



Technical Data Sheet

BRADY B-508 BRADYTAG® COMPUTER PRINTABLE TAG

TDS No. B-508
Effective Date: 3/25/2019

Description:

GENERAL

Print Technology: Dot Matrix or Thermal Transfer

Materials Type: Nomex® Tag

Available Colors: White and Yellow

APPLICATIONS

Designed as a high performance wire bundle and cable identification tag for use in harsh environments.

RECOMMENDED RIBBONS

Dot Matrix

Brady Series R5000

Thermal Transfer

Brady Series R4300

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.bradycanada.ca/products/labelsuse/rohs

All other regions: www.bradycanada.ca/weee-rohs

SPECIAL FEATURES

B-508 has excellent tear, solvent, and heat resistance properties.

The service temperature range is -70°C (-94°F) to +130°C (266°F)

B-508 can also be printed using laser marking method. Laser marking has very good environmental, abrasion, and chemical resistance.

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000	0.012 inch (0.305mm)
Hole Tear Strength	LTP 1412* - Machine -Cross	16 lb (7.3 kg) 21 lb (9.5 kg)
Tensile Strength and Elongation	ASTM D 1000 -Machine direction	191 lbs/inch (3.4 kg/mm), 22%
Dielectric Strength	ASTM D 1000	14,000 Volts
Vacuum Outgassing	ASTM E595	White/R4300:

Tested at an outside laboratory Test samples printed with R4300 Series ribbon	Specification Limits % Total Mass Loss (TML) - 1.0% maximum % Collected Volatile Condensable Material (CVCN) -0.10 maximum % Water Vapor Recovered - Report	% TML - 1.53 % CVCN - 0.10 % WVR - 1.13 <i>Yellow/R4300:</i> % TML - 1.7 % CVCN - 0.10 % WVR - 1.45
Surface Flammability of Materials Using a Radiant Heat Energy Source Tested at an outside laboratory Test samples printed with R4300 Series ribbon	ASTM E162 Common Maximum - 35	Flame Spread Index (Is) (rounded average result of 4 tests) White/R4300 - 15 Yellow/R4300 - 15
Specific Optical Density of Smoke (Ds) Tested at an outside laboratory Test samples printed with R4300 Series ribbon	ASTM E662 Common Maximum Flaming Mode at 1.5 minutes - 100 Flaming Mode at 4.0 minutes - 200	Specific Optical Density (Ds) (average of 3 tests) <i>White/R4300:</i> Flaming Mode at 1.5 minutes - 14 Flaming Mode at 4.0 minutes - 54 Non-Flaming Mode at 1.5 minutes - 1 Non-Flaming Mode at 4.0 minutes - 3 <i>Yellow/R4300:</i> Flaming Mode at 1.5 minutes - 24 Flaming Mode at 4.0 minutes - 48 Non-Flaming Mode at 1.5 minutes - 6 Non-Flaming Mode at 4.0 minutes - 9

* Brady Corporation Lab Test Procedure

Performance properties tested on B-508 white and yellow printed with the Brady Series R5000 dot matrix ribbon and with the Brady Series R4300 thermal transfer ribbon. B-508 white samples were also laser marked with a 10 watt fiber laser. Unless noted, results are the same for both colors of topcoat and all printing processes and ribbons.

PERFORMANCE PROPERTIES	TEST METHODS	TYPICAL RESULTS
Long Term High Service Temperature	30 days at 266°F (130°C)	Slight discoloration on face and moderate discoloration on back of tag. No visible effect to print.
Long Term High Service Temperature	30 days at 302°F (150°C)	White tag exhibits slight discoloration on face and back of tag. Yellow tag exhibits severe fade in that yellow color has almost disappeared. Tag exhibits slight fading of the yellow color after 14 days at 150°C. Print is legible on all tags.
Short Term Service Temperature	7 days at 175°C	White tag exhibits moderate discoloration on the face and back of the tag. Yellow tag exhibits severe fade in that the yellow color has disappeared. Print is legible on all tags.
Short Term Service Temperature	30 minutes at 356°F (180°C)	Slight discoloration and slight warping of tag. No visible effect to print.
Low Service Temperature	30 days at -94°F (-70°C)	No visible effect

