



Technical Data Sheet

BRADY B-339 TAMPER-EVIDENT SYNTHETIC LABEL STOCK

TDS No. B-339

Effective Date: 22-Sept-2016

Description:

Synthetic coated film, 0.6 mil aggressive adhesive, 40# paper liner. Face-stock is designed to easily delaminate, showing tamper evidence

GENERAL

Print Technology: Thermal Transfer

Material Type: Synthetic coated film, tamper evident

Finish: Matte, available in white

Adhesive: 0.6 mil aggressive adhesive

APPLICATIONS

Customized rating plates, tamper seals, or package closures that require high performance and evidence of label removal.

RECOMMENDED RIBBONS

Brady Series R6000

Brady Series R6000 Halogen Free

REGULATORY/AGENCY APPROVALS

Brady B-339 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC when printed with R6000 and R6000 Halogen Free ribbons.

Brady B-339 is compliant to IEC61249-2-21 (2003-11) when printed with R6000 Halogen Free ribbon.

SPECIAL FEATURES

B-339 is designed to leave a customized footprint pattern (i.e. logos, special warnings, instructions, etc) when the label is removed. In addition, the footprint pattern will appear on the

top surface of the label in order to prevent it from being reused. Contact Brady for design footprint restrictions and minimum order requirements.

A 24-hour dwell period is recommended 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 footprint pattern.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	0.0000 inch (0.00 mm) 0.000 inch (0.000 mm) 0.0000 inch (0.000 mm)
Adhesion to: -Stainless Steel -Aluminum -Glass -Smooth ABS - Polypropylene - Painted enamel - Powder coated enamel - PVC Plastic Clamshell - Uncoated/Unprinted Corrugated Cardboard	ASTM D 1000 20 minute dwell 20 minute dwell 20 minute dwell 20 minute dwell 20 minute dwell 20 minute dwell 20 minute dwell 20 minute dwell	

- Coated/Printed Corrugated Cardboard	20 minute dwell	
Shear Adhesion Failure Temperature (SAFT)	ASTM D4498-95 (with modification using test area of 22mm x 25mm and 1Kg weight)	°C

Tamper evident performance properties tested on B-339 laminated to the indicated surfaces and exposed to the indicated environments. The label was removed at **135° angle** with a peel rate of 30 in/min and the remaining "footprint" pattern was observed. Footprint size tested was 1.3 mm in height to 4 mm in height . Please note, customers are encouraged to always evaluate B-339 in their actual applications.

**SUBJECTIVE OBSERVATION OF ADHESIVE PERFORMANCE
(PERCENTAGE OF FOOTPRINT PATTERN TRANSFERRED TO SURFACE)**

SURFACE TYPE	24 hours @ 72°F (22°C)	30 days at 104°F (40°C)	30 days at -40°F (-40°C)
Laminated to:			
-Stainless Steel	100%	100%	100%
-Aluminum	100%		
-Glass	100%	100%	100%
-Smooth ABS			
-Polypropylene	100%	100%	100%
-Painted enamel			
- Powder coated metal	100%	100%	100%

- PVC Plastic Clamshell	100%	100%	100%
	20%-60%		
- Uncoated/Unprinted Corrugated Cardboard*	100%	100%	100%
	5%-20%*	30%-90%	20%-60%
	100%		
- Coated/Printed Corrugated Cardboard		100%	100%
		20%-50%*	20%-40%*
		100%	100%

*In all cases label cannot be reused due to the corrugated box tearing and removing with the label.

