



Part of Ant Group Ltd

ESD PACKAGING

Most people are aware of the effects of static electricity in general terms; that scuffing shoes on carpet and touching a person or metal door handle can produce a small shock. The use of a tumble dryer will often cause a "static cling", but few people are aware of the damage that the static electricity behind these common events can cause on modern electronic circuits and devices.

As electronic circuits and their connecting pathways have reduced in size over the years, their susceptibility to damage from static electricity has increased. Protective handling and packaging techniques have been adopted by the electronics industry from the chip foundry to the production floor to the field service arena.



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ESD Bags

One of the most preventative measures used against ESD is the anti static bag. The use of such bags began in the 1960's with the introduction of "pink poly" bags. Static shielding bags followed in the late 1970's, and whilst originally used in the military, moisture barrier bag usage has increased dramatically in Surface Mount Technology over recent years.

STATIC THREATS

Electronic devices should be protected from 3 primary threats:

- Direct Discharge (ESD): A discharge directly to a bag can subject the device inside to very high current, melting or fusing the circuit.
- Static Fields: Fields can induce destructive currents in circuit conductors. Field differentials can break down the circuit dielectric.
- Tribocharging: Friction between the bag and device can produce damaging static voltage and fields.

TESTING OF PROTECTION

The static shielding test, EIA 541 Appendix E, applies a direct discharge to a bag. An oscilloscope connected to a sensor inside the bag measures the amount of voltage that penetrates the bag. This test also addresses the field threat. Fields are generated by the discharge to the outside of the bag, fields that penetrate the bag are represented with a voltage measurement.

Tribocharging tests are difficult to perform and data from bag specs are only to be used as a benchmark, as they may not show how a material will perform in use. Surface resistivity is an indication of a material's ability to allow static to move around / dissipate. Note, this does not necessarily suggest low tribocharging.

SUMMARY

Static protective bags should be used as part of a static control program. Selecting the appropriate bag can help reduce static damage and save money on costly repairs and rework. The cost of static protective packaging is insignificant when compared to the protection it affords the costly items placed in the package.

PICKING THE RIGHT BAG

- Use static shielding or moisture barrier bags for all electronic circuits.
- Use pink poly for non-electronic parts and production goods that must be near electronics.
- Use bags as part of a full static control program.

OVERVIEW

BAG	USE
Pink Anti Static Bag	For items that have no static susceptibility. Their primary use is to package support or processing materials that will be in close proximity to static sensitive devices. This keeps static generating packaging materials away from sensitive areas.
Black Conductive Poly Bags	Black poly bags are normally used as a bridge between pink poly and shielding bags as they are slightly lower in cost and offer some shielding as opposed to none with pink poly. Black poly bags are opaque in appearance and therefore the bag's contents must be removed for identification purposes creating a opportunities for static damage.
Static Shield Bags	Static shield bags should be used for all electronic components, boards and assemblies.
Moisture Barrier Bags	When barrier protection is needed or maximum shielding protection is desired without transparency being an issue.

Choosing the Right Static Bag

BAG MARKINGS:

Antistat uses flexo printing to mark stock bags with the appropriate industry standard ESD or Moisture warning and on certain products lot numbers for traceability. Custom hot stamping and bag printing are also available.

HOT STAMPING

A packaging industry method for marking bags by thermo-mechanical transfer of pigment to the bag.



FLEXO PRINTING

A method of printing ink to bags using a press plate. Produces higher quality marking than hot stamping.



LABELING

Pre-apply a label to the bag. Saves you labour time and provides consistent label location.



BAG FEATURES:

Antistat can provide bags with these different features to simplify and suit your packing process.

ZIPLOCK

A recloseable bag simplifies access to parts.



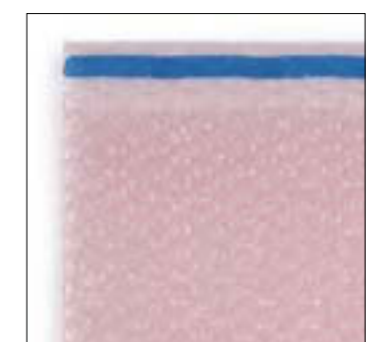
TEAR NOTCH

If you heat seal the bag closed, a tear notch makes it easy for your customer to open it.



EXTENDED LIP

An over sized lip at the opening improves part insertion, and is easy to close with a label.



ALSO AVAILABLE UPON REQUEST:

COMPARTMENT BAGS: A bag with 2 or more separate compartments allows paperwork to travel safely with parts. Or allows multiple parts and part kits to be shipped together.

BOTTOM SEALED BAGS: A heat seal across the bag fold is helpful with locating the bag in some automated packaging equipment.

ESD Shielding

A barrier or enclosure that limits the passage of current and attenuates the energy resulting from ESD.



Testing your used bags.

Not sure if your used shielding bag still shields properly?

Ask for one of our bag testers 093-0005.

Antistatic

Packaging which minimizes charge generation by separation or rubbing with other materials. Also known as "low charging".





Bubbleshield Bag_ANT016BSB

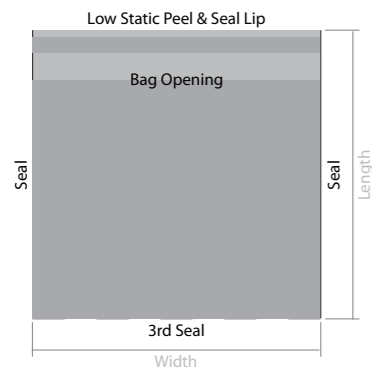
STATIC SHIELDING BUBBLE LAMINATE (MIL B 81705)

The lamination of an ESD transparent static shielding bag film laminated to an anti-static polyethylene. Bubblewrap provides both physical and anti-static protection.

The outer layer is an ESD transparent static shielding film. This material forms a Faraday cage around the product, offering superior static shielding protection, while the inner layer of pink anti-static bubblewrap gives excellent physical protection. Both of these materials are qualified to Military Standard B 81705.

FEATURES:

- Provides 'Faraday Cage' protection against ESD
- Conforms to MIL-PRF-81705D Type III, EIA 625, EIA 541, ANSI/ESD S-20.20
- Semi transparent finish
- Custom sizes and printing available on request
- This product is fully reusable, protecting both your product and the environment



CONFIGURATION(S):

Our bags are available in custom sizes or in several industry standard sizes. Bags are offered heat sealed along the three edges and provided with a low static peel and seal lip.

TEST CONDITIONS:

The following results were taken under the following environmental test conditions:
Temperature: 22.3°C / Humidity: 47.5%

TECHNICAL PROPERTIES:	TEST STANDARD:	RESULT:
Film Composition	N/A	PET-AL/PP
Film Thickness	Micron Meter	2.9mils-3.1mils
Puncture Strength	FTMS 101	14lbs
Seam Strength	MIL-PRF-81705D	Pass
Tensile Strength	ASTM D882	35lbs/inch width
Light Transmission	ASTM D1003	41%
Electrostatic Shielding	MIL-B-81705C	35dB
Interior Surface Resistivity	ASTM D257	10 ¹⁰ Ω
Exterior Surface Resistivity	ASTM D257	10 ⁹ Ω
Metalized Layer Resistivity	ASTM D257	8Ω
Static Decay	EIA-541	0.2secs
Remains Voltage	EIA-541	24V
Physiological clearance certificate of used raw material	Bgvv, EU, FDA	Yes



Bubbleshield Bag_ANT016BSB

TEST CONCLUSION: (DATE OF ISSUE: 2009-05-12)

The anti-static bubbleshield bag is tested in accordance 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

PRODUCT CODE:	DESCRIPTION:	SIZE (INCHES):	SIZE (MM):	ADDITIONAL NOTES:
016-0003	Bubbleshield Bag	4 x 6	102 x 152	Pack of 100
016-0025	Bubbleshield Bag	6 x 10	152 x 254	Pack of 100
016-0026	Bubbleshield Bag	8 x 10	203 x 254	Pack of 100
016-0027	Bubbleshield Bag	10 x 12	254 x 305	Pack of 100
016-0004	Bubbleshield Bag	12 x 14	305 x 355	Pack of 100
016-0006	Bubbleshield Bag	12 x 20	305 x 508	Pack of 100
016-0028	Bubbleshield Bag	14 x 18	406 x 457	Pack of 100
016-0034	Bubbleshield Bag	16 x 20	406 x 508	Pack of 100
016-0029	Bubbleshield Bag	18 x 18	457 x 457	Pack of 100

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
- Available in three layer or four layer structures
- Film lamination and hot sealing offers superior resistance of vapour and oxygen
- Surface resistance of 10⁸ – 10¹¹Ω
- Customised printing is available
- Applicable to pack electronic products which are sensitive to moisture and static, such as PC board, IC integrated circuit, CD drivers, HD etc.
- Available in 3.6 / 4.4 and 6.1Mil thicknesses
- Flexible structure & easy to vacuum seal
- Please note these bags are also available in clear

ADDITIONAL NOTES:

We recommend that all of our moisture barrier bags be used within 2 years from the date of manufacture. Store this product in its original packaging in a climate-controlled environment where temperature ranges from 21°C – 23°C and relative humidity is 45 – 50%.



