

Brady Material Number	B-727
Agency Approval(s)/Compliance	UL Recognized
Web Width	1.200" (30.48 mm)
Vertical Repeat	0.600" (15.24 mm)
Material Type	Polyimide
Material Description	High-Temperature Industrial Polyimide Barcode Label
General ID Catalog	pg. 148
Recommended Ribbon Series	R6000
Suggested Ribbon Part#	R6006
Printer Compatibility	Brady 1244, Brady 1344, Brady 2461, Brady 3481, Brady 6441, Brady 300MVP Plus, Brady 200MVP Plus, Brady 300X-Plus II, Brady 360X-Plus II, Brady 600X-Plus II, Tagus T200, Tagus T300, Thermal Transfer Printers, IP300, IP600, BBP81
Through Hole Technology	Top: Yes, Bottom: Yes
Special Properties	Withstands high-temperatures with excellent resistance to harsh fluxing and wave solder environments. Resists all commonly employed methods of cleaning
Brand	UltraTemp Series
Height (in)	0.500"
Width (in)	1.000"
Height (mm)	12.700 mm
Width (mm)	25.400 mm

Printable Area (in)	1.000" W x 0.500" H
Printable Area (mm)	25.400 mm W x 12.700 mm H
RoHS Compatibility	Pass 2011/65/EU
QTY/UOM	10,000/Roll

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Brady identifies and protects products, people, and premises with high performance labels, industrial label printers, software, safety & facility identification, spill control, Lockout Tagout solutions and more. Brady helps you create and maintain safer work environments and comply with regulatory standards. Our high-performance materials clearly identify products, components and other assets, even in the most extreme conditions.

# **Circuit Board Materials**

www.BradyID.com

3" Core Circuit Board ID Materials:

## **B-724 Ultra Durable Polyimide Material**

## Color: Amber Finish: Matte

Amber high temperature polyimide material with an ultra durable adhesive designed for use with extreme wash protocol and cleaning chemicals. When used with Brady R4300 series ribbons, fulfills requirements for MIL-STD-202G Method 215K and SAE AS81531 Marking of Electrical Insulating Material.

## Performance Attributes: 🔽 😧 🔝 🐺 👗

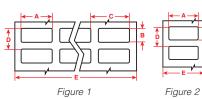


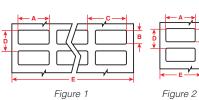


Diagram	Catalog #	Material	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Pkg	Rec. Ribbon
Fig. 2	THT-11-724-10	Polyimide	Amber	0.250 (6.4)	0.250 (6.4)	-	0.600 (15.24)	0.700 (17.78)	1	10,000	R6000
Fig. 1	THT-12-724-10	Polyimide	Amber	0.500 (12.7)	0.437 (11.1)	0.375 (9.53)	0.312 (7.92)	2.390 (60.71)	6	20,000	R6000
Fig. 1	THT-14-724-10	Polyimide	Amber	0.650 (16.5)	0.200 (5.1)	0.800 (20.32)	0.350 (8.89	3.350 (85.09)	4	10,000	R6000
Fig. 2	THT-1-724-10	Polyimide	Amber	0.750 (19.0)	0.250 (6.4)	-	0.350 (8.89)	0.950 (24.13)	1	10,000	R4300
Fig. 1	THT-46-724-10	Polyimide	Amber	0.750 (19.0)	0.250 (6.4)	1.075 (27.31)	0.350 (8.89)	3.350 (85.09)	3	10,000	R4300
Fig. 2	THT-2-724-10	Polyimide	Amber	0.900 (22.8)	0.250 (6.4)	-	0.350 (8.89)	1.700 (43.18)	1	10,000	R4300
Fig. 1	THT-51-724-10	Polyimide	Amber	1.000 (25.4)	0.250 (6.4)	0.250 (6.35)	0.375 (9.50)	3.200 (81.28)	12	10,000	R6000
Fig. 2	THT-3-724-10	Polyimide	Amber	1.000 (25.4)	0.375 (9.5)	-	0.350 (8.89)	1.200 (30.48)	1	10,000	R6000
Fig. 1	THT-5-724-10	Polyimide	Amber	1.000 (25.4)	0.500 (12.7)	1.125 (28.575)	0.350 (8.89)	3.350 (85.09)	3	10,000	R6000
Fig. 2	THT-28-724-10	Polyimide	Amber	1.500 (38.1)	0.125 (3.2)	-	0.350 (8.89)	1.575 (40.01)	1	10,000	R6000
Fig. 1	THT-4-724-10	Polyimide	Amber	1.500 (38.1)	0.250 (6.4)	0.375 (9.53)	0.450 (11.43)	2.390 (60.71)	6	20,000	R6000
Fig. 1	THT-45-724-10	Polyimide	Amber	1.500 (38.1)	0.250 (6.4)	0.662 (16.81)	0.537 (13.64)	3.350 (85.09)	5	10,000	R6000
Fig. 1	THT-16-724-2.5	Polyimide	Amber	3.000 (76.2)	0.250 (6.4)	1.500 (38.10)	0.350 (8.89)	3.350 (85.09)	2	10,000	R6000

3" Core Circuit Board ID Materials:

## B-727 Ultra Durable Polyimide Material Color: White Finish: Matte

High temperature polyimide material (2 mil) with gloss finish withstands wave solder environments for printed circuit board and electronic component preprocess labeling. The ultra durable adhesive is designed for use with extreme wash protocol and cleaning chemicals. Also ideal for use in auto apply equipment.





