Technical Data Sheet

BRADY B-533 THERMAL TRANSFER PRINTABLE GLOSSY WHITE POLYESTER LABEL STOCK

TDS No. B-533
Effective Date: 04/26/2022

Description:

GENERAL

Print Technology: Thermal Transfer
Material Type: White Polyester
Finish: Glossy
Adhesive: Removable Acrylic

APPLICATION

Alphanumeric and barcode applications such as electronic component marking and general purpose applications that require good solvent resistance, heat resistance and clean removability.

RECOMMENDED RIBBONS

Brady Series R6000 Halogen Free
Brady Series R4900 (alternate)
Brady Series R6200 (alternate)
Brady Series R4400 (colors – red, blue, green, white)

REGULATORY APPROVALS

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

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D1000 -Substrate -Adhesive -Total (excluding liner)	 0.0020 inch (0.0508 mm) 0.0010 inch (0.0254 mm) 0.0030 inch (0.0762 mm)
Adhesion to: -Stainless Steel	ASTM D1000 20 minute dwell 24 hour dwell	 26 oz/in (28 N/100 mm) 31 oz/in (34 N/100 mm)
-Aluminum	20 minute dwell 24 hour dwell	15 oz/in (16 N/100 mm) 18 oz/in (20 N/100 mm)
-Polypropylene	20 minute dwell 24 hour dwell	11 oz/in (12 N/100 mm) 12 oz/in (13 N/100 mm)
-Alkyd Enamel	20 minute dwell 24 hour dwell	20 oz/in (22 N/100 mm) 23 oz/in (25 N/100 mm)
-Glass	20 minute dwell 24 hour dwell	25 oz/in (27 N/100 mm) 25 oz/in (27 N/100 mm)
Tack	ASTM D2979 Polyken™ Probe Tack 0.5 second dwell	22 oz (630 g)
Dielectric Strength	ASTM D1000	8500 volts

*B-533 removes cleanly from the surfaces listed above.

Performance properties tested on B-533 were printed with the Brady Series R6000 Halogen Free ribbon. Printed samples were laminated to aluminum and allowed to dwell 24 hours before exposure to the indicated environmental conditions. Labels were tested for removability after exposure to environmental conditions.

PERFORMANCE PROPERTIES	TEST METHODS	TYPICAL RESULTS
Short Term High Service Temperature	5 minutes at various temperatures	No visible effect and cleanly removable at 200°C. At 210°C label is slightly discolored but remains cleanly removable from test panel. At 220°C label has shrunk to the extent that it is non-functional.
Long Term High Service Temperature	30 days at various temperatures	No visible effect and cleanly removable at 100°C. At 130°C label is slightly discolored and remains cleanly removable from test panel. At 160°C label non-removable and moderately discolored.
Low Service Temperature	30 days at -70°C (-94°F)	No visible effect, cleanly removable
Humidity Resistance	30 days at 37°C/95% RH	No visible effect, cleanly removable
Weatherability	ASTM G155, Cycle 1 30 days in Xenon Arc Weather-Ometer®	No visible effect, cleanly removable
Salt Fog Resistance	ASTM B117 30 days in 5% salt fog solution chamber	No visible effect, cleanly removable
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 250 g/arm (Fed. Std. 191A, Method 5306)	R6000 Halogen Free: print legible after 100 cycles

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Samples printed with the Brady Series R6000 Halogen Free ribbon. Samples were laminated to aluminum panels and allowed to dwell 24 hours prior to testing. Test was conducted at room temperature except where noted. Testing consisted of five cycles of a 10 minute immersion in the specified test fluid followed by a 30 minute recovery period. After the final immersion, print was rubbed 10 times with a cotton swab saturated with test fluid. Samples were also tested for removability.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL STOCK	EFFECT TO PRINTED IMAGE R6000 HALOGEN FREE	
		WITHOUT RUB	WITH RUB
Acetone	No visible effect	1	5
Methyl Ethyl Ketone	No visible effect	1	5
Toluene	No visible effect	1	5
Isopropyl Alcohol	No visible effect	1	1
Mineral Spirits	No visible effect	1	1
Gasoline	No visible effect	1	1
JP-8 Jet Fuel	No visible effect	1	1
Brake Fluid – DOT 3	No visible effect	1	4-5
Skydrol® 500 B-4	No visible effect	1	5
BIO-ACT® EC-7R™	No visible effect	1	1
MIL-5606 Oil	No visible effect	1	1
SAE 20 wt oil @ 70C	No visible effect	1	1
Formula 409® Cleaner	No visible effect	1	1
Northwoods™ Buzz Saw Citrus degreaser	No visible effect	1	1
Deionized Water	No visible effect	1	1
3% Alconox® Detergent	No visible effect	1	1
10% Sodium Hydroxide solution	No visible effect	1	1
10% Sulfuric Acid solution	No visible effect	1	1

Rating Scale:
1=no visible effect
2=slight smear or print removal, detectable but minimal smear 3=moderate smear or print removal (print is still legible)
4=severe smear or print removal (print illegible or just barely legible) 5=complete print and/or topcoat removal

* B-533 removed cleanly from aluminum after tested in the solvents listed above.

Shelf Life:
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:
ASTM: American Society for Testing and Materials (U.S.A.)
Alconox® is a registered trademark of Alconox Co.
All S.I. Units (metric) are mathematically derived from the U.S. Conventional Units
BIOACT® is a registered trademark of Petroferm, Inc.
EC-7R™ is a trademark of Petroferm 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.
SAE: Society of Automotive Engineers (U.S.A.)
Skydrol® is a registered trademark of Solutia Inc.
Weather-Ometer® is a registered trademark of Atlas Material Testing Technology LLC

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.

WARRANTY
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.

Brady North America | 6555 W. Good Hope Rd | Milwaukee, WI 53223 | USA | Tel: 414-358-6600 | Fax: 800-292-2289