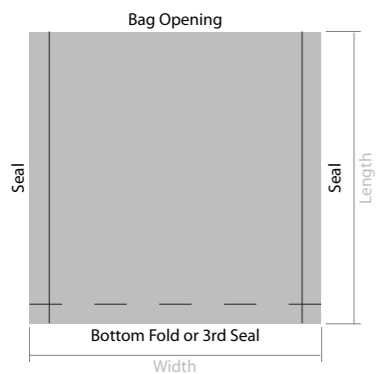


Moisture Barrier Bag_ANT018MBB

Aluminized Polyester
Dissipative Nylon
Cast Polyethylene

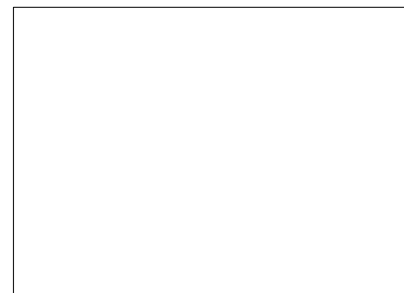
STANDARD CONSTRUCTION:

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.



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 bespoke printed bags.

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

TEST CONDITIONS:

The following results were taken under the following environmental test conditions:
Temperature: 21.3°C / Humidity: 45.1%

TECHNICAL PROPERTIES:	TEST STANDARD:	RESULT:
Film Composition	N/A	PET-AL/NY/CPE
Metal Layer Resistance	ASTMD-257	<0.1 Ω
Inner and Outer Resistance	ASTMD-257	10 ⁸ – 10 ¹¹ Ω
EMI Shielding	MIL-B-81705-C	>60db
Static Shielding – Capacitance Probe	EIA541 (Voltage Difference)	<10V
Moisture Vapour Transmission (at 90%RH, 23°C)	ASTMF1249-2005	0.0006 gm/100sq.in/24hrs
Tensile Strength	ASTM D882	MD/TD >24lbs/in
Puncture Resistance	ASTM F1306-90(2002)	Inner to Outer: 54.7N Outer to Inner: 51.3N
Tear Strength	ASTM D1004	MD >3lbs/in TD >3.8lbs/in
Heat Seal Temperature	-	250-375 F
Heat Seal Time	-	0.5-3.5 sec
Heat Seal Pressure	-	30-70 PSI
Seal Strength	GB/96-04-10	>3kg/cm
Contact Corrosivity	FTMS 101C Method 3005	No visible spots detected



Moisture Barrier Bag_ANT018MBB

TEST CONCLUSION: (DATE OF ISSUE: 2009-08-16)

The anti-static moisture barrier bag is tested in accordance 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

PRODUCT CODE:	DESCRIPTION:	SIZE (INCHES):	SIZE (MM):	ADDITIONAL NOTES:
018-0404	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
018-0400	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
018-0301	Moisture Barrier Bag 3.6Mil / 92 microns	10 x 26	254 x 660.4	Pack of 100
018-0402	Moisture Barrier Bag 3.6Mil / 92 microns	12 x 20	304.8 x 508	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
018-0300	Moisture Barrier Bag 3.6Mil / 92 microns	22 x 24	558.8 x 609.6	Pack of 100

Note: Other sizes and thicknesses available upon request.

Static Shielding Bag_ANT010SSB (Open Top) / ANT013SSB (Ziplock)

FEATURES:

- Metal "Faraday cage" layer shields products from electric energy inside and prevents static build-up
- Four layer protection guards against charges inside and out
- Semi transparent for easy content identification
- Surface resistance of 10⁸-10¹¹Ω
- Conforms to MIL-PRF-81705D Type III, EIA 625, EIA 541, ANSI/ESD S-20.20
- Custom sizes and print available on request
- Suitable for packing electronic products which are sensitive to static, eg PCB's, IC integrated circuit, CD driver, HD etc

ADDITIONAL NOTES:

We recommend that all of our static shielding bags be used within 2 years from the date of manufacture. Store this product in its original packaging in a climate-controlled environment where temperature ranges from 21°C – 23°C and relative humidity is 45 – 50%.





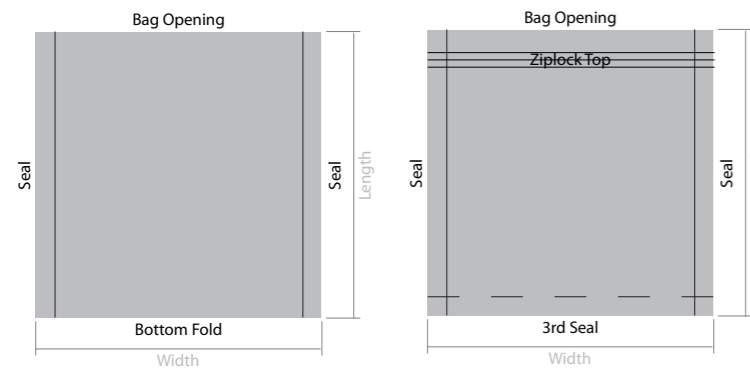
Static Shielding Bag_ANT010SSB (Open Top) / ANT013SSB (Ziplock)

Outer Surface Dissipative Layer
Aluminized Polyester
Polyethylene
Inner Surface Dissipative Layer

CONSTRUCTION:

Our static shielding bags are constructed in four layers, consisting of a static dissipative polyester outer layer and a static dissipative polyethylene inner layer with a centre metallised shield layer.

Our bags are manufactured from industry approved polyester and polyethelene laminates. The polyester dielectric works with the metal layer to provide a Faraday effect, the metal layer preventing penetration from damaging electrostatic fields. The specially processed polyethelene keeps tribocharging to a minimum.



CONFIGURATION(S):

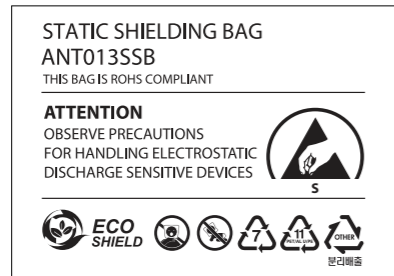
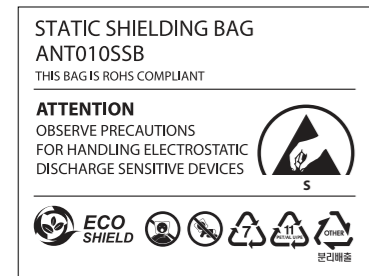
Our bags are available in custom sizes or in several industry standard sizes. Bags are offered in a 2-seal configuration and bottom fold, with our standard flexographically printed artwork. Please note any bags that are longer than 24" will have a 3rd seal along the bottom edge.

Our bags can also be personalised with your company logo on any bespoke orders (MOQ will apply).

STANDARD BAG ARTWORK:

Our static shielding 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.



