

## BRADY B-435 THERMAL TRANSFER PRINTABLE GLOSS METALLIZED POLYESTER LABEL STOCK

TDS No. B-435

Effective Date: 2/14/2019

### Description:

#### GENERAL

**Print Technology:** Thermal Transfer

**Material Type:** Metallized Polyester

**Finish:** Gloss

**Adhesive:** Permanent Acrylic

#### APPLICATIONS

Rating plate and general purpose labeling

#### RECOMMENDED RIBBONS

Brady Series R4900

Brady Series R6000 Halogen Free

#### REGULATORY/AGENCY APPROVALS

**UL:** B-435 is a UL Recognized Component when printed with the Brady Series R4900 and the Brady Series R6000 Halogen Free ribbons. See UL file MH17154 for specific details. UL information can be accessed on-line at UL.com in the UL Product iQ area.

**CSA:** B-435 is a CSA Accepted material when printed with the Brady R6000 Series ribbon. See CSA Acceptance Record LS 41833 for specific details. CSA information can be accessed online at [directories.csa-international.org](http://directories.csa-international.org).

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](http://www.bradycanada.ca/weee-rohs)

In Europe: [www.bradyeurope.com/rohs](http://www.bradyeurope.com/rohs)

In Japan: [www.bradyc.co.jp/products/labelsuse/rohs](http://www.bradyc.co.jp/products/labelsuse/rohs)

All other regions: [www.bradyd.com/weee-rohs](http://www.bradyd.com/weee-rohs)

### Details:

| PHYSICAL PROPERTIES              | TEST METHODS                                           | AVERAGE RESULTS                                                               |
|----------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------|
| Thickness                        | ASTM D 1000<br>-Substrate<br>-Adhesive<br>-Total       | 0.0020 inch (0.0508 mm)<br>0.0007 inch (0.0165 mm)<br>0.0027 inch (0.0673 mm) |
| Adhesion to:<br>-Stainless Steel | ASTM D 1000<br>20 minute dwell<br>24 hour dwell        | 66 oz/in (72 N/100 mm)<br>84 oz/in (92 N/100 mm)                              |
| Tack                             | ASTM D 2979<br>Polyken™ Probe Tack<br>0.5 second dwell | 17 oz (472 g)                                                                 |
| Drop Shear                       | PSTC-7 (except use 1/2" x 1" sample)                   | 40 hours                                                                      |
| Tensile Strength and Elongation  | ASTM D 1000<br>-Machine Direction<br>-Cross Direction  | 40 lbs/in (698 N/100 mm), 118%<br>49 lbs/in (858 N/100 mm), 66%               |

Performance properties were tested on B-435 printed with the Brady Series R4900 and the Brady Series R6000 Halogen Free ribbons. Samples were laminated to aluminum panels. All samples were allowed to dwell 24 hours prior to testing. Unless noted, results are the same for all ribbons.

| PERFORMANCE PROPERTIES             | TEST METHODS                      | TYPICAL RESULTS                                           |
|------------------------------------|-----------------------------------|-----------------------------------------------------------|
| Long Term High Service Temperature | 30 days at 194°F (90°C)           | No visible effect                                         |
| Long Term Low Service Temperature  | 30 days at -40°F (-40°C)          | No visible effect                                         |
| Humidity Resistance                | 30 days at 100°F (37°C), 95% R.H. | No visible effect                                         |
| UV Light Resistance                | 30 days in UV Sunlighter™ 100     | Slight yellowing of label.<br>No visible effect to print. |

|                     |                                                                                  |                                                                          |
|---------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Weatherability      | ASTM G155, Cycle 1<br>30 days in Xenon Arc Weatherometer                         | Topcoat becomes chalky.<br>No visible effect to print.                   |
| Abrasion Resistance | Taber Abraser, CS-10 grinding wheels,<br>500 g/arm (Fed. Std. 191A, Method 5306) | Print legible up to:<br>R4900 50 cycles<br>R6000 Halogen Free 100 cycles |

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

Samples were printed with the Brady Series R4900 and the Brady Series R6000 Halogen Free ribbons. Test was conducted at room temperature after 24 hour dwell. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical reagent followed by 30 minute recovery period. Samples rubbed 10 times with cotton swab immersed in test fluid after final immersion.

| CHEMICAL REAGENT              | SUBJECTIVE OBSERVATION OF VISUAL CHANGE |                          |                                  |                                               |
|-------------------------------|-----------------------------------------|--------------------------|----------------------------------|-----------------------------------------------|
|                               | EFFECT TO LABEL STOCK                   | PRINTING IMMERSION ONLY* | R4900 PRINT WITH COTTON SWAB RUB | R6000 Halogen Free PRINT WITH COTTON SWAB RUB |
| Methyl Ethyl Ketone           | NVE**                                   | NVE                      | Print Removed                    | Print Removed                                 |
| Toluene                       | NVE                                     | NVE                      | Print Removed                    | Print Removed                                 |
| Isopropyl Alcohol             | NVE                                     | NVE                      | NVE                              | NVE                                           |
| Mineral Spirits               | NVE                                     | NVE                      | NVE                              | NVE                                           |
| JP-4 Jet Fuel                 | NVE                                     | NVE                      | NVE                              | NVE                                           |
| ASTM #3 Oil                   | NVE                                     | NVE                      | NVE                              | NVE                                           |
| Mil 5606 Oil                  | NVE                                     | NVE                      | NVE                              | NVE                                           |
| Skydrol® 500B-4               | NVE                                     | NVE                      | Print Removed                    | Print Removed                                 |
| Super Agitene®                | NVE                                     | NVE                      | NVE                              | NVE                                           |
| BIOACT® EC-7R™                | NVE                                     | NVE                      | NVE                              | Not Tested                                    |
| Deionized Water               | NVE                                     | NVE                      | NVE                              | NVE                                           |
| 3% Alconox® Detergent         | NVE                                     | NVE                      | NVE                              | NVE                                           |
| 10% Sodium Hydroxide Solution | NVE                                     | NVE                      | NVE                              | NVE                                           |
| 10% Sulfuric Acid Solution    | NVE                                     | NVE                      | NVE                              | NVE                                           |

\* Results same for the Brady Series R4900 and the Brady Series R6000 Halogen Free ribbons

\*\* NVE= No Visible Effect

#### 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:

Alconox® is a registered trademark of Alconox Co.

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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

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

CSA: Canadian Standards Association

PSTC: Pressure Sensitive Tape Council (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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