

BRADY B-489 THERMAL TRANSFER PRINTABLE LABEL STOCK

TDS No. B-489
Effective Date: 10/03/2006

Description:

GENERAL

Print Technology: Thermal transfer

Material Type: White polyester

Finish: Matte white

Adhesive: Permanent rubber based

APPLICATIONS

B-489 is designed for high adhesion to textured metals and low surface energy plastics

RECOMMENDED RIBBONS

Brady Series R4300

Brady Series R6200

REGULATORY/AGENCY APPROVALS

UL: B-489 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with Brady Series R4300 and R6200 ribbon. See UL file MH17154 for specific details. UL information can be accessed on line at *UL.com*. Search in *Certifications* area.

CSA: B-489 is CSA Accepted to C22.2 No.0.15-95 Adhesive Labels Standard when printed with Brady Series R4300 and R6200 ribbon. See CSA file 041833 for specific details. CSA information can be accessed online at *directories.csa-international.org*.

Brady B-489 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

SPECIAL FEATURES

B-489 is specifically designed to adhere to powder coated surfaces.

Details:

| PHYSICAL PROPERTIES | TEST METHODS | AVERAGE RESULTS |
|----------------------|--|--|
| Thickness | ASTM D 1000 -Total (substrate and adhesive) | 0.0044 inch (0.112 mm) |
| Adhesion to: | ASTM D 1000 | |
| -Stainless Steel | 20 minute dwell 24 hour dwell | 145 oz/in (159 N/100 mm) 146 oz/in (160 N/100 mm) |
| -Textured ABS | 20 minute dwell 24 hour dwell | 45 oz/in (49 N/100 mm) 43 oz/in (47 N/100 mm) |
| -Polypropylene | 20 minute dwell 24 hour dwell | 80 oz/in (88 N/100 mm) 108 oz/in (119 N/100 mm) |
| -Painted Enamel | 20 minute dwell 24 hour dwell | 133 oz/in (146 N/100 mm) 142 oz/in (156 N/100 mm) |
| -Powder Coated Metal | 20 minute dwell 24 hour dwell | 78 oz/in (86 N/100 mm) 78 oz/in (86 N/100 mm) |
| Tack | ASTM D 2979 Polyken™ Probe Tack 0.5 second dwell | Greater than 35 oz (1000 g) ¹ |

¹Tacks exceeded the equipment testing range of 1000 grams. Performance properties tested on B-489 printed with alphanumerics, and a 5 mil and 10 mil minimum X dimension barcode using Series R4300 and R6200 ribbons and a BradyPrinter™ THT 300X Thermal Transfer Printer. Printed samples of B-489 were laminated to aluminum before exposure to the indicated environmental condition. Results the same for both ribbons unless noted otherwise.

| PERFORMANCE PROPERTIES | TEST METHODS | TYPICAL RESULTS |
|------------------------------------|--------------------------|-------------------|
| Long Term High Service Temperature | 30 days at 248°F (120°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 | 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, CS-10 grinding wheels, (Fed.Std.191A, Method 5306) 500g/arm, 100 cycles | Print still legible after 100 cycles |
| PERFORMANCE PROPERTY | | CHEMICAL RESISTANCE |

Samples were printed with Series R4300 and R6200 ribbons using a Brady 300X printer, laminated to flat aluminum panels and allowed to dwell 24 hours prior to test. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical followed by 30 minute recovery periods. After the final immersion the flat samples were rubbed 10 times with cotton swabs. Testing was conducted at room temperature.

| CHEMICAL REAGENT | SUBJECTIVE OBSERVATION OF VISUAL CHANGE | | |
|-------------------------------|---|----------------------------|----------------------------|
| | EFFECT TO LABEL STOCK | R4300 | R6200 |
| Methyl Ethyl Ketone | Slight adhesive ooze | Slight smear when rubbed | Severe smear when rubbed |
| 1,1,1-Trichloroethane | No visible effect | Moderate smear when rubbed | Slight smear when rubbed |
| Toluene | No visible effect | Moderate smear when rubbed | Moderate smear when rubbed |
| Freon® TMS | No visible effect | Slight smear when rubbed | Moderate smear when rubbed |
| Isopropyl Alcohol | No visible effect | No visible effect | No visible effect |
| Mineral Spirits | Slight adhesive ooze | Slight smear when rubbed | No visible effect |
| JP-8 Jet Fuel | No visible effect | Moderate smear when rubbed | No visible effect |
| ASTM Reference Fuel B | No visible effect | No visible effect | No visible effect |
| ASTM #3 Oil | Slight adhesive ooze | No visible effect | No visible effect |
| Mil 5606 Oil | No visible effect | Slight smear when rubbed | No visible effect |
| Skydrol® 500B-4 | Slight adhesive ooze | No visible effect | Severe smear when rubbed |
| Super Agitene® | 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 (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:

Alconox® is a registered trademark of Alconox Co.
BradyPrinter™ is a trademark of Brady Worldwide, Inc.
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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
SAE: Society of Automotive Engineers (U.S.A.)
UL: Underwriters Laboratories, Inc. (U.S.A.)
All S.I. Units are mathematically derived from 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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