TEST CONDITIONS:

The following results were taken under the following environmental test conditions:
Temperature: 23°C / Humidity: 43%

TECHNICAL PROPERTIES:	TEST STANDARD:	RESULT:
Film Composition	N/A	PET-AL/PP
Film Thickness	Micron Meter	2.9mils-3.1mils
Metal Layer Resistance	ASTM D257	<100 Ω/sq
Metal Layer Optical Transmission	ASTM D1003	40% – 0.4 Optical Density
Surface Resistivity	ASTM D257	<10 ¹⁰ Ω/sq
Time for static removal	FTMS 101B Method 4046 – 5000-0V	<0.01 Sec
Friction Static	E1A541 Appendix C Avg.	TriboelectricNanocolombs Quartz<13n/in Tefion.<13n/in
Capacitance Release	E1A541 Voltage Difference	<10V
Anti-erosion	FTMS 101C Method 3005	No visible spots



Static Shielding Bag_ANT010SSB (Open Top) / ANT013SSB (Ziplock)

TEST CONDITIONS:

The following results were taken under the following environmental test conditions:
Temperature: 23°C / Humidity: 43%



TECHNICAL PROPERTIES:	TEST STANDARD:	RESULT:
Tensile Strength	ASTM D882	>18 lbs./in
Tear Initiation	ASTM D1004	>2.5 lbs./in
Puncture Resistance	ASTM D3420	>100 PSI
Tear Resistance	ASTM D882	>8 lbs./in
MVTR	ASTM E 96	<0.2 gm/100in-2/4hrs
Oxygen Barrier	ASTM D 3985	<0.5 CC/100in-2/4hrs
Heat Seal Temperature	-	250 – 375 °F
Heat Seal Pressure	-	30-70 PSI
Breaking Tensile Force	GB/96-04-10	N/15mm
Breaking Elongation Rate	GB/96-04-10	%
Laminating Strength	GB/96-04-10	N/15mm
Seal Strength	GB/96-04-10	N/15mm
Appearance	GB/96-04-10	No delamination, burst seal, wrinkle, warp, break, foreign particle adherence, air bubble beyond sealing φ ≤3mm

TEST CONCLUSION: (DATE OF ISSUE: 2009-11-10)

The shielding bag is tested in accordance 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

ECO Shield Range



Throughout our business operations, we do everything we can to minimise impact on the environment and help protect our planet for future generations and we are now trialling new biodegradable antistatic bags.

Meanwhile, we offer carbon offsetting to customers who use our ECO Shield range of shielding bags. A percentage of the revenue from these non-recyclable products goes to a recognised carbon offsetting project, providing certificated carbon credits for our corporate clients.

Please contact us for further details.



Static Shielding Bag_ANT010SSB (Open Top) / ANT013SSB (Ziplock)

PRODUCT CODE:	DESCRIPTION:	SIZE (INCHES):	SIZE (MM):	ADDITIONAL NOTES:
010-0085	Static Shielding Bag	2 x 6	50.8 x 152	Pack of 100
010-0001	Static Shielding Bag	3 x 5	76 x 127	Pack of 100
010-0005	Static Shielding Bag	4 x 6	102 x 152	Pack of 100
010-0008	Static Shielding Bag	4 x 12	102 x 127	Pack of 100
010-0009	Static Shielding Bag	4 x 24	102 x 610	Pack of 100
010-0011	Static Shielding Bag	5 x 8	127 x 203	Pack of 100
010-0012	Static Shielding Bag	5 x 26	127 x 660.4	Pack of 100
010-0014	Static Shielding Bag	6 x 8	152 x 203	Pack of 100
010-0015	Static Shielding Bag	6 x 10	152 x 254	Pack of 100
010-0016	Static Shielding Bag	6 x 12	152 x 305	Pack of 100
010-0021	Static Shielding Bag	7 x 16	177.8 x 406	Pack of 100
010-0024	Static Shielding Bag	8 x 10	203 x 254	Pack of 100
010-0025	Static Shielding Bag	8 x 12	203 x 305	Pack of 100
010-0022	Static Shielding Bag	8 x 20	203 x 508	Pack of 100
010-0027	Static Shielding Bag	8 x 30	203 x 762	Pack of 100
010-0029	Static Shielding Bag	10 x 12	254 x 305	Pack of 100
010-0030	Static Shielding Bag	10 x 14	254 x 355	Pack of 100
010-0031	Static Shielding Bag	10 x 16	254 x 457	Pack of 100
010-0040	Static Shielding Bag	12 x 14	305 x 355	Pack of 100
010-0041	Static Shielding Bag	12 x 16	305 x 406	Pack of 100
010-0042	Static Shielding Bag	12 x 18	305 x 457	Pack of 100
010-0048	Static Shielding Bag	14 x 18	355 x 457	Pack of 100
010-0097	Static Shielding Bag	14 x 24	355 x 610	Pack of 100
010-0055	Static Shielding Bag	16 x 18	406 x 457	Pack of 100
010-0056	Static Shielding Bag	16 x 20	406 x 508	Pack of 100
010-0058	Static Shielding Bag	18 x 18	457 x 457	Pack of 100
010-0059	Static Shielding Bag	18 x 20	457 x 508	Pack of 100
010-0060	Static Shielding Bag	18 x 24	457 x 610	Pack of 100
010-0096	Static Shielding Bag	20 x 24	508 x 610	Pack of 100
013-0001	Static Shielding Ziplock Bag	3 x 5	76 x 127	Pack of 100
013-0003	Static Shielding Ziplock Bag	4 x 6	102 x 152	Pack of 100
013-0004	Static Shielding Ziplock Bag	5 x 8	127 x 203	Pack of 100
013-0020	Static Shielding Ziplock Bag	6 x 8	152 x 203	Pack of 100
013-0005	Static Shielding Ziplock Bag	6 x 10	152 x 254	Pack of 100
013-0006	Static Shielding Ziplock Bag	8 x 10	203 x 254	Pack of 100
013-0007	Static Shielding Ziplock Bag	8 x 12	203 x 305	Pack of 100
013-0008	Static Shielding Ziplock Bag	10 x 12	254 x 305	Pack of 100
013-0009	Static Shielding Ziplock Bag	10 x 14	254 x 355	Pack of 100
013-0010	Static Shielding Ziplock Bag	12 x 16	305 x 406	Pack of 100
013-0011	Static Shielding Ziplock Bag	12 x 18	305 x 457	Pack of 100

Black Conductive Bag_ANT006BCB

FEATURES:

- Black conductive bags made from blow moulded LDPE with carbon
- The black bag is light tight and effectively avoids accumulation of electric charge on the bag and its contents
- Protects contents from damage of electromagnetic wave and static
- This product can be heat sealed and offers medium level static protection
- Surface resistance is 104-106Ω

Note: Other sizes available upon request.

ADDITIONAL NOTES:

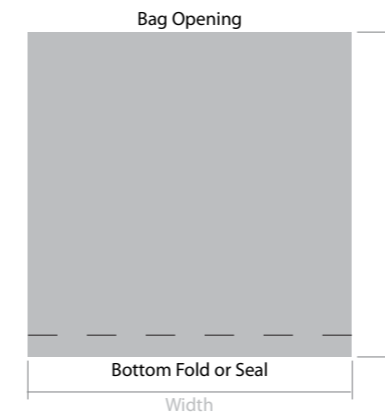
We recommend that all of our black conductive bags be used within 2 years from the date of manufacture. Store this product in its original packaging in a climate-controlled environment where temperature ranges from 21°C – 23°C and relative humidity is 45 – 50%.



Carbon Loaded Polyethylene

CONSTRUCTION:

Our black conductive bags are constructed from a conductive material made out of a 4 mil single layer of carbon loaded polyethylene, creating a Faraday Cage effect. Conforms to military specification MIL-PRF-81705D Type II.



CONFIGURATION(S):

Our bags are available in custom sizes or in several industry standard sizes. Bags are offered with a single seal or bottom fold, extruded from a PE tube.

The bags are provided with our standard artwork or your company's flexographically printed logo (min order qty's apply).

Electrostatic Conductive

Packaging with a surface resistance $\geq 1 \times 10^3$ and $\leq 1 \times 10^6$



BLACK CONDUCTIVE BAG
ANT006BCB

THIS BAG IS ROHS COMPLIANT

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING ELECTROSTATIC
DISCHARGE SENSITIVE DEVICES



STANDARD BAG ARTWORK:

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

Bag Sourcing

Key things to remember when sourcing bags:

- The least expensive bag may not be the best investment. Look for a product that works for its application. Materials and bags should be tested by the manufacturer before shipping. Look at a supplier's quality program, material trace ability, and test standards.
- Consider the supply chain; stability and delivery.
- A large selection of standard sizes, (more than 100) will keep you from paying for custom sizes.
- Look for technical depth to support the product.
- Finally, after the aforementioned issues are addressed, consider the price.



