





#### Vermason: The Specialists in ESD Protection

Vermason is a manufacturer of ESD protection products and was founded in Letchworth in 1979. In April 2007 Desco Industries, Inc. of Chino California acquired 100% of the shares of Vermason Ltd. Vermason is now a division of Desco Industries, Inc.

Today, Vermason is engaged in producing a wide range of ESD products in our 2000 square metre factory in Letchworth, United Kingdom.

Use Vermason static control products to improve quality and throughput. According to EN 61340-5-2 "Where no ESD handling precautions are taken, a high proportion of electronic apparatus failure can be attributed to ESD damage. The figure could in theory be reduced to zero by adopting the precautions described in EN 61340-5-1 in all areas".

Several sewing machines help make heel grounders, field service kits and other sewn items. The far end of the factory is home to several light assembly processes such as crimpers, insert moulding machines, riveting presses and ultrasonic welders. They are used to make wristbands, coiled cords, and earth bonding points amongst others. The injection moulding presses make various products such as earth bonding point boxes and plug cases. The bag making machines are used to make black conductive, pink and bubble shielding bags. The computer-controlled mat cutting machine can cut mats and boards up to 12m long and 2m wide. In an especially made ESD protected area, test and monitor products such as resistance indicators, wrist strap testers and constant monitors are assembled and traceable to UKAS. Vermason's development engineers have designed many of our products and the processes needed to manufacture them.

We can also provide training to ESD technicians and perform field surveys of premises. Vermason products are designed to comply with the requirements of EN 61340-5 and ANSI/ESD S20.20.

In the UK, ESD users are served directly or by a network of distributors. In other countries we sell through distributors.

Click Here to watch our Power Point Presentation.

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We welcome visitors to our modern production plant in the UK

#### See us live! Click HERE.

Products shown in this catalog are covered by one or more of the following patents: 5,568,351; 5,677,822; 5,786,977; 5,951,337; 6,052,053; 6,078,875; 6,137,670; 6,205,408









#### LIMITED WARRANTY

GUARANTEE: We guarantee our products are of the highest quality and meet all appropriate industry standards. Vermason wants you to be confident with each product we produce. We make every effort to see to it that our products are of the highest quality and meet all appropriate recognized industry standards. Since we cannot guarantee that all products are applicable to all situations and that the data we provide from many sources is reliable and accurate for all situations, our lawyers want you to know that...

All statements, technical data, and recommendations contained herein are based upon tests we believe to be reliable. However, the accuracy or completeness thereof is not guaranteed. The proper and correct application of products and data is the responsibility of the user. The following is made in lieu of all warranties, expressed or implied:

Vermason's only obligation shall be to replace such quantity of the product proved to be defective. Vermason shall not be liable for any injury, loss, or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.

No statement or recommendation not contained herein shall have any force or effect unless embodied in a written agreement signed by authorized officers of Vermason.

#### **ESD Product Range**

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Bottles, Low-Charging Solvent Dispensers, and Brushes	
Dissipative Clipboards, Binders and Documents Holders	
Waste Bins and Bags	
с — —	
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CD ESD Training .....





## **ESD WRISTBAND SELECTION CHART**

#### Vermason Wrist Straps - Designed for Europe

Per EN 61340-5-2: "Where no ESD handling precautions are taken, a high proportion of electronic apparatus failure can be attributed to ESD damage. Discharges of static electricity from conductors or charged insulators cause melting and evaporation of fine tracks on integrated circuit chips. In addition, electric fields from charged conductors and insulators causing electrical breakdown on insulation between features on integrated circuits. This figure could in theory be reduced to zero by adopting the precautions described in EN 61340-5-1." In Part 5.2, Scope 1.1 it is noted that "damage from human contact is still the most common source even in today's automated society."

