

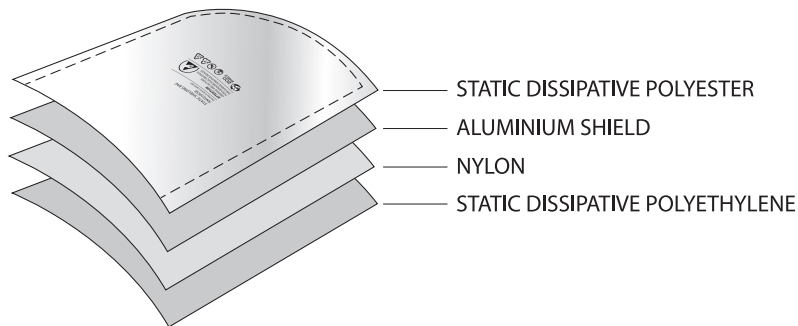


ANTISTAT

Moisture Barrier Bag ANT018MBB

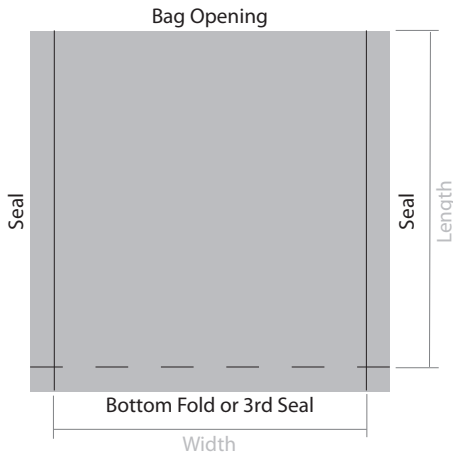
Features:

- Protects electronics from moisture and static damage
- Opaque and light tight ensuring the inside item can not be seen from outside
- Firm lamination and hot sealing offers superior resistance of vapor and oxygen
- Surface resistance of 10^8 - $10^{10} \Omega$
- Customized printing is available
- These bags are ideal for transporting and storing sensitive devices such as circuit boards and electronic components.
- Available in 3.6 / 4.4 and 6Mil thicknesses
- Flexible structure & easy to vacuum seal



Standard Construction:

Our moisture barrier bags are constructed in 3 layers. The bag features an anti static metallized polyester outer layer and an anti static inner layer. In between are layers of polyethylene, nylon and an aluminium foil shield.




Configuration(s):

Our bags are available in custom sizes or in several industry standard sizes. Bags are offered in a 3-seal configuration, with our standard flexographically printed artwork. Our bags can also be personalised with your company logo on any bespoke orders.

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Moisture Barrier Bag_ANT018MBB



Caution
This bag contains
MOISTURE-SENSITIVE DEVICES

LEVEL

If blank, see adjacent bar code label

1. Calculated shelf life in sealed bag: 12 months at <40°C and <90% relative humidity (RH)
2. Peak package body temperature: _____ °C
If blank, see adjacent bar code label
3. After bag is opened, devices that will be subjected to reflow solder or other high temperature process must be
 - a) Mounted within: _____ hours of factory conditions
If blank, see adjacent bar code label
≤30°C/60% RH, or
 - b) Stored per J-STD-033
4. Devices require bake, before mounting, if:
 - a) Humidity Indicator Card reads >10% for level 2a - 5a devices or >60% for level 2 devices when read at 23 ± 5°C
 - b) 3a or 3b are not met
5. If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure

Bag Seal Date: _____
If blank, see adjacent bar code label

Note: Level and body temperature defined by IPC/JEDEC J-STD-020

Standard Bag Artwork:


Our moisture barrier bags are produced with the following sample artwork as standard. For further information on bespoke/printed orders, please contact one of our sales team. Please note there is a MOQ of 20,000 bags on all printed bags.

Note: All of our moisture barrier bags are batch coded for QC traceability.


Table 5-1 Moisture Classification Level and Floor Life




Moisture Sensitivity Level	Floor Life (out of bag) at factory ambient ≤30 °C/60% RH or as stated
1	Unlimited at ≤30 °C/65% RH
2	1 year
2a	4 weeks
3	168 hours
4	72 hours
5	48 hours
5a	24 hours
6	Mandatory bake before use. After bake, must be reflowed within the time limit specified on the label.