Black Conductive Bag_ANT006BCB

TEST CONDITIONS:

The following results were taken under the following environmental test conditions:
Temperature: 22.1°C / Humidity: 47.8%



TECHNICAL PROPERTIES:	TEST STANDARD:	RESULT:
Melt Index	GB3682	2.1 g/10min
Inner / Outer Surface Resistivity	GJB2605-1996	10 ⁴ – 10 ⁶ Ω
Static Voltage Attenuation Period	IEC61340-5-1	≤2 secs
Water Absorption Rate	GB/96-04-01	0.5%
Density	GB1033	0.92 g/cm
Tensile Strength	GB/96-04-01	MD: 33 MPa TD: 34.85 MPa
Breaking Elongation Rate	GB/96-04-01	MD: 1180% TD: 689%
Friction Coefficient	GB/96-04-01	Outer Surface: 0.08 Us Inner Surface: 0.08 Ud
Heat Seal Temperature	GB/96-04-01	250-375 F
Size	GB/96-04-01	Thickness: ±10% Length: ±3mm Width: ±2mm
Appearance	GB/96-04-01	Black Sheet (No powder or oil)

TEST CONCLUSION: (DATE OF ISSUE: 2009-04-25)

The black conductive PE bag is tested in accordance 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

PRODUCT CODE:	DESCRIPTION:	SIZE (INCHES)	SIZE (MM)	ADDITIONAL NOTES:
006-0001	Black Conductive Bag	3 x 5	76 x 127	Pack of 100
006-0003	Black Conductive Bag	4 x 6	102 x 152	Pack of 100
006-0009	Black Conductive Bag	5 x 8	127 x 203	Pack of 100
006-0012	Black Conductive Bag	6 x 8	152 x 203	Pack of 100
006-0013	Black Conductive Bag	6 x 10	152 x 254	Pack of 100
006-0020	Black Conductive Bag	8 x 10	203 x 254	Pack of 100
006-0021	Black Conductive Bag	8 x 12	203 x 305	Pack of 100
006-0026	Black Conductive Bag	10 x 12	254 x 305	Pack of 100
006-0027	Black Conductive Bag	10 x 14	254 x 355	Pack of 100
006-0037	Black Conductive Bag	12 x 16	305 x 406	Pack of 100
006-0038	Black Conductive Bag	12 x 18	305 x 457	Pack of 100
006-0044	Black Conductive Bag	14 x 16	355 x 457	Pack of 100
006-0049	Black Conductive Bag	16 x 18	406 x 457	Pack of 100
006-0053	Black Conductive Bag	18 x 24	457 x 610	Pack of 100

Pink Anti Static Bag_ANT001PAB (Open Top) / ANT003PAB (Ziplock)

FEATURES:

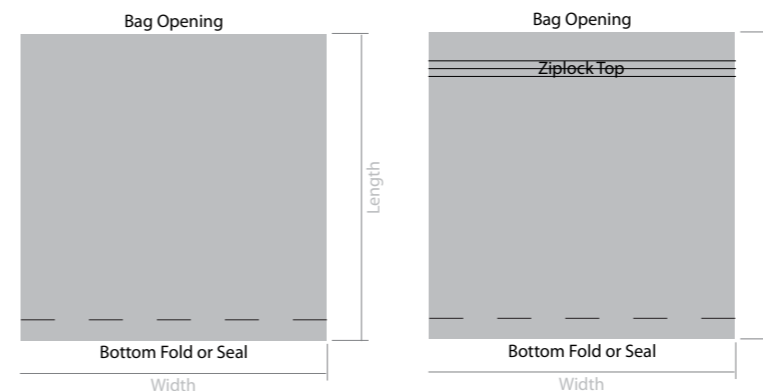
- Our pink antistatic bags are blow-moulded with anti static additives from LDPE and LLDPE
- Available in different colours, thicknesses, sizes and printed with different designs according to customers' requirements
- Soft texture and flexible
- Surface resistance of 10⁸-10¹¹Ω
- Static release time is >2 secs

Pink anti static bags have the ability to dissipate a static charge to ground preventing static charge building up on the package or device. The material is also antistatic and will not charge up when rubbed against other materials.

Please note these bags have no shielding ability. A static field or discharge occurring outside the bag will penetrate the bag and damage electronics inside.

ADDITIONAL NOTES:

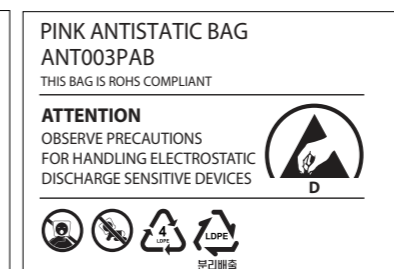
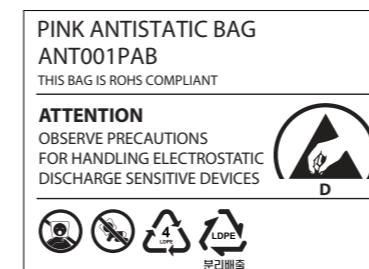
We recommend that all of our pink anti static bags be used within 2 years from the date of manufacture. Store this product in its original packaging in a climate-controlled environment where temperature ranges from 21°C – 23°C and relative humidity is 45 – 50%.



CONFIGURATION(S):

Our bags are available in custom sizes or in several industry standard sizes.

Bags are offered with a single seal or bottom fold, extruded from a PE tube. The bags are provided with our standard artwork or your company's flexographically printed logo (minimum order qty's apply). We are also able to offer the bags in different colours, or tints upon request (again min order qty's apply).



STANDARD BAG ARTWORK:

Our pink antistatic 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 bespoke orders.

Please note all of our pink ziplock bags come with a write on panel as standard. Pink anti static bags without the write on panel are available on request.



Pink Anti Static Bag_ANT001PAB (Open Top) / ANT003PAB (Ziplock)

TEST CONDITIONS:

The following results were taken under the following environmental test conditions:

Temperature: 22°C / Humidity: 46%

TECHNICAL PARAMETERS:

ITEM:	TEST STANDARD:	RESULT:
Film Composition	N/A	LDPE
Film Thickness	Micron Meter	75 micron (+/-8%) (where applicable)
Melt Index	GB3682	2.1 g/10min
Surface Resistivity	GB3682	$<10^{10} \Omega/\text{sq}$
Water Absorbtion Rate	GB/96-04-10	0.5%
Density	GB 1033	0.92 g/cm
Tensile Strength	GB/96-04-10	MD: 32.01 MPa TD: 33.75 MPa
Breaking Elongation Rate	GB/96-04-10	MD: 1200% TD: 685%
Friction Coefficient	GB/96-04-10	Outer Surface: 0.09 Us Inner Surface: 0.08 Ud
Static Dissipation	SJ/T10694-1996	<2 Secs
Appearance	GB/96-04-10	Translucent Sheet (No powder and oil)
Size	GB/96-04-10	Thickness: $\pm 10\%$ Length: $\pm 3\text{mm}$ Width: $\pm 3\text{mm}$



TEST CONCLUSION: (DATE OF ISSUE: 2009-10-09)

The pink antistatic LDPE bag is tested in accordance 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

Choosing the correct bag size.

Bag Width Required =
Product Width + Product Height + 20mm
Bag Length Required =
Product Length + Product Height + 20mm

Tip!

Bag dimensions are always internal dimensions.

