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Technical Data Sheet

BRADY B-422 THERMAL TRANSFER PRINTABLE GLOSSY WHITE POLYESTER LABEL STOCK

TDS No. B-422

Effective Date: 06/27/2012

**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

Brady series R6000 Halogen Free (previously known as R6000HF)

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

Brady series R4900 (alternate)

**AGENCY APPROVALS**

**UL:** B-422 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with Brady Series R6000 and R6000 Halogen Free ribbons. See UL file MH17154 for specific details. UL information can be accessed on line at [UL.com](#). Search in *Certifications* area. The Brady Series R4900 ribbon is also UL approved.  
**CSA:** B-422 is CSA Accepted to C22.2 No.0.15-95 Adhesive Labels Standard when printed with Brady Series R6000 ribbon. See CSA file 041833 for specific details. CSA information can be accessed online at [directories.csa-international.org](#).

Brady B-422 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

**SPECIAL FEATURES**

B-422 is designed to withstand exposure to numerous solvents and exhibits good adhesion to many surfaces including low surface energy plastics.

B-422 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                        | ASTMD 1000<br>-Substrate<br>-Adhesive<br>-Total | 0.002 inch (0.0508 mm)<br>0.002 inch (0.0508 mm)<br>0.004 inch (0.1016 mm) |
| Adhesion to:<br>-Stainless Steel | ASTMD 1000<br>20 minute dwell<br>24 hour dwell  | 47 oz/inch (51 N/100 mm)<br>55 oz/inch (60 N/100 mm)                       |
| -Textured ABS                    | 20 minute dwell<br>24 hour dwell                | 30 oz/inch (33 N/100 mm)<br>35 oz/inch (38 N/100 mm)                       |

|                                 |  |  |
|---------------------------------|--|--|
| -Polypropylene                  | 20 minute dwell<br>24 hour dwell                     | 47 oz/inch (51 N/100 mm)<br>51 oz/inch (55 N/100 mm) |
| -Enamel Painted Metal           | 20 minute dwell<br>24 hour dwell                     | 54 oz/inch (59 N/100 mm)<br>61 oz/inch (67 N/100 mm) |
| -Powder Coated Metal            | 20 minute dwell<br>24 hour dwell                     | 45 oz/inch (49 N/100 mm)<br>50 oz/inch (55 N/100 mm) |
| Tack                            | ASTM D 2979<br>Polyken™ Probe Tack<br>1 second dwell | 37 oz (1150 g)                                       |
| Tensile Strength and Elongation | ASTM D 1000<br>-Machine                              | 45 lbs/inch (788 N/100 mm), 75%                      |
| Dielectric Strength             | ASTM D 1000  | 7000 Volts   |

Performance properties tested on B-422 printed with Series R4900, R6000 and R6000 Halogen Free ribbons. Printed samples of B-422 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 212°F (100°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 G155, Cycle 1<br>30 days in Xenon Arc Weatherometer                         | No visible effect   |
| Salt Fog Resistance      | ASTM B 117<br>30 days in 5% salt fog solution chamber                            | No visible effect   |
| Abrasion Resistance      | Taber Abraser, CS-10 grinding wheels, 250 g/arm<br>(Fed. Std. 191A, Method 5306) | R6000: Print legible after 100 cycles<br>R6000 Halogen Free: Print legible after 100 cycles |

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

Samples printed with Series R4900, R6000 and R6000 Halogen Free ribbons. 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  | R6000 Halogen Free   |
| Methyl Ethyl Ketone   | Slight adhesive ooze                    | No visible effect w/o rub,<br>complete print removal after rub | No visible effect w/o rub,<br>complete print removal after rub | No visible effect w/o rub,<br>complete print removal after rub |
| 1,1,1-Trichloroethane | Slight adhesive ooze                    | No visible effect w/o rub,<br>complete print removal after rub | No visible effect w/o rub,<br>complete print removal after rub | Obsolete   |
| Toluene               | Slight adhesive ooze                    | No visible effect w/o rub,<br>complete print removal after rub | No visible effect w/o rub,<br>complete print removal after rub | No visible effect w/o rub, severe<br>print removal after rub   |
| Freon® TMS            | No visible effect                       | No visible effect w/o rub, slight                              | No visible effect w/o rub, slight                              | Obsolete   |

|                               |                      | print removal after rub                                     | print removal after rub                                     |   |
|-------------------------------|----------------------|---|---|---|
| Isopropyl Alcohol             | No visible effect    | No visible effect   | No visible effect   | No visible effect   |
| Mineral Spirits               | No visible effect    | No visible effect   | No visible effect   | No visible effect   |
| JP-8 Jet Fuel                 | Slight adhesive ooze | No visible effect   | No visible effect   | No visible effect   |
| ASTM #3 Oil                   | No visible effect    | No visible effect   | No visible effect   | No visible effect   |
| Mil 5606 Oil                  | No visible effect    | No visible effect   | No visible effect   | No visible effect   |
| Gasoline                      | Slight adhesive ooze | No visible effect w/o rub, slight print removal after rub   | No visible effect w/o rub, slight print removal after rub   | 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 | No visible effect w/o rub, severe print removal after rub |
| Super Agitene®                | No visible effect    | No visible effect   | No visible effect   | No visible effect   |
| BIOACT® EC-7R™                | Slight adhesive ooze | No visible effect   | No visible effect   | Not tested  |
| Deionized Water               | No visible effect    | No visible effect   | No visible effect   | No visible effect   |
| 3% Alconox® Detergent         | No visible effect    | No visible effect   | No visible effect   | No visible effect   |
| 10% Sodium Hydroxide Solution | No visible effect    | No visible effect   | No visible effect   | No visible effect   |
| 10% Sulfuric Acid Solution    | No visible effect    | 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 (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:**

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 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.

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