MOISTURE BARRIER BAG
ANT018MBB
THIS BAG IS ROHS COMPLIANT



ATTENTION
THIS BAG CONTAINS
MOISTURE & ELECTROSTATIC
SENSITIVE DEVICES



CONFORMS TO
IPC/JEDEC J-STD-033

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Moisture Barrier Bag ANT018MBB

Technical Parameters:

Item:	Test Standard:	Result:
Film Composition	N/A	PET/AL/NY/PE
Inner and Outer Resistance	ANSI/ESD-STM.11.11 @12% & 50% R.H.	$10^8 - 10^{10} \Omega$
Static Shielding - Energy Penetration	ANSI ESD-STM-11.31 @12% & 50% R.H.	<20 nJ
Static Shielding - Capacitance Probe	ANSI / EIA-541 Appendix E	<10V
Moisture Vapour Transmission Rate (100F, 100in 2/24 hrs)	ASTM F 1249	$\leq 0.0003 \text{ gram}/100\text{in}^2 / 24 \text{ hours}$
Tensile Strength	ASTM D882-91, Method A	MD/TD > 24lbs/in
Puncture Resistance	ASTM F1306-90(2002)	24lbs
Tear Strength	ASTM D1004	MD >3lbs/in TD >3.8lbs/in
Heat Seal Temperature	-	300-410 °F
Heat Seal Time	-	0.5-3.5 sec
Heat Seal Pressure	-	30-70 PSI
Seal Strength	ASTMF 1249-2005	>10 PSI
Contact Corrosivity	FTMS 101C Method 3005	No visible spots detected
Static Decay Time	IEC61340-5-1 ($\pm 1000 - \pm 100V$)	$\leq 2S$

Test Conclusion: (Date of Issue: 2009-08-16)

The anti-static moisture barrier bag is tested accordant with the relevant test standard and requirements.

Test Item:	Test Method:	Measured Equipment(s):	MDL:
Lead (Pb)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES	2mg/kg
Cadmium (Cd)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES	2mg/kg
Mercury (Hg)	IEC 62321:2008 Ed.1 Sec.7	ICP-OES	2mg/kg
Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex C	UV-Vis	2mg/kg
Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS	5mg/kg
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS	5mg/kg

EMI Shielding: Meets required range of EN 61340-5-1 tested per IEC 61340-2-3 and ANSI/ESD STM11.31

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Moisture Barrier Bag_ANT018MBB

Product Code:	Description:	Size (inches):	Size (mm):	Additional Notes:
018-0130	Moisture Barrier Bag 3.6Mil / 92 microns	4 x 6	101.6 x 152.4	Pack of 100
018-0131	Moisture Barrier Bag 3.6Mil / 92 microns	6 x 12	152.4 x 304	Pack of 100
018-0134	Moisture Barrier Bag 3.6Mil / 92 microns	6 x 26	152.4 x 660.4	Pack of 100
018-0001	Moisture Barrier Bag 3.6Mil / 92 microns	6 x 28	152.4 x 711.2	Pack of 100
018-0133	Moisture Barrier Bag 3.6Mil / 92 microns	8 x 20	203.2 x 508	Pack of 100
018-0132	Moisture Barrier Bag 3.6Mil / 92 microns	10 x 12	254 x 304	Pack of 100
018-0400	Moisture Barrier Bag 3.6Mil / 92 microns	10 x 20	254 x 508	Pack of 100
018-0401	Moisture Barrier Bag 3.6Mil / 92 microns	10 x 24	254 x 610	Pack of 100
018-0310	Moisture Barrier Bag 3.6Mil / 92 microns	10 x 28	254 x 711.2	Pack of 100
018-0007	Moisture Barrier Bag 3.6Mil / 92 microns	16 x 18	406 x 457	Pack of 100
018-0403	Moisture Barrier Bag 3.6Mil / 92 microns	18 x 18	457 x 457	Pack of 100
018-0136	Moisture Barrier Bag 3.6Mil / 92 microns	8 x 10	203.2 x 254	Pack of 100

Note: Other sizes and thicknesses available upon request.



MICROSTAT LABORATORIES
RIVER'S EDGE TECHNICAL SERVICE

Specialists in Materials Testing and Technical Services

TEST REPORT

AntiStat Inc
Moisture Barrier Shielding Bags

Stock Code: 018-0132S

10" X 12"

Mfg Date: 20/10/15

Stamp on Sealed Edge of Bags: 201015

TESTED FOR

Surface Resistance per ESD STM 11.11
Static Discharge Shielding per ESD STM 11.31

Report #: 2016-040
April 25th, 2016



SUMMARY

One-hundred moisture barrier static shielding bags were submitted for testing to industry specifications ANSI/ESD STM11.11 (surface resistance measurements of the inside and outside of the bags) and ANSI/ESD STM11.31 (static discharge shielding). The tested bags meet or exceed the requirements of ANSI/ESD STM541 and ANSI/ESD S20.20.

EXPERIMENTAL AND DISCUSSION

The bags were randomly selected and conditioned for 48 hours at the specified conditions (12% & 50% R.H., & 23°C) before testing was started. Testing was carried out in the conditioning environment.

Surface resistance is reported as “resistance,” as specified in ANSI/ESD STM11.11. To obtain resistivity values, multiply the resistance numbers by 10. The data from this testing is included below in Table 1.

The static discharge shielding test was performed using the test methods called out in ANSI/ESD STM11.31. The data from this testing is summarized below in Table 2, detailed data is included as appendix A.

