du Pont de Nemours, E.I. and Company
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
Super Agitene® is a registered trademark of Graymills Corporation
TLS2200® is a registered trademark of Brady Worldwide, Inc.

ASTM: American Society for Testing and Materials (U.S.A.)
CSA: Canadian Standards Association
UL: Underwriters Laboratories Inc. (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.

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.**

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