



Bennett & Bennett



GARMENTS

PERSONNEL GROUNDING

IONIZATION / TEST

PACKAGING

STATIC CONTROL CATALOG

1.888.4BENNETT



Bennett & Bennett was founded in 1991 with the sole mission of providing the highest quality static control and cleanroom products at the best possible price. Over the last decade we have grown to become an internationally recognized supplier of personnel grounding, ESD and cleanroom packaging, static control workstations, ionization equipment, and cleanroom components.

We sell our products to various commercial industries and The Department of Defense. Our commercial accounts include such names as DELL, Honeywell, Flextronics, Texaco, and Kimball Electronics. We provide our QPL'd products to the Air Force, Army, and Navy.

Our **static control product line includes** wrist straps, heel grounders, grounding accessories, table and floor matting, anti-static, static shielding, and conductive bags, ionizing air guns, nozzles, bars, overhead and table top blowers, as well as a full line of test equipment.

Today our mission remains the same:

“Provide our clients with the highest quality products and the lowest possible price.”



A

ESD GARMENTS

ESD garments shield your products from charges generated on workers and synthetic clothing. The workers' clothing, particularly when made from synthetic fibers, are significant charge generators. If left unchecked, these charges pose a significant threat to ESD sensitive components through field induction. The 8812 Series garment fabric has conductive fibers woven throughout, so charges can be removed to ground. In addition, the 8812 ESD Garment creates a Faraday Cage shielding effect, protecting ESD products from induced charges.



A

8812JK



B

GROUNDING

Grounding is the frontline of defense in any well thought out static control program. Removing static charges from conductors in the work zone is crucial to preventing costly damage to ESD sensitive components. Whether you need to ground sitting or standing personnel, equipment or work surfaces, Bennett & Bennett manufactures the product to fit your needs, from wrist straps to heel grounds, from ground cords to high quality ESD matting material, to fit any application.



B

HGC-SV1



C

IONIZATION & TEST

Static charges on insulative materials can create a wide array of challenges, particle attraction in cleanrooms, and ESD damage through field induction to sensitive components. The charge on insulators can't be dissipated through normal grounding procedures and must be removed by flooding the work area with static neutralizing ions. We have a full line of high quality ionizers to fit your application. Bennett & Bennett also has all of the test equipment needed to verify that every item in your control program is performing at peak levels.



C

VSE 3000 Tabletop Blower



D

PACKAGING

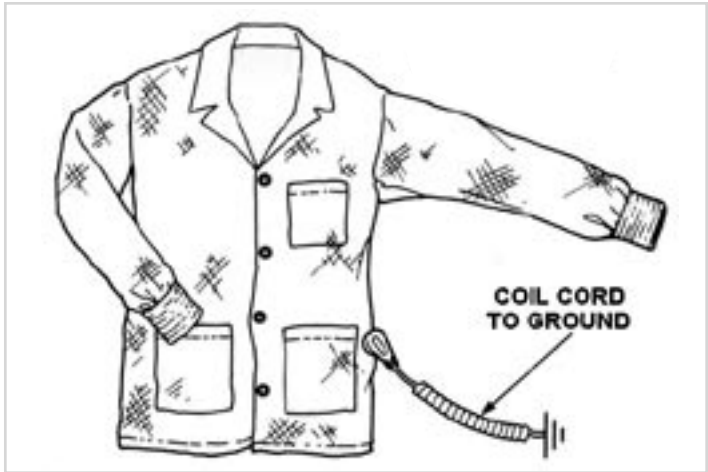
From a trip across the plant to a trip around the world, packaging requirements vary greatly. Whether you need protection from static, sub-micron particles, moisture, or corrosion, we have the products to help. We manufacture our bags from the highest quality films in a wide assortment of standard sizes to fit most applications.