Per EN 61340-5-2 paragraph 5.2.7: "Wrist Strap describes the combination of the wrist band, which should fit around the wrist making good skin contact, and the wrist cord which bonds

Wristband	<u>Jewel</u> <u>Elastic</u> <u>MagSnaps</u>	<u>Elastic</u> <u>Adjustable</u> <u>Wristbands</u>	<u>Service</u> Engineer's Wristband	<u>Adjustable</u> <u>Metal</u> <u>Wristband</u>	<u>Anti-</u> allergenic Adjustable <u>Fabric</u> <u>Wristband</u>	<u>Disposable</u> <u>Wristbands</u>
Band Material	Silver impregnated elastic nylon	Elasticated fabric with conductive fibres on inside	Expandable metal	Expandable metal	Polyester with conductive fibre on inside	Polyester non-woven fabric
Coil Cord	MagSnap / Banana Plug	4mm / 10mm Stud	10mm Stud	4mm / 10mm Stud	10mm Stud	N/A
Closure Type	Patented cam-lock	Friction-Grip	N/A	N/A	Cam-lock	Custom Fit
Other Feature	Replaceable band	Replaceable blue band	Improved durability	Improved durability	Anti- allergenic	Non- Marking, No Residue Adhesive
Color	Black / Grey	Yellow / Red / Light Blue / Dark Blue	Black	Black	Yellow / Red / Light Blue / Dark Blue	Grey
Part Numbers	<u>229903</u> - <u>229908</u>	<u>229700</u> - <u>229830</u>	<u>229625</u>	<u>229605</u> - <u>229620</u>	<u>229600</u> - <u>229770</u>	<u>229851</u>

Single-Wire

the wearer to an earth bonding point (EBP)"; paragraph 5.2.4 states that personal grounding via a Wrist Strap to an EBP should be used as the primary means of grounding.

However, the safety of users is paramount and Wrist Straps and other grounding devices should not be used if there is possible exposure to electrical voltages in excess of 250 V a.c. 500 V d.c. See the loniser section (page 37) as a means to neutralise electrostatic charges.

Fulfilling paragraph 5.1.1 EN 61340-5-2, In the event an operator comes in contact with the normal mains electricity supplies,

a one megohm resistor is used in Vermason Wrist Straps to limit the current flowing through the person to less than 0,5 mA.

In addition, other Vermason Wrist Strap safety

- features conforming with EN 61340-5-2 are:
  "The ground cord should release with a force of between 5 N and 25 N (0.51kg and 2.55 kg), preferably at the wrist band end."
- "The outer visible surface of the wristband should not be highly conductive (metallic)."
- "The discrete resistance must be at the wrist end of the wrist cord" (paragraph 5.3.4).
- "The resistor style should be such that in the event of a failure of the resistor, the failure mode is to open circuit."

#### **Environmental Type**

Band	Field Service	Standard Industrial	Critical
Metal	x	x	X
Elastic	x	x	
Disposable	x	X (visitors)	

#### **Dual-Wire**

Wristband	<u>Jewel Cloth</u> <u>Dual-Wire</u> <u>MagSanp</u> <u>Wristbands</u>	<u>Jewel</u> <u>Metal</u> Dual-Wire <u>MagSnaps</u>	<u>Jewel</u> <u>Dual Wire</u> <u>Wriststrap</u> <u>with Metal</u> <u>Wristband</u>	Jewel Dual Wire Wriststrap with Adjustable Elastic Wristband
Band Material	Woven Silveron™ fabric infused with monofilament conductive fiber	Expandable metal	Fixed Metal Band	Woven Silveron™ fabric infused with monofilament conductive fiber
Coil Cord	MagSnap	MagSnap	4mm / Angle	4mm / Angle
Closure Type	Cam-lock opposite buckle	N/A	N/A	Locking Clasp
Other Feature	Adjustable	Superior skin contact	Superior skin contact	Eliminates exposed conductive "tail" of band
Color	Dark Blue	Black	Onyx	Dark Blue / Onyx
Part Numbers	<u>229923</u> - <u>229925</u>	<u>229926</u> - <u>229934</u>	<u>229946</u> - <u>229954</u>	<u>229940</u> - <u>229942</u>

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# ESD COIL CORD SELECTION CHART

