ALTEC
INDUSTRIAL IDENTIFICATION

Technical datasheet

B718

LOW PROFILE STATIC DISSIPATIVE POLYIMIDE

Description

B718 is constructed with a static dissipative adhesive. This product has adhesive surface resistivity values in the recommended range for dissipative ESD packaging materials as defined by ANSI/ESD S5412008 (between 10 4 and 10 11 ohms). B718 has a low profile (1 mil) film allowing for easier use in processes which demand thin and/or lighter weight label materials. Preheat can be employed to further enhance print permanence in the case of extreme solvent and/or abrasion exposure. B718 is designed to withstand multiple cycles of harsh condition washes for printed circuit boards.

Applications
Printed circuit board and electronic component pre-process labeling

Material	Polyimide	**Temperature**	-70°C / 350°C
Finishing	Glossy	**Print technology**	Thermal transfer
Color	White	**Ribbon(s)**	AR-01
Adhesive	Static Dissipative Permanent Acrylic		

Physical data / Test results

PHYSICAL PROPERTIES	TEST METHODS	AVERAGE RESULTS
Thickness	ASTM D 1000 - Substrate - Adhesive - Total	 0.0016 inch (0.041 mm) 0.0017 inch (0.032 mm) 0.0033 inch (0.084 mm)
Adhesion to: -Stainless Steel	ASTM D 1000 20 minute dwell 24 hour dwell	 40 oz/in (44 N/100 mm) 47 oz/in (51 N/100 mm)
Tack	ASTM D 2979 Polyken™ Probe Tack 0.5 second dwell	49 oz (1400 g)
Drop shear	PSTC-7 (except use ½" x 1" sample)	> 100 hours
Dielectric Strength	ASTM D1000	9800 volts total
Adhesive surface resistivity	EOS/ESD STM11.11	5.9 x 10^7 ohms/sq

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Performance properties tested on B718 printed with the R6000 Halogen Free ribbon. Printed samples of B718 were laminated to aluminum and allowed to dwell 24 hours before exposure to the indicated environmental conditions.

PHYSICAL PROPERTIES	TEST METHODS	TYPICAL RESULTS
Short term high service temperature	80 seconds at various temperatures	No visible effect to label at 572°F (300°C), label discolors slightly at 626°F (330°C) but still functional, at 662°F (350°C) label still functional but moderately discolored and adhesive discolored at label edge; print is still legible
	5 minutes at various temperatures	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 still legible
	2 hours at various temperatures	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 still legible.
Long term high service temperature	1000 hours at various temperatures	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 still legible.
Low service temperature	1000 hours at -94°F (-70°C)	No visible effect
Humidity resistance	1000 hours at 100°F (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 light 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	Label adhered to epoxy PC board and exposed to the vapor of 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. Ionox® 3955	Severe print removal
	Micronox® MX 2501	Complete print removal

B718 is not recommended for outdoor use.

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Labels printed using a 3:1 barcode ratio with a 5 mil narrow X dimension bar. Test was conducted at room temperature after 24 hour dwell. Testing consisted of 5 cycles of 10 minute immersions in the specified chemical reagent followed by 30 minute recovery period. Samples rubbed 10 times with a cotton swab immersed in test fluid after final immersion.

CHEMICAL REAGENT	SUBJECTIVE OBSERVATION OF VISUAL CHANGE		
	EFFECT TO LABEL	R6000 Halogen free	
		Without rub	With rub
Kyzen Corp, 15% Aquanox® A4625 at 140°F (60°C)	No visible effect	1	4
Kyzen Corp, 17% Aquanox® A4520 at 140°F (60°C)	No visible effect	1	3
Kyzen Corp, 10% Aquanox® A4638 at 150°F (65°C)	No visible effect	1	1
Kyzen Corp, 20% Aquanox® A4703 at 145°F (63°C)	No visible effect	1	1
Zestron, 15% Atron® AC205 at 150°F (65°C)	No visible effect	1	5
Zestron, 15% Atron® AC207 at 150°F (65°C)	No visible effect	1	5
Zestron, 15% Vigon® A201 at 150°F (65°C)	No visible effect	1	5
Zestron, 15% Vigon® N600 at 150°F (65°C)	No visible effect	1	5
Isopropyl Alcohol 99% at 180°F (82°C)	No visible effect	1	2
Deionized water at 212°F (100°C)	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 still legible)
4 = severe smear or print removal (print illegible or just barely legible)
5 = complete print removal

MIL-STD-202G Method 215K

Test samples were printed with R6000 Halogen Free ribbon. Labels were printed with alphanumerics and bar codes. 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 requirements
Solvent C: Terpene Defluxer	Meets requirements
Solvent D: Saponifier @ 70°C	Meets requirements

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Storage

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.

Certificates

UL

B718 is a UL Recognized Component to UL969 Labeling and Marking Standard when printed with the R6000 Halogen Free ribbon. See UL file MH17154 for specific details. UL information can be accessed on-line at UL.com in the UL Product iQ area.

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