Table 1
Surface Resistance Data
Stock Code: 018-0132S - Metal Moisture Barrier Shielding Bag

Surface Resistance per ANSI/ESD STM11.11		
Sample #	Inside	Outside
1	8.11 x 10 ⁹ Ω	4.99 x 10 ⁹ Ω
2	8.54 x 10 ⁹ Ω	2.93 x 10 ⁹ Ω
3	3.89 x 10 ⁹ Ω	7.54 x 10 ⁹ Ω
4	6.99 x 10 ⁹ Ω	3.07 x 10 ⁹ Ω
5	3.07 x 10 ⁹ Ω	5.67 x 10 ⁹ Ω
6	4.32 x 10 ⁹ Ω	3.33 x 10 ⁹ Ω
Average	5.41 x 10 ⁹ Ω	4.31 x 10 ⁹ Ω
Median	5.49 x 10 ⁹ Ω	4.07 x 10 ⁹ Ω
Minimum	3.07 x 10 ⁹ Ω	2.93 x 10 ⁹ Ω
Maximum	8.54 x 10 ⁹ Ω	7.54 x 10 ¹⁰ Ω



Table 2
Static Discharge Shielding Data Summary
Stock Code: 018-0132S - Metal Moisture Barrier Shielding Bag

Static Discharge Shielding Per ANSI/ESD STM11.31				
	12% Data		50% Data	
	Calculated Data		Calculated Data	
	Energy (nJ)	Peak I (mA)	Energy (nJ)	Peak I (mA)
Average	10.79	64.46	8.44	55.97
St. Dev.	2.42	19.46	2.43	19.01
Min	5.61	36.81	5.23	30.41
Max	14.74	102.43	12.95	98.43

EQUIPMENT USED FOR ELECTRICAL TESTING

Surface Resistance Measurements:

Keithley Model 6517a Electrometer/High Resistance Meter
ETS Model 803B Resistance Probe
ETS Model 809 Surface Resistance Verification Fixture

Static Discharge Shielding Measurements:

ETS Model 811/412 Electrostatic Discharge Unit/Shielding Bag Tester
Tektronix TDS 520A Digital Oscilloscope.

The results provided in this report are accurate within the limits appropriate to each test standard. The results of this report are statistically significant only to the samples submitted for testing. MicroStat Laboratories/River's Edge Technical Service, Inc. has no controls, and assumes no responsibility for the tested product's functionality or use.

Carl E Newberg

April 25th, 2016

Date

Static Shielding Per ESD STM 11.31					
		12% Data		50% Data	
		Calculated Data		Calculated Data	
Sample #	Test #	Energy (nJ)	Peak I(mA)	Energy (nJ)	Peak I(mA)
1	1	14.23	90.43	11.68	87.23
1	2	11.25	75.22	5.57	43.21
1	3	10.18	66.42	6.12	32.01
1	4	10.46	41.61	10.12	43.21
1	5	10.75	60.02	7.67	53.62
1	6	10.40	64.02	7.96	64.02
2	1	8.65	54.42	7.49	44.81
2	2	7.92	43.21	6.64	45.61
2	3	14.74	100.83	6.64	45.61
2	4	11.14	65.62	7.09	46.41
2	5	10.86	56.82	9.66	33.61
2	6	11.34	51.22	6.32	40.81
3	1	10.97	76.02	5.46	44.01
3	2	6.41	50.42	9.68	71.22
3	3	10.25	42.41	11.82	63.22
3	4	10.72	44.81	8.70	43.21
3	5	14.55	102.43	8.88	43.21
3	6	13.73	92.83	7.43	56.82
4	1	13.98	76.02	7.14	47.22
4	2	11.41	38.41	12.95	82.43
4	3	14.73	90.43	5.81	46.41
4	4	9.60	40.01	5.99	50.42
4	5	13.71	68.82	11.38	64.02
4	6	7.09	43.21	11.51	72.82
5	1	9.12	56.82	5.45	44.81
5	2	9.38	64.02	11.74	88.83
5	3	6.35	53.62	8.60	68.82
5	4	14.01	88.03	12.47	98.43
5	5	10.17	54.42	10.09	59.22
5	6	10.13	64.82	5.54	32.01
6	1	10.50	81.63	9.04	37.61
6	2	10.40	64.02	5.34	30.41
6	3	13.53	101.63	5.23	44.01
6	4	10.20	75.22	11.70	94.43
6	5	5.61	44.01	11.46	89.63
6	6	9.96	36.81	7.40	61.62
		Calculated Data		Calculated Data	
		Energy (nJ)	Peak I(mA)	Energy (nJ)	Peak I(mA)
Average		10.79	64.46	8.44	55.97
St. Dev.		2.42	19.46	2.43	19.01
Min		5.61	36.81	5.23	30.41
Max		14.74	102.43	12.95	98.43