D

8100 Series Static Shielding Bag





- Hip-to-cuff hands-free grounding increases worker productivity
- Reliable panel to panel continuity
- Low charging 12% carbon fabric
- Shields ESD susceptible items from charges on workers' clothing

Bennett & Bennett garments feature a patented Hip-to-cuff feature for hands-free grounding. A valuable combination of features is what makes the 8812 Series Garments the best value on the market. Our garments are fabricated from light weight 88% polyester and 12% carbon fabric for unmatched operator comfort. Superior workmanship provides reliable panel to panel continuity. The 8812 Series Garment maintains consistent continuity readings for up to 60 wash cycles.

JACKET W/ KNITTED CUFFS

	part no.	description
 BLUE	8812JKSMLBL	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Small
	8812JKMEDBL	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Medium
	8812JKLRGBL	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Large
	8812JKXLGBL	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: XL
	8812JK2XLBL	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 2XL
	8812JK3XLBL	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 3XL
	8812JK4XLBL	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 4XL
	8812JK5XLBL	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 5XL
 WHITE	8812JKSMLWH	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Small
	8812JKMEDWH	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Medium
	8812JKLRGWH	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Large
	8812JKXLGWH	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: XL
	8812JK2XLWH	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 2XL
	8812JK3XLWH	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 3XL
	8812JK4XLWH	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 4XL
	8812JK5XLWH	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 5XL
 DARK BLUE	8812JKSMLDB	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Small
	8812JKMEDDB	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Medium
	8812JKLRGDB	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: Large
	8812JKXLGDB	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: XL
	8812JK2XLDB	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 2XL
	8812JK3XLDB	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 3XL
	8812JK4XLDB	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 4XL
	8812JK5XLDB	Jacket w/collar 88/12 Material, 3 pockets, Knitted cuff, Size: 5XL



- 360° swivelling snap connector for freedom of movement
- Adjustable so that “one size fits all”
- Woven conductive silver fibers for consistent skin contact
- Curved buckle for comfort
- Full metal backplate for guaranteed ground path
- On QPL with US Military

This premium quality, adjustable wrist band features a woven cloth strap and is one of the most popular personnel grounding products. The woven fabric consists of an outer layer of non-conductive polyester fiber and inside contact surface with woven conductive silver fibers. The 360° snap connection allows complete freedom of movement. The curved, full metal backplate on the adjustable buckle assures uniform and consistent comfortable skin contact. The cam-lock closure secures the fabric to proper size by gripping the fabric tightly in position.



WRIST STRAPS

	part no.
Woven wrist strap, 4mm snap, light blue	240-000

CORDS

6' coiled cord with 1 meg ohm resistor, Black	000-006
12' coiled cord with 1 meg ohm resistor, Black	000-012

SETS

Woven wrist strap with 6' coiled cord, 1 meg ohm resistor	240-006
Woven wrist strap with 12' coiled cord, 1 meg ohm resistor	200-012

- Works with any style of footwear
- Standard 1 meg ohm resistor for safety
- Adjustable to any size
- Stretch velcro brand closure for comfort
- Cup style Heel Grounder offers dual wear surfaces
- Will not scuff shoes



HEEL GROUNDS

	part no.
1 1/4" rubber cup with stretch velcro closure and 1 meg ohm resistor	HGC-SV1

Reusable conductive Heel Grounders provide continuous grounding of personnel to an ESD flooring system. These heel grounders are adjustable to fit most types of shoes. This cup style grounder is made with tire-grade rubber for long life. The cup style also provides dual wear surfaces. Soft stretch velcro assures wearer of a comfortable fit.

- Quik-lok buckle unlocks with one finger
- Standard 1 meg ohm resistor for safety
- Cup style heel grounder offers dual wear surfaces
- Keeps operators/visitors grounded in comfort
- Easy on and off action without re-sizing
- Exceptionally comfortable
- Works on any standard ESD mat or floor tile



HEEL GROUNDS

	part no.
1 1/4" rubber cup with spandex Quik-lok buckle closure and 1 meg resistor	HGC-QL1

This heel grounder is designed with comfort and ease of use in mind. The soft stretch Spandex® fits over the top of the foot and combines with a quick-release plastic snap-in-place locking buckle to assure the wearer of comfort and ease of use. The durable rubber cup style heel ground provides dual wear surfaces.