Electrostatic Dissipative

Packaging with a surface resistance $\geq 1 \times 10^6 \Omega$ and $\leq 1 \times 10^{12} \Omega$



Pink Anti Static Bag_ANT001PAB (Open Top) / ANT003PAB (Ziplock)

PRODUCT CODE:	DESCRIPTION:	SIZE (INCH):	SIZE (MM):	ADDITIONAL NOTES:
001-0001	Pink Anti Static Bag 300 Gauge / 75 Micron	3 x 5	76 x 127	Pack of 100
001-0003	Pink Anti Static Bag 300 Gauge / 75 Micron	4 x 6	102 x 152	Pack of 100
001-0006	Pink Anti Static Bag 300 Gauge / 75 Micron	5 x 8	127 x 203	Pack of 100
001-0008	Pink Anti Static Bag 300 Gauge / 75 Micron	6 x 8	152 x 203	Pack of 100
001-0009	Pink Anti Static Bag 300 Gauge / 75 Micron	6 x 10	152 x 254	Pack of 100
001-0014	Pink Anti Static Bag 300 Gauge / 75 Micron	8 x 10	203 x 254	Pack of 100
001-0017	Pink Anti Static Bag 300 Gauge / 75 Micron	8 x 12	203 x 305	Pack of 100
001-0020	Pink Anti Static Bag 300 Gauge / 75 Micron	10 x 12	254 x 305	Pack of 100
001-0021	Pink Anti Static Bag 300 Gauge / 75 Micron	10 x 14	254 x 355	Pack of 100
001-0023	Pink Anti Static Bag 300 Gauge / 75 Micron	12 x 14	305 x 355	Pack of 100
001-0029	Pink Anti Static Bag 300 Gauge / 75 Micron	12 x 16	305 x 406	Pack of 100
001-0028	Pink Anti Static Bag 300 Gauge / 75 Micron	12 x 18	305 x 457	Pack of 100
001-0037	Pink Anti Static Bag 300 Gauge / 75 Micron	14 x 18	355 x 457	Pack of 100
001-0031	Pink Anti Static Bag 300 Gauge / 75 Micron	16 x 18	406 x 457	Pack of 100
001-0030	Pink Anti Static Bag 300 Gauge / 75 Micron	18 x 24	457 x 610	Pack of 100

003-0001	Pink Recloseable Bag 300 Gauge / 75 Micron	3 x 5	76 x 127	Pack of 100
003-0009	Pink Recloseable Bag 300 Gauge / 75 Micron	3.5 x 5	-	Pack of 100
003-0002	Pink Recloseable Bag 300 Gauge / 75 Micron	4 x 6	102 x 152	Pack of 100
003-0039	Pink Recloseable Bag 300 Gauge / 75 Micron	5 x 8	127 x 203	Pack of 100
003-0003	Pink Recloseable Bag 300 Gauge / 75 Micron	6 x 8	152 x 203	Pack of 100
003-0012	Pink Recloseable Bag 300 Gauge / 75 Micron	6 x 10	152 x 254	Pack of 100
003-0011	Pink Recloseable Bag 300 Gauge / 75 Micron	8 x 10	203 x 254	Pack of 100
003-0013	Pink Recloseable Bag 300 Gauge / 75 Micron	8 x 12	203 x 305	Pack of 100
003-0004	Pink Recloseable Bag 300 Gauge / 75 Micron	10 x 12	254 x 305	Pack of 100
003-0021	Pink Recloseable Bag 300 Gauge / 75 Micron	10 x 14	254 x 355	Pack of 100

NOTES:

- Other sizes available upon request.
- Our bags are ADD compliant, we therefore reserve the right to ship thicker bags from time to time to accommodate ADD import duty tariffs.

Bespoke Printing

For that added personalisation, look at adding your own logo.

MOQ apply, please call for more details.

Technical Data and Test Reports

For further information on Material Testing and Technical Datasheets, please visit the packaging section of our online catalogue at:

www.antistat.co.uk



Pink Anti Static Bubble Film_ANT004PABB / ANT005PABF

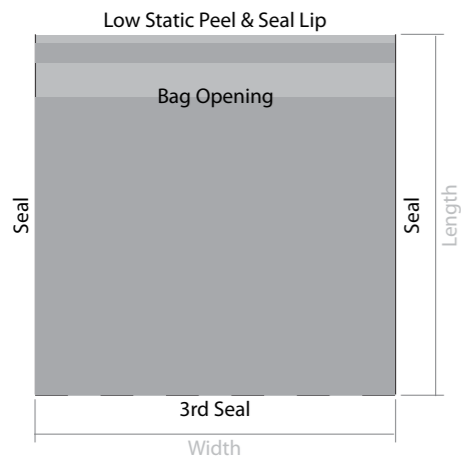
FOR PACKAGING NON ESD ITEMS WITHIN AN ESD PROTECTED AREA.

FEATURES:

- Blow-moulded with anti static additives from LDPE and LLDPE
- The sealed air bubble offers superior cushioning and shock proof function
- Standard colour: Pink, but can be custom made in different colours and sizes according to clients requirements (MOQ applies)
- Soft texture and flexible material
- Manufacturing method: Two layer extrusion with calendar role to thermoform bubble
- Low cost
- Keeps inside packed contents free from damage by electrostatic

Antistatic bubble film will not produce electrostatic charges during handling. Static charge is dissipated over the surface of the film preventing discharge onto the electronic device packaged.

Notes: Different levels of electrostatic discharge protection are required for different electronic devices.



CONFIGURATION(S):

Our bags are available in custom sizes or in several industry standard sizes. Bags are offered heat sealed along the three edges and provided with a low static peel and seal lip.

This product is amine free to ensure its compatibility with other materials frequently used in the electronics industry.

PRODUCT CODE:	DESCRIPTION:	SIZE (MM):	ADDITIONAL NOTES:
004-0013	Pink Anti Static Bubble Bag	130 x 185	Carton of 1000
004-0014	Pink Anti Static Bubble Bag	180 x 235	Carton of 750
004-0015	Pink Anti Static Bubble Bag	230 x 285	Carton of 500
004-0016	Pink Anti Static Bubble Bag	280 x 360	Carton of 300
004-0017	Pink Anti Static Bubble Bag	304 x 435	Carton of 250
004-0018	Pink Anti Static Bubble Bag	380 x 435	Carton of 200
005-0001	Pink Anti Static Bubble Film	1500mm x 100m	1 Roll
005-0002	Pink Anti Static Bubble Film	750mm x 100m	2 Rolls
005-0003	Pink Anti Static Bubble Film	500mm x 100m	3 Rolls
005-0004	Pink Anti Static Bubble Film	300mm x 100m	5 Rolls

Pink Anti Static Bubble Film_ANT004PABB / ANT005PABF

TEST CONDITIONS:

The following results were taken under the following environmental test conditions:
Temperature: 22.3°C / Humidity: 47.5%



TECHNICAL PARAMETERS:

ITEM:	TEST STANDARD:	RESULT:
Film Composition	N/A	LDPE / LLDPE
Melt Index	GB3682	2.1 g/10 min
Melt Flow Rate	GB3682	≥3.0 g/min
Surface Resistivity	GB3682	<10 ¹⁰ Ω
Water Absorption Rate	GB/96-04-10	0.5%
Density	GB1033	0.92g/cm
Carrier	-	LDPE
Heat Seal Temperature	-	250-375 F
Heat Seal Time	-	0.5-3.5 secs
Heat Seal Pressure	-	30-70 PSI

TEST CONCLUSION: (DATE OF ISSUE: 2009-05-12)

The anti-static pink PE bubble bag / film is tested in accordance with the relevant test standard and requirements.

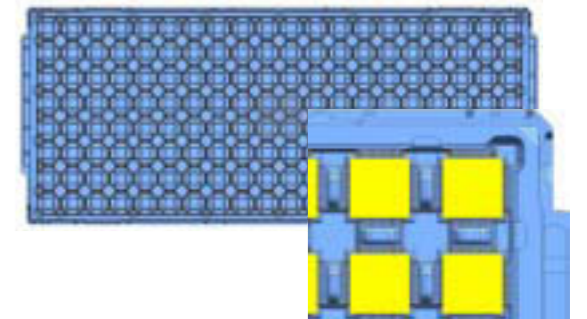
TEST ITEM:	TEST METHOD:	MEASURED EQUIPMENT(S):	MDL:
Lead (Pb)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES	2mg/kg
Cadmium (Cd)	IEC 62321:2008 Ed.1 Sec.8	ICP-OES	2mg/kg
Mercury (Hg)	IEC 62321:2008 Ed.1 Sec.7	ICP-OES	2mg/kg
Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex C	UV-Vis	2mg/kg
Polybrominated Biphenyls (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

Specialist Packaging Solutions

Our main areas of expertise are high-end, technology led packaging solutions, ESD consumables and Clean Room supplies.

