



BRADY B-426 THERMAL TRANSFER PRINTABLE POLYIMIDE LABEL STOCK

TDS No. B-426
Effective Date: 26-Sep-2006

Description:

GENERAL

Print Technology: Thermal Transfer

Material Type: Greenish/Amber Polyimide

Finish: Matte

Adhesive: Permanent Acrylic

APPLICATIONS

Printed circuit board and electronic component preprocess labeling

RECOMMENDED RIBBONS

Brady Series R4300

REGULATORY/AGENCY APPROVALS

Brady B-426 is RoHS compliant to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC.

SPECIAL FEATURES

B-426 in combination with the Series R4300 ribbon passes the requirements of:

MIL-PRF-55110G General Specification for Printed Wiring Boards

MIL-STD-202G, Notice 12, Method 215K

SAE AS81531 Marking of Electrical Insulating Material

Details:

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 -Substrate -Adhesive -Total	0.0028 inch (0.072 mm) 0.0016 inch (0.039 mm) 0.0044 inch (0.111 mm)
Adhesion to: -Stainless Steel -Epoxy PC Board -Polypropylene -Textured ABS	ASTM D 1000 20 minute dwell 24 hour dwell 20 minute dwell 24 hour dwell 20 minute dwell 24 hour dwell 20 minute dwell 24 hour dwell	30 oz/inch (33 N/100 mm) 35 oz/inch (38 N/100 mm) 20 oz/inch (22 N/100 mm) 35 oz/inch (38 N/100 mm) 13 oz/inch (14 N/100 mm) 13 oz/inch (14 N/100 mm) 3 oz/inch (3 N/100 mm) 6 oz/inch (6 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack (1 second dwell, 1 cm/sec separation)	19 oz (600 grams)
Drop Shear	PSTC-7 (except use 1/2" x 1" sample)	Over 100 hours

Dielectric Strength	ASTM D 1000	9700 Volts
Flammability	ASTM D 1000 Average Burn Time	Less than 5 seconds

Performance properties tested on B-426 printed with Series R4300 on BradyPrinter™ THT Model 203X thermal transfer printer. Printed samples of B-426 were laminated to aluminum and allowed to dwell 24 hours before exposure to the indicated environmental conditions.

PERFORMANCE PROPERTIES	TEST METHOD	TYPICAL RESULTS
Short Term High Service Temperature	80 seconds at 626 °F (330 °C)	No visible effect to label at 626 °F (330 °C), label discolors slightly at 644 °F (340 °C), but still functional, at 662 °F (350 °C) label still functional but slightly discolored and adhesive discolored at label edge.
	5 minutes at 536 °F (280 °C)	No visible effect to label at 280 °C, label discolors slightly at 300 °C but still functional, at 320 °C label still functional but slightly discolored and adhesive discolored at label edge
	2 hours at 518 °F (270 °C)	No visible effect to label at 260 °C, adhesive brown at edge of label at 280 °C
Long Term High Service Temperature	1000 hours at 356 °F (180 °C)	No visible effect to label at 180 °C, at 200 °C label still functional but slightly discolored and adhesive brown at edge
Low Service Temperature	1000 hours at -94 °F (-70 °C)	No visible effect
Weatherability ¹	ASTM G155, Cycle 1 (Xenon Arc 1000 hours)	Topcoat degraded
Humidity Resistance	1000 hours at 100 °F, 95% R.H.	No visible effect
UV Light Resistance	1000 hours in Sunlighter™ 100	Topcoat fades to light yellow, label still functional
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm (Fed. Std. 191A, Method 5306)	Print legible to 150 cycles
Salt Fog Resistance	30 days in 5% salt fog solution chamber (ASTM B 117)	No visible effect
Wave Solder and Vapor Phase Resistance	Label adhered to epoxy PC board and exposed to: 1. 10 second dip at 480 °F (249 °C) 2. 2 minutes in Fluorinert™ FC-5312 vapor phase at 420 °F (216 °C)	Solder Dip: No visible effect Vapor Phase: No visible effect with out rub, moderate print smear with rub

¹B-426 is not recommended for outdoor use.