- Works with any style of footwear
- Standard 1 meg ohm resistor for safety
- Quickly adjusts to any size via D-ring design
- Red elastic back for high visibility of use
- Costs less than the competitive models and performs better

Adjustable heel grounder with stretch back provides a comfortable solution for grounding mobile personnel. The heel grounder resizes in seconds with Velcro/d-ring closure.

HEEL GROUNDS	part no.
Heel Grounder with D-Ring and 1 meg ohm resistor	HG1D

GROUNDING ACCESSORIES	part no.
Floor mat ground lead, 15' cord, 10mm male snap	4725
Common point ground, 15' cord, dual banana jacks	4715
Push through snap, 10mm female (pkg. of 12)	4730



4725 **



4715 **



4730 **

The 4725 Ground lead is a universal floor and table mat ground connector featuring a unique hooded design to minimize snags on table mats and trips on floor matting. The product has a 10mm male snap with 1 meg ohm resistor on one end of a 15' cord terminated with a #10 ring.

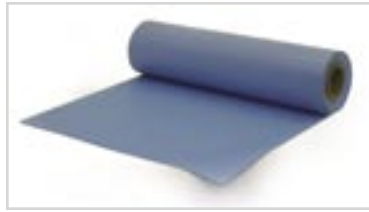
This Common Point Ground offers dual banana jacks and 10mm male snap for common point grounding of ESD matting and personnel. The product has a 1 meg ohm resistor and a 15' cord terminated with a #10 ring.

The 4730 Series female push-in snaps are for use on all vinyl and rubber mats that are 1/8" thick and less. The snaps are constructed of nickel plated brass for reliability and durability.

** On Qualified Product List with US Military



5100 SERIES TABLE MATTING	part no.
3-ply Static dissipative vinyl mat, 24" x 50' x 1/8", blue	51002450B
3-ply Static dissipative vinyl mat, 30" x 50' x 1/8", blue	51003050B
3-ply Static dissipative vinyl mat, 30" x 50' x 1/8", brown	51003650R
3-ply Static dissipative vinyl mat, 30" x 50' x 1/8", brown	51003650R



This 1/8" thick mat provides one of the most durable static dissipative work surfaces on the market. 5100 Series is a 3-layer mat material that consists of a static dissipative top layer, a fiberglass-reinforced, highly conductive inner layer, and a closed-cell, foam-cushioning bottom layer. This product is on the QPL with the US Military.

- Resists chemicals, dirt, high temperature
- On Qualified Product List with US Military
- Dissipative top and bottom layer is 10^6-10^8 ohms RTT
- Conductive middle layer is 10^3-10^5 ohms RTT
- Custom size mats available
- Made in USA

5300 SERIES TABLE MATTING	part no.
2-ply Static dissipative rubber mat, 24" x 50' x 1/8", blue	53002450B
2-ply Static dissipative Rubber mat, 30" x 50' x 1/8", blue	53003050B



The 5300 Series static dissipative mats are made of 2-ply rubber. The static dissipative top layer is backed by a conductive layer to deliver outstanding electrical performance.

- Meets EOS/ESD Standard
- Premium nitrile butadiene rubber for long life
- Superior resistance to chemicals, dirt, high temperature
- Dissipative top layer is 10^6-10^8 ohms RTT
- Conductive bottom layer is 10^3-10^5 ohms RTT
- Custom size mats available

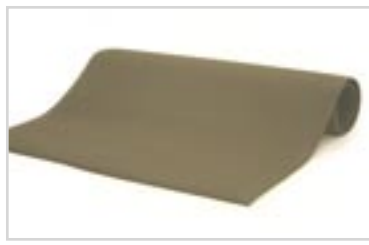
5700 SERIES FLOOR MATTING	part no.
Conductive mat, 3' x 5' x 9/16", black	57003605
Cut Lengths, 3' x up to 75', black	570036xx



Extremely durable and comfortable conductive floor mat. This mat is constructed of a conductive vinyl. The diamond plated top surface is backed with a beveled conductive cushioned foam. Cut lengths available with all tapered edges for safety at no additional cost.