Humidity Resistance	30 days at 100°F, 95% R.H.	No visible effect
UV Light Resistance	30 days in UV Sunlighter™ 100 or Fadeometer per ASTM G155, Cycle 1 Dry	Very slight discoloration to white topcoat. No effect to yellow topcoat. Slight discoloration on back of tag. Slight R5000 print fade. No visible effect to R4300 print or to laser marking.
Weatherability	ASTM G155, Cycle 1 30 days in Xenon Arc Weatherometer	Slight print fade with R5000. No visible effect to R4300 print or to laser marking.
Salt Fog Resistance	30 days in 5% Salt Fog Chamber per ASTM B 117	No visible effect
Print Adherence per SAE-AS81531 (Sec 3.4.2)	SAE-AS81531 (Sec 4.6.2) 20 eraser rubs with hard hand pressure	Pass - Print still legible with all ribbons and laser marking.
Solvent Resistance per SAE-AS81531 (Sec 3.4.3) Solution A Solution C Solution D JP-8 Jet Fuel**	MIL-STD-202, Method 215K 3 cycles of 3 minute immersions in specified fluids followed by toothbrush rub after each immersion	Pass - Print still legible with all ribbons and laser marking in all test fluids

Solution A: 1 part isopropyl alcohol, 3 parts mineral spirits

Solution B: deleted from MIL-STD-202, Method 215K

Solution C: BIOACT EC-7R terpene defluxer

Solution D: 42 parts water, 1 part propylene glycol monomethyl ether, 1 part monoethanolamine at 70°C

** JP-8 is an additional chemical tested; it is not specified in MIL-STD-202, Method 215K

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE
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B-508 white and yellow samples printed with the Brady Series R5000 dot matrix ribbon and with the Brady Series R4300 thermal transfer ribbon. B-508 white samples were also laser marked with a 10 watt fiber laser. Samples were dwelled a minimum of 24 hours before testing. Test conducted at room temperature. Testing consisted of 30 minute fluid immersion. After immersion, the printed image was rubbed on 10 times with a cotton swab saturated with the test fluid. The rating scale below shows the effect to the quality of the print and topcoat, if applicable, for each sample. Unless noted, results are the same for the white and yellow topcoats.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE			
	WITHOUT RUB	DOT MATRIX WITH RUB R5000	THERMAL TRANSFER WITH RUB R4300	LASER MARKING WITH RUB 10 WATT FIBER LASER .
Methyl Ethyl Ketone	White - 2 ribbon print, 1 laser marking, and 2 topcoat Yellow - 2 ribbon print, 3 topcoat	5	5	1
Propylene Glycol	1	1	1	1
5% Salt Solution	1	1	1	1

Isopropyl Alcohol	1	1	2	1
JP-8 Jet Fuel	1	1	2	1
Mil 5606 Oil	1, tag slightly stained red	1	2	1
Gasoline	1	1	3	1
Skydrol® 500B-4	1	2	3	1
BIOACT® EC-7R™ Terpene Cleaner	1	1	2	1
Deionized Water	1	1	1	1
3% Alconox® Detergent	1	1	1	1
10% Sodium Hydroxide Solution	1	1	1	1
10% Sulfuric Acid Solution	2	1	1	1

Rating scale:

1= no visible effect

2= slight smear, bleed or print removal

3= moderate smear, bleed or print removal (print still legible)

4= severe smear, bleed or print removal (print illegible or just barely legible)

5= complete print and/or topcoat removal

NP= print removed prior to rub

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 applications.

Trademarks:

Alconox® is a registered trademark of Alconox Co.

BradyTag® is a registered trademark of Brady Worldwide, Inc.

BIOACT® is a registered trademark of Petroferm, Inc.

EC-7R™ is a trademark of Petroferm Inc.

Nomex® is a registered trademark of Du Pont de Nemours, E.I. and Company

Skydrol® is a registered trademark of the Monsanto Company

Sunlighter™ is a trademark of the Monsanto Company

Super Agitene® is a registered trademark of Graymills Company

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

All S.I. Units (metric) are mathematically derived from the 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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