



BRADY B-486 THERMAL TRANSFER PRINTABLE METALLIZED POLYESTER LABEL STOCK

TDS No. B-486
 Effective Date: 06/05/2014

Description:

GENERAL

Print Technology: Thermal Transfer

Material Type: Metallized Polyester

Finish: Matte, light gray appearance

Adhesive: Permanent rubber-based

APPLICATIONS

Rating and serial plates that utilize barcodes, alphanumerics, graphic symbols and logos and require nameplate-like quality.

RECOMMENDED RIBBONS

Brady Series R4300
 Brady Series R6200 (alternate)

REGULATORY/AGENCY APPROVALS

UL: B-486 is a UL Recognized Component to UL Labeling and Marking Standard when printed with Brady Series R4300 Ribbon. See UL file MH17154 for specific details. UL information can be accessed online at *UL.com*. Search in *Certifications* area.

CSA: B-486 is a CSA Accepted to C22.2 No.0.15-95 Adhesive Labels Standard when printed with the Brady Series R4300 or R6200 black thermal transfer ribbons. See CSA file 041833 for specific details. CSA information can be accessed online at *directories.csa-international.org*.

Brady B-486 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

SPECIAL FEATURES

B-486 is designed for high adhesion to textured metals, powder coated surfaces and low surface energy plastics. B-486 can withstand numerous solvents and variable temperatures when applied to various surfaces.

Details:

| PHYSICAL PROPERTIES | TEST METHODS | AVERAGE RESULTS |
|---------------------------------|--|--|
| Thickness | ASTM D 1000 -Total (substrate and adhesive) | 0.0053 inch (0.135 mm) |
| Adhesion to: | ASTM D 1000 | |
| -Stainless Steel | 20 minute dwell 24 hour dwell | 128 oz/in (140 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 24.7 oz (700 g) |
| Tensile Strength and Elongation | ASTM D 1000 -Machine Direction | 59 lbs/in (1033 N/100mm), 5% |

Performance properties tested on B-486 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-486 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 248F (120C) | No visible effect |
| Long Term Low Service Temperature | 30 days at -40F (-40C) | No visible effect |
| Humidity Resistance | 30 days at 100F (37C), 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 R4300 ribbon using 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 UPON IMMERSION | EFFECT AFTER COTTON SWAB RUB |
| Methyl Ethyl Ketone | No visible effect | Slight smear when rubbed |
| 1,1,1-Trichloroethane | No visible effect | Moderate smear when rubbed |
| Toluene | No visible effect | Moderate smear when rubbed |
| Freon® TMS | No visible effect | Slight smear when rubbed |
| Isopropyl Alcohol | No visible effect | No visible effect |
| Mineral Spirits | No visible effect | Slight smear when rubbed |
| JP-8 Jet Fuel | No visible effect | Moderate smear when rubbed |
| ASTM #3 Oil | No visible effect | No visible effect |
| Mil 5606 Oil | No visible effect | No visible effect |
| Skydrol® 500B-4 | No visible effect | Slight smear when rubbed |
| Super Agitene® | No visible effect | No visible effect |
| Deionized Water | No visible effect | No visible effect |
| 3% Alconox® Detergent | No visible effect | No visible effect |
| 10% Sodium Hydroxide Solution | No visible effect | No visible effect |
| 10% Sulfuric Acid Solution | No visible effect | No visible effect |

Samples were printed with R6200 ribbon 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 UPON IMMERSION | EFFECT AFTER COTTON SWAB RUB |
| Methyl Ethyl Ketone | No visible effect | Slight smear when rubbed |
| 1,1,1-Trichloroethane | No visible effect | Slight smear when rubbed |
| Toluene | No visible effect | Moderate smear when rubbed |
| Freon® TMS | No visible effect | Moderate smear when rubbed |
| Isopropyl Alcohol | No visible effect | No visible effect |
| Mineral Spirits | No visible effect | No visible effect |
| JP-8 Jet Fuel | No visible effect | No visible effect |
| ASTM #3 Oil | No visible effect | No visible effect |
| Mil 5606 Oil | No visible effect | No visible effect |
| Skydrol® 500B-4 | No visible effect | Slight smear when rubbed |
| Super Agitene® | No visible effect | No visible effect |
| Deionized Water | No visible effect | No visible effect |
| 3% Alconox® Detergent | No visible effect | No visible effect |
| 10% Sodium Hydroxide Solution | No visible effect | No visible effect |
| 10% Sulfuric Acid Solution | No visible effect | No visible effect |

Shelf Life:

Two years when stored in its original packaging in an environment below 80°F (27°C) and 60%RH.

Trademarks:

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.)
 Alconox® is a registered trademark of Alconox Co.
 BradyPrinter™ is a trademark of Brady Worldwide, Inc.
 Freon® is a registered trademark of Du Pont de Nemours, E.I. and Company
 Polyken™ is 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

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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