- Meets EOS/ESD Standard
- Premium vinyl/nitrile composite for long life
- Diamond face for non-slip surface
- Conductive material is 10^3-10^8 ohms RTT
- 9/16" thickness provides operator comfort.
- Made in USA

5200 SERIES FLOOR MATTING	part no.
Static dissipative mat, 3' x 5' x 3/8", brown #4725 ground cord included	5200305G
Static dissipative mat, 3' x 60' x 3/8", brown requires #4725 ground cord - NOT included	5200360G



The 5200 Series anti-fatigue, static dissipative floor mat is made of a cushioned vinyl, which provides a comfortable walking surface.

This floor mat features a homogeneous construction with the static dissipative characteristics uniformly dispersed.

- Meets EOS/ESD Standard
- Premium vinyl pebble finish for traction
- Easy to clean & maintain
- Material is 10^8-10^9 ohms RTT
- 9/16" thickness provides operator comfort
- Made in USA





- UL and CE listed
- High performance in a small package (5 1/2" x 6 3/8" x 2 3/16")
- Static Decay: 1000V-100V < 4 sec at 12"
- ESD safe coverage area: 1' x 4'
- Variable fan speed: 17-34 CFM
- Made in USA

TABLETOP & OVERHEAD BLOWERS

MINion TABLE TOP

part no.

MINion 115V, 60 Hz (N. Am.)

4009018

The MINion ionizing air blower is designed to control static on benchtop applications requiring high performance in a small package. Using steady-state, DC corona ion technology, the MINion features active self-monitoring to ensure controlled, consistent ion output. Performance is enhanced by the radial emitter pin array design with a six-emitter configuration. Unique geometry and airflow control provide true next-generation performance. The MINion's configuration allows for incoming air from the two sides and the top of the enclosure, and mount flush against a wall or equipment enclosure housing.



VSE 3000 & VSE 3000 HO

part no.

Volume Static Eliminator VSE 3000, 120V, 60 Hz

10735-021

Volume Static Eliminator VSE 3000 HO,
High Output, 120V, 60 Hz

10735-020

VSE 3000 Filter Kit (Frame and 5 filters)

10790

The VSE 3000 is an efficient workstation ionizer which effectively eliminates static charges. The VSE 3000's variable speed fan and integral air flow diffuser flood the entire workstation with static neutralizing ions.

The VSE 3000 HO "High Output" version effectively eliminates charges up to 10' away. The VSE Series patented self-balancing circuitry maintains a balance range of 0+/-5V.

- UL and CE listed
- Rugged enclosure (12" W x 6.25" H x 10" D)
- Static Decay: 1000V-100V < 1.0 sec at 12"
- ESD safe coverage area: VSE 3000: 3' x 5'
VSE 3000 HO: Up to 10' away
- Variable fan speed: 80-160 CFM, 100-255 CFM in HO Version
- Made in USA



MINion OVERHEAD

part no.

MINion Overhead, 120V, 60 Hz

4009478

The MINion Overhead provides fast static charge decay efficiency over an entire work surface area. Utilizing steady state DC corona ion technology, this unit features active monitoring to ensure balanced ion production. The patented radial emitter pin array design and built-in emitter point cleaner provide true next-generation performance.

- CE listed
- Slim-line enclosure (40" W x 6" H x 2 7/16" D)
- Static Decay: 1000V-100V < 5.0 sec at 18"
- ESD safe coverage area: 3' x 5'
- Variable fan speed: 150-300 CFM
- Made in USA



TOP GUN & SIDE KICK Ionized Air Blow-Off	part no.
Top Gun, Hand-Held, 7' Cable/hose assembly 120V, 50/60 Hz	4005105
Top Gun, Hand-Held, 14' Cable/hose assembly 120V, 50/60 Hz	4006599
Top Gun Side Kick, Hands-Free w/ foot pedal, 120V, 50/60 Hz	4006992
Top Gun Side Kick, Hands-Free w/ foot pedal, 230V, 50/60 Hz	4007005
Filter/Nozzle Kit 2 ea/ pkg (All Top Guns)	5050696



- UL and CE listed
- Static Decay: 1000V-100V < 1.5 sec at 6"
- Onboard airflow adjustment
- High efficiency part cleaning
- Hand-Held or Hands-Free versions
- Made in USA

Top Guns use compressed air or nitrogen (5-100 PSI) to rapidly decay static charges and provide efficient cleaning. All Top Guns feature a 0.2 micron filter at the exit of the gun to ensure clean air. An industry leading ion output balance of 0 +/- 15V means they're safe to use even on the most sensitive components.