But that's not all. We also specialise in finding innovative technical solutions, including bespoke packaging, to assist in reducing your purchasing and supply costs.

For further information on our bespoke solutions, please visit the case study section on the website...
http://www.antistat.co.uk/section.php/8/1/case_studies





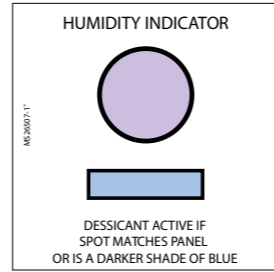
Humidity Indicator Cards

ONE SPOT HUMIDITY INDICATOR CARD

Designed for use in desiccant containers to ensure the desiccant is in an activated condition.

FEATURES:

- Complies with Mil-I-8835 and Mil STD-2073-1D Method 50
- Indicates 8% RH



PRODUCT CODE:	DESCRIPTION:	SIZE (""):	NOTES:
ANT26507-1	1 Spot HIC	3.25 x 3.25	625 cards per can
ANT26507-1S	1 Spot HIC	1.5 x 2	250 cards per can

THREE SPOT HUMIDITY INDICATOR CARD

Humidity Indicator Cards (HICs) provide a low-cost method of indicating humidity conditions inside a moisture barrier bag after vacuum packaging. The indicator spots on the HICs change colour from blue to pink as humidity increases and from pink to blue as humidity decreases. Our HICs:

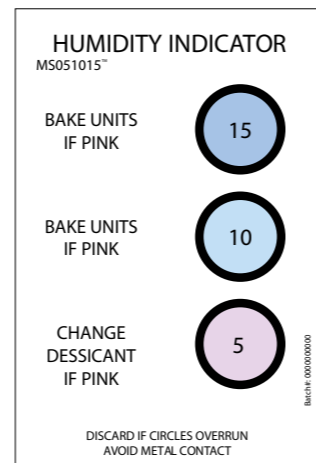
- Meet MIL-I-8835 and JEDEC Standards
- Offer superior protection, especially when used with our Desiccants and Moisture Barrier Bags

CONSTRUCTION:

HICs are constructed of a moisture-sensitive blotting paper.

CONFIGURATIONS:

The number of indicator spots on the HIC varies, depending upon the range of humidity to be measured. The product is shipped in airtight tins to prevent exposure to moisture.

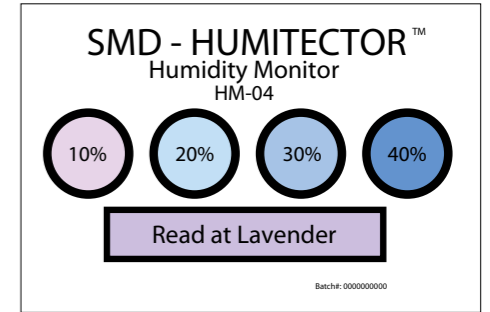


PRODUCT CODE:	DESCRIPTION:	INDICATES (%RH):	SIZE (""):	NOTES:
ANT051015	3 Spot HIC: Meets JEDEC Standard J-STD-033 and MIL-I-8835.	5, 10, 15	2 x 3	125 cards per can
309-0000	3 Spot HIC: Designed for the electronics industry. Meets IAW MIL-I-8835.	5, 10, 60	2 x 3	125 cards per can
ANT123	3 Spot HIC: Designed for the electronics industry. Meets IAW MIL-I-8835.	10, 20, 30	2 x 3	125 cards per can
ANT234	3 Spot HIC: Designed for the electronics industry. Meets IAW MIL-I-8835.	20, 30, 40	2 x 3	300 cards per can
ANT20003-2	3 Spot HIC: Current military standard approved by all government agencies, the U.S. Department of Defense and NATO for use in Method II packaging. Complies with Mil-I-8835 and Mil STD-2073-1D Method 50.	30, 40, 50	2 x 3	125 cards per can
ANT20003-3	3 Spot HIC: Used where space is limited. Identical in design to MS20003-2, except it is half the size. Ideal for packaging in small barrier bags. Complies with Mil-I-8835 and Mil STD-2073-1D Method 50.	30, 40, 50	1 x 1.625	500 cards per can

Humidity Indicator Cards

FOUR SPOT HUMIDITY INDICATOR CARD

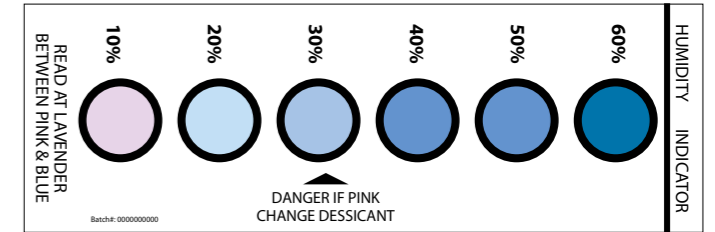
See previous details for 3 spot HIC.



PRODUCT CODE:	DESCRIPTION:	INDICATES (%RH):	SIZE (""):	NOTES:
ANTHM-04 SMD Humidity Detector	4 Spot HIC Designed specifically for the electronics industry. Ideal for use with other components of the "Dry Pack" packaging concept. Complies with Mil-I-8835 and Mil STD-2073-1D Method 50.	10, 20, 30, 40	2 x 3	100 cards per can

SIX SPOT HUMIDITY INDICATOR CARD

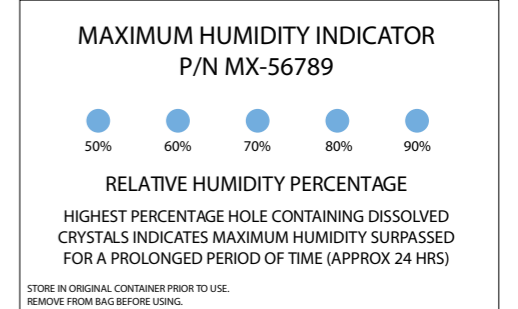
See previous details for 3 spot HIC.



PRODUCT CODE:	DESCRIPTION:	INDICATES (%RH):	SIZE (""):	NOTES:
ANT826004NE	6 Spot HIC Designed for electronics packaging complies with Mil-I-8835 and Mil STD-2073-1D Method 50.	10, 20, 30, 40, 50, 60	1.5625 x 4.75"	200 cards per can

MAXIMUM HUMIDITY INDICATOR CARD

Each level of relative humidity is representative by a blue crystal that dissolves to a large blue spot above the indicated humidity percentage when exposed for a period of 24 hours or more.



PRODUCT CODE:	DESCRIPTION:	INDICATES (%RH):	SIZE (""):	NOTES:
ANT56789	Maximum Spot HIC	50, 60, 70, 80, 90	4.5 x 3"	50 cards per gallon



Humidity Indicator Cards – Cobalt Free

THREE SPOT HUMIDITY INDICATOR CARD – COBALT FREE

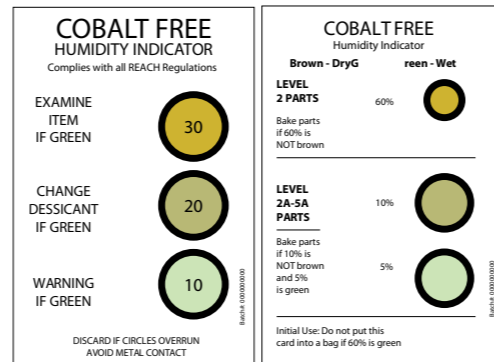
PURPOSE: To offer the electronics and semiconductor industries an environmentally friendly Cobalt Free Humidity Indicator (HI) card.

WHAT ARE THEY? Cobalt Free HI Cards provide humidity level indication for dry packaging to electronic and semiconductor manufacturers who desire a card without cobalt.