Performance properties tested on B-339 samples printed using Series **R6000 ribbon** and a BradyPrinter™ THT Model 600X-Plus II Thermal Transfer Printer. The labels were printed with **alphanumerics and 3:1 ratio with 13.6 mil minimum X dimension barcode**. Printed samples of B-339 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 194°F (90°C)	-No visible effect to label -100% of footprint pattern transferred to aluminum when removed from panel

Long Term Low Service Temperature	30 days at -94°F (-70°C)	-No visible effect to label -100% of footprint pattern transferred to aluminum when removed from panel
Short Term High Service Temperature <i>(labels were laminated to 10 mil white polyester 24 hours before exposure)</i>	15 minutes at various temperatures	120°C and 130°C- No visible effect to label, 100% of footprint pattern transferred to aluminum when removed from panel 145°C- Slight yellowing, shrinkage and tunneling of label, 100% of footprint pattern transferred to aluminum when removed from panel
Humidity Resistance	30 days at 104°F (40°C), 85% RH	-No visible effect to label -100% of footprint pattern transferred to aluminum when removed from panel
UV Light Resistance	ASTM G 26 (without water) 30 days in Q-Sun Xenon Test Chamber	-Label cracked and will not remove from panel*
Weatherability	ASTM G 26 30 days in Xenon Arc Weatherometer	-Label cracked and will not remove from panel*

* Label is not recommended for outdoor application

Chemical Resistance tested on B-339 samples printed with BradyPrinter™ THT Model 600X-Plus II using Brady **Series R6000 ribbon**. The labels were printed with alphanumerics and 3:1 ratio with 13.6 mil minimum X dimension barcode. Printed samples of B-339 were laminated to aluminum before exposure to the indicated chemical reagent. Test was conducted at room temperature after 24 hour dwell. Testing consisted of one 5 minute immersion in the specified chemical reagent. After immersion, samples were rubbed 10 times with cotton swab saturated with test fluid.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	LABEL STOCK SUBSTRATE / ADHESIVE	R6000 THERMAL TRANSFER RIBBON PRINTING – EFFECTS OF IMMERSION	R6000 THERMAL TRANSFER RIBBON PRINTING - COTTON SWAB RUBS
Methyl Ethyl Ketone	No visible effect	No visible effect	Moderate removal
Toluene	No visible effect	No visible effect	Moderate removal
Acetone	No visible effect	No visible effect	Moderate removal
Isopropyl Alcohol	No visible effect	No visible effect	No visible effect
Heptane	No visible effect	No visible effect	No visible effect
Mineral spirits	No visible effect	No visible effect	No visible effect
Gasoline	No visible effect	No visible effect	No visible effect
Lighter Fluid	No visible effect	No visible effect	No visible effect
Naphtha	No visible effect	No visible effect	No visible effect
Lacquer Thinner	No visible effect	No visible effect	Severe removal
Goof Off	No visible effect	No visible effect	Moderate removal
Dish Detergent	No visible effect	No visible effect	No visible effect
Formula 409®	No visible effect	No visible effect	No visible effect
Windex	No visible effect	No visible effect	No visible effect
Deionized Water	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 degrees 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:

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

BradyPrinter™ is a trademark of Brady Worldwide, Inc.

Formula 409® is a registered trademark of the Chlorox Company

PSTC: Pressure Sensitive Tape Council (U.S.A.)

UL: Underwriters Laboratories Inc. (U.S.A.)

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.

Product compliance information is based upon information provided by suppliers of the raw materials used by Brady to manufacture this product or based on results of testing using recognized analytical methods performed by a third party, independent laboratory. As such, Brady makes no independent representations or warranties, express or implied, and assumes no liability in connection with the use of this information.

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Brady products are sold with the understanding that the buyers will test them in actual use and determine for themselves their adaptability to their intended uses. Brady warrants to the buyers that its products are free from defects in material and workmanship, but limits its obligation under this warranty to replacement of the product shown to Brady's satisfaction to have been defective at the time Brady sold it. This warranty does not extend to any persons obtaining the product from the buyers. This warranty is in lieu of any other warranty, express or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose, and of any other obligations or liability on Brady's part. Under no circumstances will Brady be liable for any loss, damage, expense, or consequential damages of any kind arising in connection with the use, or inability to use, Brady's products.

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