The Hand-Held version features an ergonomically designed, lightweight gun body with a feather touch trigger, making it comfortable even for extended periods of use. Hanger provided for easy mounting.

A Side Kick version comes with a foot pedal to control air flow and a positionable goose neck to free the operators' hands during operation. Includes bracket for easy mounting.

PULSE BAR	part no.
Standard Pulse Bar	PBET-xxxx
Air Assist Pulse Bar	AAPBT-xxx



- Slim design for easy mounting in restricted space
- Quickly reduces static charges
- Simple to maintain
- Steady State for Pulse DC operation

Pulse Bars eliminate static charges that cause contaminants to accumulate on surfaces and products. Available in standard lengths from 12 to 96". A slimline, rugged design allows the Pulse Bar to be installed on various types of equipment. The Air Assist version utilizes compressed air to allow mounting up to 3' away.

- Perfect for static surveys
- Red "bulls eye" ranging lights
- Chopper stabilized for use in ionized fields
- Hold button allows user to hold & record measurement



TEST

STATIC LOCATOR METER	part no.
Static Locator Meter	BBL-MT1
Static Locator Meter and charge plate	BBL-MC1
Charge plate only	BBL-CP1

This Static Locator is a non-contact meter that indicates electrostatic field voltage and polarity on charged surfaces. This easy-to-use instrument comes equipped with a Power On/Hold button and a zero button.

The Ionization Kit is designed to perform periodic verification of air ionizers in accordance with ESD-SP3.3. The charger quickly places a 1,000V charge on the plate so that the meter can easily measure neutralization capabilities of any ionizer.





- Measures RTT, RTG or Resistivity
- Easy to read 9/16" high LCD display
- Meets ESD Assoc. Std. S4.1, S9.1, STM2.1, STM12.1, STM97.1 & ADV53.1

SURFACE RESISTIVITY METER

part no.

Surface Resistivity 120V

BSR-001 versatile

This surface resistance test kit is a portable, accurate, and versatile instrument designed to measure resistance between two points (RTT), surface to ground (RTG), and surface resistivity in accordance with ESD Association standard S4.1. A great tool for testing ESD compliance of matting, workstation tops, shelving, and flooring.

- Low cost and highly dependable
- Simple to use for testing wrist straps, heel or toe grounders, and ESD shoes
- Visual signals notify user of high or low fail
- Easy-to-hear tone indicates pass



WRIST STRAP & HEEL GROUND TEST STATION

part no.

Wrist Strap Tester 750k-10 meg ohm	BBT-WS1
Complete Test Station	BBT-CT1
Test Station Sign	BBT-TSS
Test Station Foot Plate	BBT-SFP
Calibration Tester for BBT-WS1	BBT-WS2

This complete test station is an easy-to-use test mechanism for personnel grounding devices. It has an available range of 750k-10 meg ohm (US standard).

Wrist straps can be tested with a touch of the contact plate. Heel straps and ESD shoes are easily tested using the metal footplate.

Easy-to-hear tone indicates pass; visual signal indicates high or low fail. The wrist band tester may be hand held or wall-mounted with the backplate sign. Heel and toe grounder testing requires the optional footplate.



- Meets MIL-B-81705 standards
- Surface resistivity <math>< 10^{11}</math> ohm/ in²
- Will not cause corrosion or affect polycarbonate
- Non-amine polyethylene
- Made in USA

7100 ANTI-STATIC BAG

Also available as tubing and Clean to Level 100

size

part no.