WHY USE THEM? Many products are highly sensitive to moisture. In order to constantly verify that dry packaging methods are not compromised during storage and transport of these products, humidity indicator cards allow users along the supply chain to monitor the package conditions. Indicator spots change from brown to green after exposure to the relevant relative humidity conditions. The cards are reversible and change as conditions change in the packaging environment, allowing users to monitor the conditions of product packaging. The environmentally friendly Cobalt Free HI cards do not contain cobalt and some configurations can be produced with less than 900 ppm halogen levels where required.

KEY ADVANTAGES:

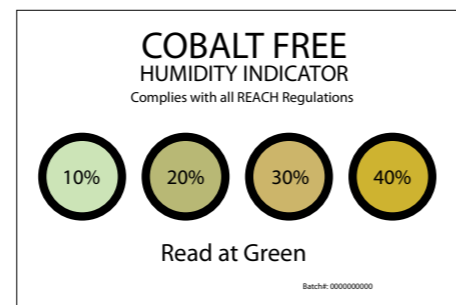
- Cobalt Free Humidity Indicator Cards are free of Cobalt, a chemical which has classification and labeling requirements under the European Chemical Agency (ECHA)
- REACH directives
- Meets all relevant ECB/REACH labeling requirements
- Typical applications include the dry packaging of semi conductor and electronic devices
- Most configurations offer less than 900 ppm Halogen levels



PRODUCT CODE:	DESCRIPTION:	INDICATES (%RH):	SIZE ("):	NOTES:
ANT123, CF	3 Dot HIC – Cobalt Free	10, 20, 30	2 x 3	125 cards per can
ANT234, CF	3 Dot HIC – Cobalt Free	20, 30, 40	2 x 3	125 cards per can
ANT200003-2, CF	3 Dot HIC – Cobalt Free	30, 40, 50	2 x 3	125 cards per can
ANT051060-H, CF	3 Dot HIC – Cobalt Free	5, 10, 60	1.12" x 1.46"	200 cards per can
ANTJ-STD-033, CF	3 Dot HIC – Cobalt Free	5, 10, 60	2 x 3"	125 cards per can
ANT51015, CF	3 Dot HIC – Cobalt Free	5, 10, 15	2 x 3"	125 cards per can

FOUR SPOT HUMIDITY INDICATOR CARD – COBALT FREE

See previous details for 3 spot HIC.

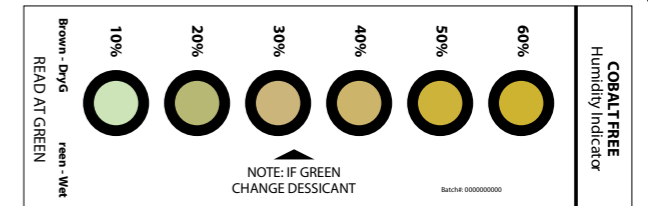


PRODUCT CODE:	DESCRIPTION:	INDICATES (%RH):	SIZE ("):	NOTES:
ANTHM-04, CF	4 Dot HIC – Cobalt Free	10, 20, 30, 40	2 x 3	125 cards per can

Humidity Indicator Cards – Cobalt Free

SIX SPOT HUMIDITY INDICATOR CARD – COBALT FREE

See previous details for 3 spot HIC.



PRODUCT CODE:	DESCRIPTION:	INDICATES (%RH):	SIZE ("):	NOTES:
ANT826004NE-H, CF	6 Dot HIC – Cobalt Free	10, 20, 30, 40, 50, 60	4.72 x 1.77"	200 cards per can
ANT826004NE, CF	6 Dot HIC – Cobalt Free	10, 20, 30, 40, 50, 60	1.56 x 4.60"	200 cards per can

Humidity Indicator Card – Cobalt Dichloride Free

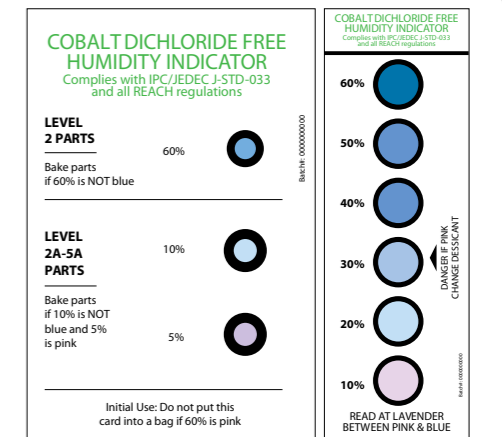
PURPOSE: To offer the electronics and semiconductor industries a Cobalt-Dichloride (CoCl₂) Free humidity indicator card, while maintaining the accuracy required by international JEDEC standards.

WHAT ARE THEY? Cobalt-Dichloride Free Humidity Indicator (HI) Cards provide electronic and semiconductor manufacturers with a JEDEC-compliant humidity indicator card that is free of Cobalt-Dichloride, a chemical regulated under European Chemical Bureau (ECB) REACH directives.

WHY USE THEM? Many products such as sensitive semiconductors, electronics, optics, radar and various defense systems are highly sensitive to moisture. In order to constantly verify that dry packaging methods are not compromised during storage and transport of these products, humidity indicator cards allow users along the supply chain to monitor the package conditions. Some companies desire the use of indicators that are free of Cobalt-Dichloride. The Cobalt-Dichloride Free HI Cards from Antistat provide verifiable colour-change accuracy as required by JEDEC standard J-STD-033B, as well as exceed applicable regulations administered by the ECB.

KEY ADVANTAGES:

- Cobalt Dichloride Free Humidity Indicator Cards are free of Cobalt-Dichloride (CoCl₂), a chemical which has classification and labeling requirements under the European Chemical Agency (ECHA) REACH directives
- Fully compliant with JEDEC standard J-STD-033B for colour-change accuracy
- Meets all relevant ECB/REACH labeling requirements
- Typical applications include the dry packaging of semiconductor and electronic devices



Indication at	2% RH Environment	5% RH Environment	10% RH Environment	60% RH Environment	65% RH Environment
5% Spot	Blue (Dry)	Lavender (spot value)	Pink (Wet)	Pink (Wet)	Pink (Wet)
10% Spot	Blue (Dry)	Blue (Dry)	Lavender (spot value)	Pink (Wet)	Pink (Wet)
60% Spot	Blue (Dry)	Blue (Dry)	Blue (Dry)	Lavender (spot value)	Pink (Wet)

PRODUCT CODE:	DESCRIPTION:	INDICATES (%RH):	SIZE ("):	NOTES:
ANT051060-CDF	3 Dot HIC – Cobalt Dichloride Free	5, 10, 60	2 x 3"	125 cards per can
ANT051015-CDF	3 Dot HIC – Cobalt Dichloride Free	5, 10, 15	2 x 3"	125 cards per can
ANT826004NE-CDF	6 Dot HIC – Cobalt Dichloride Free	10, 20, 30, 40, 50, 60	2 x 3"	125 cards per can



Desiccant – Silica Gel Bags

The use of silica gel desiccant bags provides an economic way of protecting against moisture damage during transit and storage. These bags are filled with non-indicating beaded silica gel desiccant with capacities ranging from 1g to 500g.

Silica gel desiccant is synthetically produced from sodium silicate and has an absorption capacity of approximately 25% (by weight) at a relative humidity of 50% at 25°C. Silica gel bags are ideal for general packaging applications, electrical / electronic enclosures and communications equipment.

The addition of a colour change indicator card will provide a visual indication of the relative humidity level within the packaging or enclosure. This provides an important check to ensure that the desiccant is still active. We can also supply silica gel bags that conform to Defense Standard 81-86 and U.S. Military Standard MIL-D-3464.