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE
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Samples printed with Series R4300 ribbon. Samples 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 5 cycles of 10 minute immersions in the specified test fluid followed by a 30 minute recovery period. After final immersion, samples rubbed 10 times with cotton swab saturated with test fluid.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL STOCK	R4300 NO RUB	R4300 WITH RUB
Methyl Ethyl Ketone	Slight adhesive ooze	No visible effect	Slight print removal
1,1,1-Trichloroethane	Slight adhesive ooze	No visible effect	Slight print removal
Toluene	No visible effect	No visible effect	Slight print removal
Isopropyl Alcohol	No visible effect	No visible effect	Slight print removal
Mineral Spirits	No visible effect	No visible effect	Slight print removal
JP-8 Jet Fuel	Slight adhesive ooze	No visible effect	Slight print removal
SAE 20 WT Oil at 70°C	No visible effect	No visible effect	Slight print removal
Mil 5606 Oil	No visible effect	No visible effect	No visible effect
Skydrol® 500B-4	No visible effect	No visible effect	Slight print removal
BIOACT® EC-7R™ Terpene Cleaner	No visible effect	No visible effect	Slight print removal
6% Alphamets 2110 Saponifier at 70°C	Topcoat removed	Topcoat removed	Topcoat removed
Axarel® 32	No visible effect	No visible effect	Moderate print removal
RE-ENTRY® KNI Solvent 2000 Terpene Cleaner	No visible effect	No visible effect	Severe print removal
Deionized Water	No visible effect	No visible effect	No visible effect
3% Alconox® Detergent	No visible effect	No visible effect	No visible effect
10% Sodium Hydroxide Solution	Whitening of topcoat	Slight print fade	Slight print removal
10% Sulfuric Acid Solution	No visible effect	No visible effect	No visible effect

B-426 is not recommended for use with aqueous cleaning processes.

PERFORMANCE PROPERTY	MIL-STD-202G, NOTICE 12, METHOD 215K
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Samples printed with R4300 ribbon. Printed labels subjected to 3 cycles of 3 minute immersions immediately followed by a toothbrush rub after each immersion.

TEST FLUID	RESULTS
Solvent A 1 part IPA, 1 part Mineral Spirits	No visible effect
Solvent B 1,1,1-Trichloroethane	Solvent deleted per Notice 12
Solvent C Terpene Defluxer	No visible effect
Solvent D Saponifier at 70°C	No visible effect

Product testing, customer feedback, and history of similar products, support a customer performance 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 degrees 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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ASTM: American Society for Testing and Materials (U.S.A.)

PSTC: Pressure Sensitive Tape Council (U.S.A.)

SAE: Society of Automotive Engineers (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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Specification Of Thermal Transfer Printable Labels

Application(s):	Circuit Board & Component ID, SMT - Top/Bottom, Through Hole - Bottom, Through Hole - Top
Size:	1.000" W x 0.250" H (25.400 mm W x 6.350 mm H)
Printable Area:	1.000" W x 0.250" H (25.400 mm W x 6.350 mm H)
Web Width:	1.200" (30.48 mm)
Label Type/Style:	Label
Vertical Repeat:	0.350" (8.89 mm)
Color:	Amber
Finish:	Matte
Qty Per Row:	1
Material Type:	Polyimide
Material Description:	High Temperature Polyimide
Brady Material #:	B-426
General ID Catalog:	pg. 25
Recommended Ribbon Series:	4300
Suggested Ribbon Part#:	R4311
After Process:	Yes, this material will work with this application
Printer Compatibility:	BBP81, Brady 1244, Brady 1344, Brady 200MVP Plus, Brady 2461, Brady 300MVP Plus, Brady 300X-Plus II, Brady 3481, Brady 360X-Plus II, Brady 600X-Plus II, Brady 6441, Brady IP, Tagus T200, Tagus T300, Thermal Transfer Printers
Surface Mount Technology:	Yes, this material will work with this application
Through Hole Technology:	Top: Yes, Bottom: Yes
Special Properties:	Withstands extremely high temperatures
RoHS Compatibility:	Compliant with RoHS Directive. NOTE: All statements concerning RoHS Directive compliance refer to 2005/618/EC MCV amendment to RoHS Directive 2002/95/EC. Product compliance is based upon information provided by suppliers of the raw materials used by Brady to manufacture these products, or by independent laboratory testing of these products. As such, Brady makes no independent representations or warranties, express or implied, and assumes no liability in connection with the use of this information.
QTY/UOM:	10,000/Roll