## Performance Attributes: 🔤 🔬 🛽

Diagram	Catalog #	Material	Color	Label Width A Inch (mm)	Label Height B Inch (mm)	Horiz. Repeat C Inch (mm)	Vert. Repeat D Inch (mm)	Web Width E Inch (mm)	Labels Per Row	Labels Per Pkg	Rec. Ribbon
Fig. 1	THT-11-727-10	Polyimide	White	0.250 (6.4)	0.250 (6.4)	0.800 (20.32)	0.350 (8.89	3.350 (85.09)	4	10,000	R6000
Fig. 2	THTHD-70-727-12	Polyimide	White	0.250 (6.4)	0.250 (6.4)	-	0.350 (8.89)	1.450 (36.83)	1	10,000	R6000
Fig. 2	THT-70-727-20	Polyimide	White	0.250 (6.4)	0.250 (6.4)	-	0.350 (8.89)	0.950 (24.13)	1	10,000	R6000
Fig. 1	THT-71-727-20	Polyimide	White	0.315 (8.0)	0.315 (8.0)	0.700 (17.78)	0.300 (7.62)	2.950 (74.93)	4	10,000	R6000
Fig. 2	THT-38-727-10	Polyimide	White	0.375 (9.5)	0.375 (9.5)	-	0.350 (8.89)	1.200 (30.48)	1	10,000	R6000
Fig. 2	THT-12-727-10	Polyimide	White	0.500 (12.7)	0.437 (11.1)	-	0.350 (8.89)	2.200 (55.88)	1	10,000	R6000
Fig. 2	THT-14-727-10	Polyimide	White	0.650 (16.5)	0.200 (5.1)	-	0.350 (8.89)	1.200 (30.48)	1	10,000	R6000
Fig. 1	THT-47-727-10	Polyimide	White	0.650 (16.5)	0.200 (5.1)	0.700 (17.78)	0.300 (7.62)	2.950 (74.93)	4	10,000	R4300
Fig. 1	THT-1-727-10	Polyimide	White	0.750 (19.0)	0.250 (6.4)	0.250 (6.35)	0.375 (9.50)	3.200 (81.28)	12	10,000	R4300
Fig. 2	THT-46-727-10	Polyimide	White	0.750 (19.0)	0.250 (6.4)	-	0.375 (9.53)	3.200 (81.28)	1	2,500	R4300
Fig. 1	THT-2-727-10	Polyimide	White	0.900 (22.8)	0.250 (6.4)	0.662 (16.81)	0.537 (13.64)	3.350 (85.09)	5	10,000	R4300
Fig. 1	THT-49-727-10	Polyimide	White	0.900 (22.8)	0.250 (6.4)	1.125 (28.575)	0.350 (8.89)	3.350 (85.09)	3	10,000	R4300
Fig. 1	THT-42-727-10	Polyimide	White	1.000 (25.4)	0.187 (4.8)	1.075 (27.31)	0.475 (12.07)	3.350 (85.09)	3	10,000	R4300
Fig. 1	THT-103-727-10	Polyimide	White	1.000 (25.4)	0.250 (6.4)	0.700 (17.78)	0.300 (7.62)	2.950 (74.93)	4	10,000	R6000
Fig. 1	THT-58-727-10	Polyimide	White	1.000 (25.4)	0.375 (9.5)	0.800 (20.32)	0.350 (8.89	3.350 (85.09)	4	10,000	R6000
Fig. 2	THT-59-727-10	Polyimide	White	1.000 (25.4)	0.500 (12.7)	-	0.350 (8.89)	0.950 (24.13)	1	10,000	R6000
Fig. 2	THT-43-727-10	Polyimide	White	1.250 (31.8)	0.250 (6.4)	-	0.350 (8.89)	1.100 (27.94)	1	10,000	R6000
Fig. 1	THT-13-727-10	Polyimide	White	1.250 (31.8)	0.250 (6.4)	1.250 (31.75)	0.375 (9.53)	2.750 (69.85)	2	10,000	R6000
Fig. 2	THT-44-727-10	Polyimide	White	1.375 (34.9)	0.250 (6.4)	-	0.225 (5.72)	1.700 (43.18)	1	10,000	R6000
Fig. 2	THT-60-727-10	Polyimide	White	1.500 (38.1)	0.125 (3.2)	-	0.600 (15.24)	1.200 (30.48)	1	10,000	R6000
Fig. 2	THT-45-727-10	Polyimide	White	1.500 (38.1)	0.250 (6.4)	-	0.350 (8.89)	2.200 (55.88)	1	10,000	R6000
Fig. 2	THT-4-727-10	Polyimide	White	1.500 (38.1)	0.250 (6.4)	-	0.287 (7.29)	1.200 (30.48)	1	10,000	R6000
Fig. 1	THT-48-727-10	Polyimide	White	2.000 (50.8)	0.250 (6.4)	0.320 (8.13)	0.350 (8.89)	2.370 (60.20)	7	20,000	R6000



148

View the Material Brands & Attributes Guide on page 4. Benchtop Printer Ribbons on page 184. Full Material Properties on page 187.



