

BRADYBONDZ(TM) B-423 THERMAL TRANSFER PRINTABLE GLOSSY WHITE POLYESTER LABEL STOCK

TDS No. B-423

Effective Date: 05/10/2019

Description:

GENERAL

Print Technology: Thermal transfer

Materials Type: White polyester

Finish: Glossy white

Adhesive: Permanent acrylic

APPLICATIONS

Electronic PCB and component identification, bar code label and rating plates and solar panel identification.

RECOMMENDED RIBBONS

Brady Series R6000 Halogen Free

Brady Series R4400 (colors - red, blue, green, white)

Brady Series R4900 and R6200 (alternates)

REGULATORY/AGENCY APPROVALS

UL: B-423 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with the Brady Series R6000 Halogen Free and Brady Series R4900 ribbons. See UL file MH17154 for specific details. UL information can be accessed online at UL.com in the UL Product iQ area.

CSA: B-423 is CSA Accepted to C22.2 No.0.1595 Adhesive Labels Standard when printed with the Brady Series R6000 ribbon. See CSA file 041833 for specific details. CSA information can be accessed online at directories.csa-international.org.

DIN VDE 0472 Part 815: Brady B-423 meets requirements of a halogen-free material per DIN VDE 0472 part 815. (Statement based on review of product construction and confirmation halogen content test run at an independent test laboratory.)

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

In Europe: www.bradyeurope.com/rohs

In Japan: www.brady.co.jp/products/labelsuse/rohs

All other regions: www.bradyid.com/weee-rohs

SPECIAL FEATURES

Brady B-423 is UL Recognized for Outdoor Use on glass, thermoset polyester plastic and polyvinyl fluoride plastic surfaces to support solar panel identification applications.

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 | 51 oz/inch (56 N/100 mm) 57 oz/inch (62 N/100 mm) |
| -Painted Enamel | 20 minutes dwell 24 hour dwell | 51 oz/inch (56 N/100 mm) 54 oz/inch (59 N/100 mm) |

| | | |
|--------------------------------|--|--|
| -Textured ABS | 20 minutes dwell 24 hour dwell | 10 oz/inch (10 N/100 mm) 10 oz/inch (10 N/100mm) |
| -Polypropylene | 20 minutes dwell 24 hour dwell | 36 oz/inch (40 N/100 mm) 39 oz/inch (42 N/100 mm) |
| -Polyester Powder Coated Paint | 20 minutes dwell 24 hour dwell | 32 oz/in (35 N/100 mm) 43 oz/in (47 N/100 mm) |
| Tack | ASTM D 2979 Polyken™ Probe Tack 0.5 second dwell | 26 oz (800 g) |
| Dielectric Strength | ASTM D 1000 | 8400 volts |

Performance properties tested on B-423 printed with the Brady Series R6000 Halogen Free and the Brady Series R6200 ribbons. 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 various Temperatures | No visible effect to label at 110°C. Slight discoloration at 120°C; moderate discoloration at 145°C but label is still functional. |
| Low Service Temperature | 30 days at -70°C | No visible effect |
| Short Term High Service Temperature | 5 minutes at various Temperatures | No visible effect to label at 180°C. Slight discoloration and label shrinkage at 200°C; label is functional. Label becomes nonfunctional at 210°C due to label shrinkage. |
| Humidity Resistance | 30 days at 100°F (37°C) and 95% relative humidity. | 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 | No visible effect |
| Salt Fog Resistance | ASTM B 117 30 days in 5% salt fog solution chamber | No visible effect |
| Abrasion Resistance | Taber Abraser, CS10 grinding wheels, 250 g/arm (Fed. Std. 191A, Method 5306) | Print legible after 100 cycles |

| PERFORMANCE PROPERTY | CHEMICAL RESISTANCE |
|----------------------|---------------------|
|----------------------|---------------------|

Samples were printed with the Brady Series R6000 Halogen Free and Brady Series R6200 ribbons. Samples were laminated to aluminum panels and allowed to dwell 24 hours prior to testing. Testing was conducted at room temperature and consisted of 30 minute immersions in the specified test fluid. After immersion, the samples were removed from the test fluid and the printed image 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 | EFFECT TO LABEL STOCK | SUBJECTIVE OBSERVATION OF VISUAL CHANGE | | | |
|------------------|-----------------------|---|----------|-------------|----------|
| | | EFFECTS TO PRINTED IMAGE | | | |
| | | R6000 Halogen Free | | R6200 | |
| | | WITHOUT RUB | WITH RUB | WITHOUT RUB | WITH RUB |
| Acetone | Slight adhesive ooze | 1 | 5 | 1 | 5 |
| Toluene | Slight adhesive | 1 | 5 | 1 | 5 |

| | | | | | |
|---------------------------------------|----------------------|---|---|---|---|
| | ooze | | | | |
| Isopropyl Alcohol | No visible effect | 1 | 1 | 1 | 1 |
| Mineral Spirits | No visible effect | 1 | 1 | 1 | 1 |
| Gasoline | Slight adhesive ooze | 1 | 1 | 1 | 4 |
| JP-8 Jet Fuel | Slight adhesive ooze | 1 | 1 | 1 | 1 |
| Brake Fluid DOT 3 | No visible effect | 1 | 2 | 1 | 4 |
| Skydrol® 500B-4 | Slight adhesive ooze | 1 | 3 | 2 | 5 |
| SAE 20 WT Oil at 70°C | No visible effect | 1 | 1 | 1 | 1 |
| MIL 5606 Oil | No visible effect | 1 | 1 | 1 | 1 |
| Formula 409® Cleaner | No visible effect | 1 | 1 | 1 | 1 |
| Northwoods™ Buzz Saw Citrus Degreaser | No visible effect | 1 | 1 | 1 | 1 |
| Deionized Water | No visible effect | 1 | 1 | 1 | 1 |

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 (print illegible or just barely legible)

5= complete print and/or topcoat removal

NP= print removed prior to rub

Shelf Life:

Shelf life is 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° 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 application.

Trademarks:

BradyBondz™ is a trademark of Brady Worldwide, Inc.

Formula 409® is a registered trademark of the Clorox Company

Northwoods™ is a trademark of the Superior Chemical Corporation

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.)

CSA: Canadian Standards Association

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

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.

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