Technical Data Sheet

BRADY B-473 THERMAL TRANSFER PRINTABLE GLOSSY WHITE STATIC DISSIPATIVE POLYESTER LABEL STOCK

TDS No. B-473
Effective Date: 09/12/2013

Description:

GENERAL

Print Technology: Thermal Transfer
Material Type: White Polyester
Finish: Glossy
Adhesive: Static Dissipative Permanent Acrylic

APPLICATIONS

Printed circuit board and electronic component post-process labeling

RECOMMENDED RIBBONS

Brady Series R6000
Brady Series R6000 Halogen Free (Previously known as R6000HF)

REGULATORY/AGENCY APPROVALS

UL: B-473 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with Brady Series R6000 and Series R6000 Halogen Free ribbons. See UL file MH17154 for specific details. UL information can be accessed online at *UL.com*. Search in *Certifications* area.
CSA: B-473 is CSA Accepted to C22.2 No. 0.15-95 Adhesive Labels Standard when printed with the Brady Series R6000 ribbon. See CSA file 041833 for specific details. CSA information can be accessed online at *directories.csa-international.org*.

Brady B-473 is RoHS compliant to RoHS Directive 2011/65/EC.

SPECIAL FEATURES

B-473 is constructed with a static dissipative adhesive. This product has surface resistivity values in the recommended range for dissipative ESD packaging materials as defined by ANSI/ESD S541-2008 (between 10^4 and 10^{11} ohms).

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	 0.0020 inch (0.05 mm) 0.0014 inch (0.04 mm) 0.0034 inch (0.09 mm)
Adhesion to: - Stainless Steel	ASTM D 1000 20 minute dwell 24 hour dwell	 49 oz/inch (54 N/100 mm) 60 oz/inch (66 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack (1 second dwell, 1 cm/sec separation)	31 oz (885 g)
Drop Shear	PSTC-7 (except use 1/2" x 1" sample)	70 hours
Tensile Strength and Elongation	ASTM D 1000 -Machine -Cross	 38 lbs/inch (665N/100 mm), 68% 56 lbs/inch (980N/100 mm), 46%
Dielectric Strength	ASTM D 1000	9000 volts
Adhesive Surface Resistivity	EOS/ESD STM11.11	4.1×10^8 ohm/sq

The following testing was performed with B-473 thermal transfer printed using Brady Series R6000 and R6000 Halogen Free ribbons. Samples laminated to aluminum panels and allowed to dwell 24 hours prior to testing. Results are the same for both ribbons unless otherwise noted.

PERFORMANCE PROPERTIES	TEST METHOD	TYPICAL RESULTS
Short Term High Service Temperature	5 minutes at 354°F (180°C)	No visible effect to label at 180°C. Slight film shrinkage at 190°C but label is still functional. At 210°C label has severe film shrinkage.
Long Term High Service Temperature	30 days at 248°F (120°C)	No visible effect at 120°C

Low Service Temperature	30 days at -40°F (-40°C)	No visible effect at -40°C
Humidity Resistance	30 days at 100°F (37°C) and 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 Weather-Ometer®	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, 250 g/arm (Fed. Std. 191A, Method 5306)	R6000: Print Legible after 100 cycles R6000 Halogen Free: Print legible after 100 cycles

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Samples printed with Series R4900, R6000 and R6000 Halogen Free ribbons. Test was conducted at room temperature after 24 hour dwell. Testing consisted of 5 cycles of 10 minute immersions in the specified chemicals followed by a 30 minute recovery period. Samples rubbed 10 times with cotton swab immersed in test fluid after final immersion.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE						
	EFFECT TO LABEL STOCK	R4900		R6000		R6000 HALOGEN FREE	
		WITHOUT RUB	WITH RUB	WITHOUT RUB	WITH RUB	WITHOUT RUB	WITH RUB
Methyl Ethyl Ketone	Slight adhesive ooze	No visible effect	Printing removed	No visible effect	Printing removed	No visible effect	Printing removed
Toluene	Slight adhesive ooze	No visible effect	Printing removed	No visible effect	Printing removed	No visible effect	Printing removed
Isopropyl Alcohol	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
Mineral Spirits	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
JP-4 Jet Fuel	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
Mil 5606 Oil	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
ASTM #3 Oil	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
Gasoline	Slight adhesive ooze	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
Skydrol® 500B-4	Slight adhesive ooze	No visible effect	Printing removed	No visible effect	Printing removed	No visible effect	Printing removed
Super Agitene®	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
Alphametals BIOACT® EC-7R™	Slight adhesive ooze	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
Deionized Water	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
3% Alconox® Detergent	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
10% Sodium Hydroxide Solution	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect
10% Sulfuric Acid Solution	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect	No visible effect

Product testing, customer feedback, and history of similar products, support a customerperformance 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.

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Note: All values shown are averages and should not be used for specification purposes.
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