- DETAILS:**
- Desiccant Type: Non-indicating beaded silica gel
 - Nominal absorption capacity (by weight): 25% at 50% RH and 25°C
 - Operating temperature range: -40°C to +70°C
 - Non-Indicating Silica Gel Material Safety Data Sheet Ref: MCS/107/MSDS

PRODUCT CODE:	DESCRIPTION:	NOMINAL DESICCANT CONTENT (G):	NOMINAL DIMENSIONS W x L (MM):	QTY/BOX:	NATO STOCK NUMBER:
309-0114	Silica Gel Bag	1	30x50	4000/tin	6850-99-212-5139
309-0115	Silica Gel Bag	3	30x56	2500	-
309-0116	Silica Gel Bag	5	30x80	1500	-
309-0117	Silica Gel Bag	10	65x75	1000	-
309-0118	Silica Gel Bag	25	100x95	300/tin	-
309-0113	Silica Gel Bag	50	85x110	200	6850-99-359-9136
309-0119	Silica Gel Bag	100	85x150	100	-
309-0120	Silica Gel Bag	250	145x170	50	-
309-0121	Silica Gel Bag	500	145x260	30	-

Desiccant – Molecular Sieve Bags

Molecular sieve desiccant bags provide the perfect solution to packaging and equipment applications that require low relative humidity levels. Standard bag capacities range from 3g to 500g. Molecular sieves desiccant is synthetically produced from alumina silicates and has an absorption capacity of approximately 20% (by weight) at a relative humidity of 50% at 25°C.

- The main advantages of using molecular sieves desiccant are:
- High absorption efficiency at high temperatures
 - Ability to maintain a low relative humidity
 - Rapid adsorption performance

Typical applications include, general packaging, electrical/electronic enclosures, electro-optical and optical equipment.



Desiccant – Molecular Sieve Bags

The addition of a colour change indicator card will provide a visual indication of the relative humidity level within the packaging or enclosure. This provides an important check to ensure that the desiccant is still active. We can also supply molecular sieve bags conforming to Explosives Compatibility Specification HR904.

- DETAILS:**
- Desiccant Type: Beaded Molecular Sieves
 - Nominal absorption capacity (by weight): 20% at 50% RH and 25°C
 - Operating temperature range: -40°C to +70°C

PRODUCT CODE:	DESCRIPTION:	NOMINAL DESICCANT CONTENT (G):	NOMINAL DIMENSIONS WxL (MM):	QTY/TIN:
ANTMS/D3163/03	Molecular Sieve Bag	3	30x70	2000
ANTMS/B013199	Molecular Sieve Bag	5	30x85	1300/Box
ANTMS/D3717/18NI	Molecular Sieve Bag	10	60x65	800
ANTMS/D9374	Molecular Sieve Bag	14	40x80	N/A
ANTMS/D8226	Molecular Sieve Bag	60	83x145	150
ANTMS/D3717/86	Molecular Sieve Bag	120	88x170	80
ANTMS/D3717/23	Molecular Sieve Bag	225	138x170	N/A
ANTMS/D9069	Molecular Sieve Bag	500	138x225	20

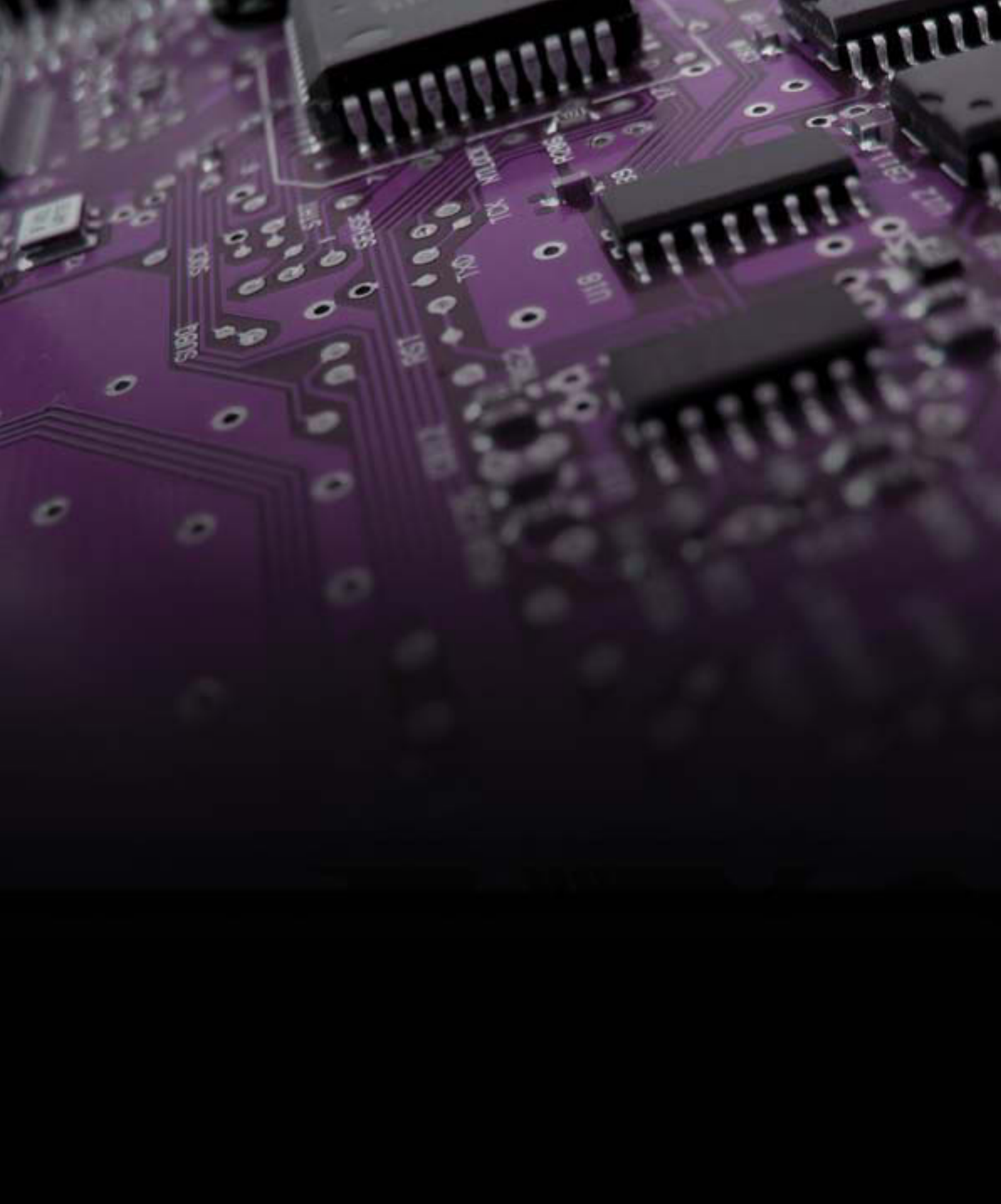
Desiccant – Activated Clay Bags

Our activated clay bags exceed the requirements of MIL-D-3464E in actual performance and will exceed the moisture vapour absorption of silica gel at U.S. government specification levels. Bentonite clay is a naturally occurring mineral as opposed to a chemically synthesized absorbent. Therefore it is more economical than silica gel or molecular sieves. The performance curve exceeds both U.S. military specification, which is the industry standard, and the silica gel performance curve for these same specifications.

At 20% RH, the activated clay bags will absorb 50% more moisture than required by MIL-P-116-E, whereas silica gel will only absorb 3.5% more moisture than required by MIL-D-3464E. It also meets Method II Packaging Standards in MIL-P-116-E, which covers the basic requirements of military packaging methods of preservation. This involves packaging an item inside a sealed waterproof and moisture vapour-proof container with the inclusion of a desiccant to prevent rust, mildew or corrosion damage. In Method II packaging, the package is maintained at a safe humidity below 40% RH during the normal storage period of 18 months to 2 years.



PRODUCT CODE:	DESCRIPTION:	UNIT SIZE OF BAG (US STANDARD):	NOMINAL CLAY CONTENT (G):	NOMINAL DIMENSIONS WxL (MM):	QTY/BOX:
ANTAC/B001100	Activated Clay Bag	1/6U	5.5	60x60	1500
ANTAC/B002100	Activated Clay Bag	1/3U	11.5	90x60	1000
ANTAC/B003100	Activated Clay Bag	1/2U	17.5	80x65	500
ANTAC/B004100	Activated Clay Bag	1U	35	100x65	300
ANTAC/B005100	Activated Clay Bag	2U	70	115x85	200
ANTAC/B006100	Activated Clay Bag	4U	140	155x85	100
ANTAC/B007100	Activated Clay Bag	8U	280	150x145	50
ANTAC/B008100	Activated Clay Bag	16U	565	260x145	30
ANTAC/B009100	Activated Clay Bag	32U	1120	265x200	15



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