Close | Print TDS



Technical Data Sheet

BRADY B-727 GLOSSY WHITE THERMAL TRANSER PRINTABLE POLYIMIDE LABEL STOCK

TDS No. B-727

Effective Date: 02/03/2014

Description: GENERAL

Print Technology: Thermal transfer

Material Type: White polyimide (2 mil film)

Finish: Glossy

Adhesive: Permanent Acrylic

#### APPLICATIONS

Printed circuit board and electronic component pre-process labeling

### RECOMMENDED RIBBONS

Brady Series R6000 Halogen Free

#### **REGULATORY/AGENCY APPROVALS**

Brady B-727 is UL Recognized to UL969 Labeling and Marking Standard when printed with the Brady Series R6000 Halogen Free ribbons. See UL file MH17154 for specific details.

Brady B-727 is RoHS compliant to RoHS Directive 2011/65/EU.

B-727 is dibutyl and dioctyl tin free.

#### SPECIAL FEATURES

B-727, in combination with the Series R6000 Halogen Free ribbon, meets the requirements of MIL-STD-202G, Method 215K.

Preheat can be employed to further enhance print permanence in the case of extreme solvent and or/or abrasion exposure.

B-727 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)	0.0027 inch (0.068 mm)
	-Adhesive	0.0017 inch (0.043 mm)
	-Total (excluding liner)	0.0044 inch (0.111 mm)
Adhesion to:	ASTM D1000	
-Stainless Steel	20 minute dwell	46 oz/in (50 N/100 mm)
	24 hour dwell	57 oz/in (62 N/100 mm)
-Epoxy PC Board	20 minute dwell	36 oz/in (39 N/100 mm)
	24 hour dwell	49 oz/in (54 N/100 mm)
Tack	ASTM D2979	
	Polyken™ Probe Tack	67 oz (1900 g)
	0.5 second dwell	
Drop Shear	PSTC-7 (1/2" x 1" sample)	> 100 hours
Dielectric Strength	ASTM D1000	10,000 volts

Performance properties tested on B-727 printed with Brady Series R6000 Halogen Free thermal transfer ribbon. Printed samples of B-727 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 572°F (300°C)	No visible effect to label at 572°F (300°C), label discolors slightly at 626°F (330°C) but is still functional, label still functional but moderately discolored at 662°F (350°C); print is still legible
	5 minutes at 500°F (260°C)	No visible effect to label at 500°F (260°C), label discolors slightly at 518°F (270°C), at 572°F (300°C) label moderately discolors and adhesive discolors at label edge. Label remains functional. Print is legible
	2 hours at 338°F (170°C)	No visible effect to label at 338°F (170°C), label discolors slightly at 374°F (190°C), moderately at 428°F (220°C) and severely at 500°F (260°C). Label remains functional. Print is legible
Long Term High Service Temperature	1000 hours at 212°F (100°C)	No visible effect to label at 212°F (100°C), label discolors slightly at 248°F (120°C),

		moderately at 293°F (145°C). Label remains functional. Print is legible
Low Service Temperature	1000 hours at -94°F (-70°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	Topcoat turns yellow, label remains functional
Weatherability*	ASTM G155, Cycle 1 1000 hours in Xenon arc Weather-Ometer®	Slight discoloration
Salt Fog Resistance	ASTM B117 1000 hours in 5% salt fog solution chamber	No visible effect
Abrasion Resistance	Taber Abraser, CS-10 grinding wheels, 500 g/arm (Fed. Std. 191A, Method 5306)	Print legible after 100 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	
	lonox® 3955	
	Micronox® MX2501	
		Severe print removal
		Complete print removal

\*B-727 is not recommended for outdoor use.

PERFORMANCE PROPERTY	CHEMICAL RESISTANCE
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Samples printed with Series R6000 Halogen Free thermal transfer ribbon. Samples laminated to epoxy PC board. Test samples were exposed to the indicated environments. Test samples were baked 4 minutes at 160°C before testing. All test samples were immersed in the test fluids for 10 minutes. Samples were rubbed 10 times with a cotton swab saturated with the test fluid.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE			
	EFFECT TO LABEL	R6000 HALOGEN FREE		

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 Series R6000 Halogen Free thermal transfer ribbon. Labels were printed with alphaumerics 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 R6000 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

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°F (27°C) and 80% 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 application.

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Note: All values shown are averages and should not be used for specification purposes.

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