

BRADY B-7546 THERMAL TRANSFER PRINTABLE TAMPER-EVIDENT WHITE POLYESTER LABEL STOCK

TDS No. B-7546
Effective Date: 30-Jan-2007

Description:

GENERAL

Print Technology: Thermal Transfer

Material Type: Polyester

Finish: Gloss White

Adhesive: Tamper Indicating Acrylic

APPLICATIONS

Rating and serial plates that require high performance and evidence of label removal.

RECOMMENDED RIBBONS

Brady series R6000 and R4400 colored (red, blue, and green)

REGULATORY/AGENCY APPROVALS

UL: B-7546 is UL Recognized to UL969 Labeling and Marking Standard when printed with Brady series R6000 ribbon. See UL file MH17154 for specific details. UL information can be accessed online at ul.com. Search in *Certifications* area.

CSA: B-7546 is CSA Accepted to C22.2 No. 0.15-95 Adhesive Labels Standard when printed with the Brady series R6000 ribbon. B-7546 is approved to Type C (tamper evident). See CSA file 041833 for specific details. CSA information can be accessed online at directories.csa-international.org.

RoHS: Brady B-7546 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

SPECIAL FEATURES

B-7546 is designed to leave a "VOID" footprint when the label is removed. In addition, a "VOID" pattern will appear on the top surface of the label in order to prevent it from being reused. Recommended 24 hour room temperature dwell before removal for full tamper evident performance. The adhesive nature of this product does not allow for repositioning and requires minimal handling in order to prevent prematurely exposed VOID pattern.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	0.0020 inch (0.051 mm) 0.0008 inch (0.018 mm) 0.0028 inch (0.069 mm)
Adhesion to:	ASTM D 1000	
-Stainless Steel	30 minute dwell	41 oz/in (45 N/100 mm)
-Aluminum	30 minute dwell	37 oz/in (40 N/100 mm)
-Glass	30 minute dwell	42 oz/in (46 N/100 mm)
-Smooth ABS	30 minute dwell	39 oz/in (43 N/100 mm)
- Textured ABS	30 minute dwell	4 oz/in (4 N/100 mm)
- Polypropylene	30 minute dwell	38 oz/in (41 N/100 mm)
- Painted enamel	30 minute dwell	38 oz/in (42 N/100 mm)

- Powder coated enamel	30 minute dwell	10 oz/in (11 N/100 mm)
Drop Shear	PSTC-7	15 hours*
Tensile Strength and Elongation	ASTM D 1000 -Machine Direction -Cross Direction	45 lbs/in (788 N/100 mm), 90% 48 lbs/in (841 N/100 mm), 100%
Application Temperature	Lowest application temperature to stainless steel	39°F (4°C)

*minimum value

Tamper evident adhesive performance properties were tested on B-7546 laminated to the indicated surfaces, exposed to the indicated environments and removed from the environments prior to testing. The label was removed at a 135° angle with a peel rate of 90 in/min and the remaining VOID adhesive pattern on each surface was observed.

SUBJECTIVE OBSERVATION OF ADHESIVE PERFORMANCE (PERCENTAGE OF VOID PATTERN RETAINED)				
SURFACE TYPE	24 hours @ 72°F (22°C)	30 days at 104°F (40°C)	30 days at -40°F (- 40°C)	30 days at -94°F (-70°C)
Laminated to:				
-Stainless Steel	85%-100%	85%-100%	85%-100%	40%-55%
-Aluminum	85%-100%	85%-100%	85%-100%	15%-30%
-Glass	85%-100%	85%-100%	85%-100%	10%-25%
-Smooth ABS	85%-100%	85%-100%	85%-100%	85%-100%
- Textured ABS	0-10%	0-10%	0-10%	0-15%
- Polypropylene	85%-100%	85%-100%	85%-100%	0-15%
- Painted enamel	85%-100%	85%-100%	85%-100%	80%-95%
- Powder coated metal	25%-40%	75%-90%	15%-30%	0-15%

Performance properties tested on B-7546 samples printed using Series R6000 ribbon and a BradyPrinter™ THT Model 300X Thermal Transfer Printer. The labels were printed with alphanumerics and 3:1 ratio with 6 mil minimum X dimension barcode. Printed samples of B-7546 were laminated to aluminum before exposure to the indicated environmental condition.

PERFORMANCE PROPERTIES	TEST METHODS	TYPICAL RESULTS
Long Term High Service Temperature	30 days at 175°F (80°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 topcoat. No visible effect to print.
Weatherability	ASTM G 26 30 days in Xenon Arc Weatherometer	Slight yellowing of topcoat. No visible effect to print. Some loss of tamper evidence.

The tamper evident VOID pattern of B-7546 was retained after exposure to all of the listed conditions except for weatherometer.

* Laboratory testing has shown that the tamper-evidency VOID pattern of this product may become nonfunctional after exposure to temperatures higher than 80°C.

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE
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Samples printed with a BradyPrinter™ THT Model 300X using Brady Series R6000 ribbon and then laminated to aluminum panels. 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 periods. After final immersion, samples rubbed 10 times with cotton swab saturated with test fluid.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	LABEL STOCK SUBSTRATE/ ADHESIVE	R6000 PRINTING EFFECTS OF IMMERSION	R6000 PRINTING COTTON SWAB RUBS
Methyl Ethyl Ketone	Moderate adhesive ooze	Moderate Fade/Smear/Bleed	Ink removed
1,1,1-Trichloroethane	Slight Adhesive ooze	No visible effect	Ink removed
Toluene	Slight Adhesive ooze	No visible effect	Ink removed
Isopropyl Alcohol	No visible effect	No visible effect	No visible effect
Mineral Spirits	No visible effect	No visible effect	No visible effect
JP-8 Jet Fuel	No visible effect	No visible effect	No visible effect
Gasoline	No visible effect	No visible effect	No visible effect
SAE 20 WT Oil	No visible effect	No visible effect	No visible effect
Mil 5606 Oil	No visible effect	No visible effect	No visible effect
Rust Veto® 342	No visible effect	No visible effect	No visible effect
Skydrol® 500B-4	No visible effect	No visible effect	Ink removed
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.
 Rust Veto® is a registered trademark of the E.F. Houghton & Co.
 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.)
 PSTC: Pressure Sensitive Tape Council (U.S.A.)
 SAE: Society of Automotive Engineers (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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