



Technical Data Sheet

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

TDS No. B-473

Effective Date: 1/18/2019

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 Halogen Free

REGULATORY/AGENCY APPROVALS

UL: B-473 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with the Brady Series R6000 Halogen Free ribbon. See UL file MH17154 for specific details. UL information can be accessed on-line at UL.com in the UL Product iQ area.

CSA: B-473 is CSA Accepted 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.

For information on the Weee-RoHS compliance status for a Brady Product go to one of the following websites: In Canada: www.bradycanada.ca/weee-rohs

In Europe: www.bradyeurope.com/rohs

In Japan: www.brady.co.jp/products/labelsuse/rohs

All other regions: www.bradyid.com/weee-rohs

SPECIAL FEATURES

For dissipative ESD packaging materials as defined by ANSI/ESD S541-473 is constructed with a static dissipative adhesive. This product has surface resistivity values in the recommended range 2008 (between 10⁴ and 10¹¹ 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 (0.5 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 x 10 ⁸ ohm/sq

The following testing was performed with B-473 thermal transfer printed using the Brady Series R6000 Halogen Free ribbon. 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 various Temperatures	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 the Brady Series R4900 and the Brady Series 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 HALOGEN FREE	
		WITHOUT RUB	WITH RUB	WITHOUT RUB	WITH RUB
Methyl Ethyl Ketone	Slight adhesive ooze	No visible effect	Printing removed	No visible effect	Printing removed
Toluene	Slight adhesive ooze	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
Mineral Spirits	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
Mil 5606 Oil	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
Gasoline	Slight adhesive ooze	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
Super Agitene®	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
Deionized Water	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
10% Sodium Hydroxide Solution	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

Shelf life is 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° F (27° C) and 60% RH. It remains the responsibility of the user to assess the risk of using this product. We encourage customers to develop testing protocols that will qualify a product's fitness for use in their actual application.

Trademarks:

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EIA: Electronic Industry Association (U.S.A.)
EOS/ESD: Electrical Overstress/Electrostatic Discharge (U.S.A.)
PSTC: Pressure Sensitive Tape Council (U.S.A.)
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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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