3" x 5"	71000305
5" x 8"	71000508
8" x 10"	71000810
13" x 15"	71001315
18" x 24"	71001824

These bags are permanently antistatic and tinted pink to flag antistatic properties. These bags decay static charges that may be potentially harmful. They are also used in place of "hot" regular poly bags to package ordinary cables and assembly hardware when such materials will be carried into static sensitive work areas.



8100 is superb for packaging of static sensitive components, PC boards, and electronic assemblies. The outer layer is static dissipative, 48-gauge polyester. A metallized layer is buried between the polyester and an antistatic polyethylene (PE) inner layer. The aluminum is an excellent ESD shield and the PE prevents tribocharging of the bag contents.

8100 STATIC SHIELDING & ZIP TOP BAGS

size	part no.	size	part no.
3" x 5"	81000305	10" x 14"	81001014
4" x 4"	81000404	11" x 15"	81001115
4" x 6"	81000406	12" x 16"	81001216
5" x 8"	81000508	12" x 18"	81001218
6" x 10"	81000610	12" x 18"	81001218
6" x 10"	81000610	14" x 18"	81001418
7" x 15"	81000715	18" x 24"	81001824
8" x 8"	81000808	3" x 5" Zip Top Bag	81000305Z
8" x 10"	81000810	4" x 4" Zip Top Bag	81000404Z
8" x 12"	81000812	4" x 6" Zip Top Bag	81000406Z
10" x 12"	81001012	8" x 12" Zip Top Bag	81000812Z
		11" x 15" Zip Top Bag	81001115Z

Available in sheeting and Clean to Level 100



- Shields against ESD damage
- Positioning metal layer between polyester and polyethylene layers enhances durability
- Available with zip top closure
- Made in USA

3000 employs a static dissipative outer layer of static dissipative nylon, a solid aluminum foil middle layer, and an inner layer of static dissipative polyethylene to provide excellent moisture vapor protection.

The 3000 bag also provides full protection from ESD, static fields and tribocharging. It meets the requirements of IPC/JEDEC J-STD-033.

3000 MOISTURE BARRIER BAG

size	part no.
10" x 20"	3000-1020
10" x 30"	3000-1030
16" x 18"	3000-1618
4" x 4" (with zipper)	3000-0404Z
6" x 24" (with zipper)	3000-0624Z
8" x 10" (with zipper)	3000-0810Z
11" x 15" (with zipper)	3000-1115Z
15" x 18" (with zipper)	3000-1518Z



BB450 MOISTURE BARRIER BAG

size	part no.
6" x 8"	BB4500608
13" x 16"	BB4501316
18" x 22"	BB4501822
22" x 34"	BB4502234

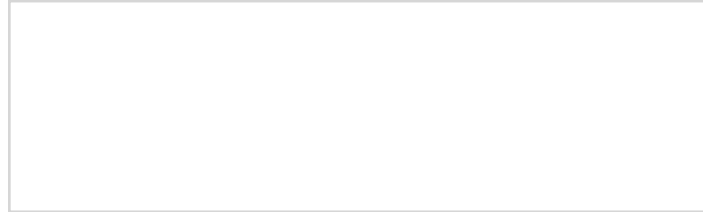
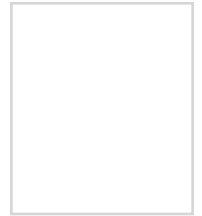
BB-450 is engineered to offer superior protection and the highest degree of vacuum retention. This structure is ideally suited for packaging disc media, wafers, sputtering targets, lead frames, cathodes and other moisture sensitive components which require state-of-the-art safeguarding.

The proprietary lamination has been constructed to incorporate clarity for reading lot codes or information through the package and a high moisture and gas barrier for extended shelf life in a wide range of storage temperatures. Readily heat sealable, it exhibits superior impact strength and resists abrasion and particulate sloughing. If particulate contamination is a concern, BB-450 can be provided cleanroom certified for stringent contamination requirements.



- Superior moisture barrier qualities
- Long shelf life in most storage conditions
- Highly resistant to abrasion and sloughing
- Excellent for shipping into countries with stringent customs inspections
- Most durable non-foil composite offered by Bennett & Benn

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