Preliminary Technical Data Sheet

BRADY B-797 GLOSSY WHITE THERMAL TRANSFER PRINTABLE POLYIMIDE LABEL STOCK

TDS No. B-797
Effective Date: 10/08/2022

Description:
GENERAL
Print Technology: Thermal transfer
Material Type: Polyimide
Finish: Glossy
Adhesive: Permanent Acrylic

APPLICATIONS
Printed circuit board and electronic component pre-process labeling

RECOMMENDED RIBBONS
Brady Series R6300 Halogen Free
Brady Series R4900A (Available in APAC Region Only)

REGULATORY/AGENCY APPROVAL
UL: Brady B-797 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with the Brady Series R6300. See UL file MH17154 for specific details. UL information can be accessed on-line at UL.com in the UL Product iQ area.

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
B-797, in combination with the Brady Series R6300 ribbon, meets the requirements of MIL-STD-202G, Method 215K.

B-797 is designed to withstand multiple cycles of harsh condition washes for printed circuit boards.

Details:

PHYSICAL PROPERTIES	TEST METHODS	TYPICAL RESULTS
Thickness	ASTM D1000 -Substrate (topcoat and film) -Adhesive -Total (excluding liner)	0.0027/0.0000 inch (0.000 mm) 0.0017 inch (0.043 mm) 0.0044/0.0000 inch (0.00 mm)
Adhesion to: -Stainless Steel -Epoxy PC Board	ASTM D1000 20 minute dwell 24 hour dwell 20 minute dwell 24 hour dwell	 46/oz/in/39 oz/in (42 N/100 mm) 57 o/in/00 oz/in (00 N/100 mm)) 36 oz/in/00 oz/in (00 N/100 mm) 49 oz/in/00 oz/in (00 N/100 mm)
Tack	ASTM D2979 Polyken™ Probe Tack 0.5 second dwell	67 oz (1900 g)/43 oz (1219 g)

Drop Shear	PSTC-7 (1/2” x 1” sample)	>100 hours/> 96 hours
Dielectric Strength	ASTM D1000	10,000 volts/9970 volts

Performance properties were tested on B-797 printed with the Brady Series R6300 ribbon. Printed samples of B-797 were laminated to aluminum and allowed to dwell 24 hours before exposure to the indicated environmental conditions.

PERFORMANCE PROPERTIES	TEST METHODS	TYPICAL RESULTS
Short Term High Service Temperature	80 seconds at various Temperatures	Label discolors slightly at 300°C and 330°C, and discolors moderately at 350°C, but remains functional.
	5 minutes at various Temperatures	No visible effect to label at 260°C, label discolors slightly at 280°C, moderately at 300°C, but remains functional.
	2 hours at various Temperatures	No visible effect to label at 170°C and 200°C. Label discolors slightly at 230°C, moderately at 260°C, but remains functional.
Long Term High Service Temperature	1000 hours at various Temperatures	Label discolors slightly at 120°C, and discolors moderately at 145°C, but remains functional
Low Service Temperature	1000 hours at -112°F (-80°C)	No visible effect
Humidity Resistance	1000 hours at 95°C (37°C)/95%RH	No visible effect
UV Light Resistance	ASTM G155, cycle 1, Dry 1000 hours in Q-Sun Xenon Test Chamber	No visible effect
Weatherability*	ASTM G155, Cycle 1 1000 hours in Xenon arc Weather-Ometer®	No visible effect
Salt Fog Resistance	ASTM B117 1000 hours 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)	Print legible up to 50 cycles
Chemical Vapor Phase Resistance	Labels adhered to epoxy PC board and exposed to the vapor of the boiling chemical for 10 minutes and then rubbed with a cotton swab saturated with the chemical for 10 rubs Test samples were baked 4 minutes at 160°C prior to testing Micronox® MX2501	Severe print removal

*B-727 is not recommended for outdoor use.

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE

Test samples were printed with the Brady Series R6300 ribbon. Labels were adhered to epoxy PC board. Test samples were exposed to the indicated environments. All test samples were immersed in the test fluids for 10 minutes prior to rub with cotton swab ten times.Note: Samples were tested without exposure to reflow conditions.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL	R6300	
		WITHOUT RUB	WITH RUB
Kyzen Corp, 15% Aquanox® A4625 at 140°F (60°C)	No visible effect	1	1
Kyzen Corp, 7% Aquanox® A4382 at at 150°F (65°C)	No visible effect	1	1
Kyzen Corp, 10% Aquanox® A4638 at 145°F (63°C)	No visible effect	1	1
Zestron, 15% Atron® AC205 at 150°F (65°C)	No visible effect	1	1
Zestron, 15% Atron® AC207 at 150°F (65°C)	No visible effect	1	1
Zestron, 15% Vigon® A201 at 150°F (65°C)	No visible effect	1	2
Zestron, 15% Vigon® N600 at 150°F (65°C)	No visible effect	1	1
Isopropyl Alcohol 99% at 180°F (82°C)	No visible effect	Pending	Pending
Deionized water at 212°F (100°C)	No visible effect	Pending	Pending

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

PERFORMANCE PROPERTY	TEST METHOD
Solvent Resistance	**MIL-STD-202G, Method 215K**

Test samples were printed with the Brady Series R6300 ribbon. Labels were printed with alphanumerics and barcodes. Test samples were subjected to 3 cycles of 3 minute immersions immediately followed by a toothbrush rub after each immersion.

TEST FLUID	RESULTS R6300 HALOGEN FREE
Solvent A 1 part IPA, 3 parts mineral spirits	Meets requirement
Solvent C Terpene Defluxer	Meets requirement
Solvent D Saponifier @ 70°C	Meets requirement

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:
ANSI: American National Standards Institute (U.S.A.)
ASTM: American Society for Testing and Materials (U.S.A.)
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Ionox® is a registered trademark of the Kyzen Corporation
Micronox® is a registered trademark of the Kyzen Corporation
PSTC: Pressure Sensitive Tape Council (U.S.A.)
Polyken™ is a trademark of Testing Machines Inc.
UL: Underwriters Laboratories Inc. (U.S.A.)
Vigon® is the registered trademark of Zestron Corporation
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Note: All values shown are averages and should not be used for specification purposes.
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