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WHEN PERFORMANCE MATTERS MOST™

Technical Data Sheet

BRADY B-351 THERMAL TRANSFER PRINTABLE TAMPER-RESISTANT WHITE VINYL LABEL STOCK

TDS No. B-351

Effective Date: 09/26/2006

Description:

GENERAL
Print Technology: Thermal Transfer
Material Type: Tamper-Resistant Vinyl
Finish: Matte White
Adhesive: Acrylic

APPLICATIONS
Rating and serial plates that require high performance and resistance to product tampering

RECOMMENDED RIBBONS
Brady series R6200 and R6000 black

AGENCY APPROVALS
Brady B-351 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

SPECIAL FEATURES
Brady B-351 is designed to fracture easily in order to show signs of product tampering and to prevent one-piece label removal. Use caution when removing from liner as material is fragile.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Total	0.0028 inches (0.071mm)
Adhesion to: -Stainless Steel -Painted Enamel -Polypropylene -Powder coated -Textured ABS -Glass	ASTM D 1000 20 minute dwell 24 hour dwell	Label destroys upon removal after both 20 minutes and 24 hours for all test surfaces
Tack	ASTM D 2979 Polyken™ Probe Tack 1 second dwell	45.4 oz (1288 g)
Tensile Strength and Elongation	ASTM D 1000	6.3 lbs/in (110 N/100 mm), 2%
Application Temperature	Lowest application temperature to stainless steel	50°F (10°C)

Samples were printed with alphanumerics and 10 mil x dimension barcodes using the Bradyprinter™ THT Model 300X and the Brady R6200 and R6000 ribbons. Samples applied to aluminum panels and allowed to dwell 24 hours at room temperature prior to testing. Unless noted otherwise, results were the same for both ribbons.

Performance Properties	Test Methods	Typical Results
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Long Term Service Temp	30 days at various temperatures	No visible effect to label at 80°C. Slight discoloration at 100°C, but is functional.
Low Service Temp	30 days at -40°F (-40°C)	No visible effect
Short Term Service Temp	5 minutes at various temperatures	No visible effect to label at 180°C. Severe discoloration at 240°C but label still functional.
Humidity Resistance	30 days at 100F (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
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm, 100 cycles (Fed. Std. 191A, Method 5306)	R6200: Moderate print removal and print smear. Print still legible. R6000: Slight print removal. Print still legible.

PERFORMANCE PROPERTY	SOLVENT RESISTANCE
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Samples were printed with alphanumerics and 10 mil x dimension barcodes using the Bradyprinter™ THT Model 300X and the Brady R6200 and R6000 ribbon. Samples applied to aluminum panels and allowed to dwell 24 hours at room temperature prior to testing. Testing consisted of 5 cycles of 10 minute immersions in the specified chemicals followed by 30 minute recovery periods. After final immersion samples rubbed 10 times with cotton swabs saturated in test fluids.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL STOCK	R6200	R6000
Isopropyl Alcohol	No visible effect	No visible effect without/ with rub.	No visible effect without/ with rub.
Formula 409® Cleaner	No visible effect	No visible effect without rub. Slight print removal with rub.	No visible effect without rub. Slight print removal with rub.
Northwoods™ Buzz Saw Citrus Degreaser	No visible effect	No visible effect without/ with rub.	No visible effect without/ with rub.
JP-8 Jet Fuel	Slight adhesive ooze	No visible effect without/ with rub.	No visible effect without/ with rub.
Mineral Spirits	Slight adhesive ooze	No visible effect without/ with rub.	No visible effect without/ with rub.
SAE 20 wt Oil @ 70°C	No visible effect	No visible effect without/ with rub.	No visible effect without/ with rub.
Gasoline	Slight adhesive ooze	No visible effect without rub. Slight print removal with rub.	No visible effect without rub. Slight print removal with rub.
Super Agitene®	No visible effect	No visible effect without/ with rub.	No visible effect without/ with rub.
Deionized Water	No visible effect	No visible effect without/ with rub.	No visible effect without/ with rub.
10% Sodium Hydroxide Solution	No visible effect	No visible effect without/ with rub.	No visible effect without/ with rub.
10% Sulfuric Acid Solution	No visible effect	No visible effect without/ with rub.	No visible effect without/ with rub.

B-351 is not recommended for use in harsh solvents such as MEK, Acetone, and 1,1,1-Trichloroethane.

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:

BradyPrinter™ is a trademark of Brady Worldwide, Inc.
 Formula 409® is a registered trademark of the Clorox Company
 Northwoods™ is a trademark of the Superior Chemical Corporation
 Polyken™ is a trademark of Testing Machines Inc.
 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.)
 SAE: Society of Automotive Engineers (U.S.A.)

All SI units (metric) 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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