Single-Wire				Dual-	Wire
Coil Cords	<u>Jewel</u> . <u>Single_</u> <u>MagSnap</u>	Standard Coil Cord	<u>Coil Cords with</u> Angled Plug	<u>Jewel MagSnap</u> <u>Dual-Wire</u>	<u>Jewel</u> Dual Wire Coil Cord
Termination	MagSnap / straight banana	Socket /Stud, Socket/Socket, Socket/Plug	Socket / Angled Plug	MagSnap / right angle banana 3.5mm phono plug	Snap / right angle banana 3.5mm phono plug
Other Feature	Relaxed retraction	Rapid Retraction	Rapid Retraction	Compatible w/ 3M & other brand continuous monitors	Superior resistor connection strain relief
Length (Meters)	1.8, 3.7, 6.1	1, 2, 3, 6	1.8	1.8, 3.7, 6.1	1.8, 3.7, 6.1
Color	Black	Black, Yellow, Blue	Black	Black	Black
Part Numbers	<u>229900</u> - <u>229902</u>	<u>230105</u> - <u>230330</u>	<u>230290</u> - <u>230295</u>	<u>229920</u> - <u>229922</u>	<u>229943</u> - <u>229945</u>

#### Vermason Wrist Cords - Designed for Europe

Vermason Wrist Cords provide reliable electrical connections and are a necessary component of a successful ESD control programme. Without cords, wrist bands, smocks, and gloves are completely ineffective. Wrist bands, smocks, and gloves must be connected to ground via a wrist cord in order for them to function properly. Vermason Wrist Cords are the best investment you can make in setting up your complete ESD protected workstation.

Our premium rapid retraction blue wrist cords feature high memory and less dragging on the worksurface. Their superior strain relief design has passed 27,500,000 cycles, tested per industry Bending Life Test. This exceeds over 1,700 times the minimum requirement. Our superior design eliminates intermittent failures that can occur with less durable single and dual wire cord designs.

Our cords also feature patented\* spring supported contour banana plugs. See details below. In addition, spring loaded snaps provide consistent electrical contact and maintain consistent release force with the wrist strap stud per EN 61340-5-2.

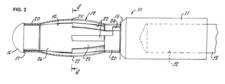
Finally, our premium cords are manufactured in America, at our Chino, California facility, ensuring consistent top quality products.

#### All Vermason Premium Cords Have The Following Features & Benefits:

- Superior banana plugs with patented supported spring contour; Fits into all standard banana jacks 3.98mm ID.
- Greater retention force; cords won't fall out and put your parts at risk; Provides long life, saving money.
- Spring loaded 4mm or 10mm stainless steel constant contact snap; provides constant electrical contact.
- Tensile strength at each end in excess of 13.6 kg (approx. 136 Newton); longer lasting cord saves money.
- One megohm series resistor at wrist end to protect operator from accidental contact with equipment line voltage; fulfills Paragraph 5.1.1 of EN 61340-5-2.
- Premium coil cords designed and manufactured at our Chino, CA, USA factory; made in America under our control, ensuring consistent top quality.
- UL listed; assured safety and integrity.
- Date coded; lot traceability.

Patented\* Banana Plug Will Resist Abuse

Vermason's premium wrist cords feature a contoured supported spring banana



plug design (see illustration at right). Collapsing springs on banana plugs are the number one reason for failed coil cords. Our patented design\* resists banana spring collapse by preventing the spring from travelling beyond its limit to return. When a banana spring collapses, it loses its ability to make good contact with a banana jack. Under extreme abuse conditions, the banana plug will fall out of the jack under minimal pull force. The new banana plugs will maintain a disengagement force of equal to or greater than .5 Kg of disengagement force over the life of the cord. They fit into all standard banana jacks 3.98mm. \*U.S. Patent 5951337

Available with all Jewel<sup>®</sup> Magsnap Adjustable and Metal Wrist Strap Cords. See page 6.



See our products being Made in Britain on our web site: Click Here





# Jewel<sup>®</sup> magsnap adjustable ELASTIC AND METAL WRIST STRAPS

- · Magnetic connection between wristband and coiled cord
- More reliable design, no moving parts to wear out

Elastic Band Only, 4mm Elastic Band with 1.8m Cord, 4mm

Elastic Band with 3.7m Cord. 4mm

Metal Band with 1.8m Cord, 4mm

Metal Band with 3.7m Cord, 4mm

1.8m Coiled Cord Only, 4mm 3.7m Coiled Cord Only, 4mm

6.1m Coiled Cord Only, 4mm

Metal Band Only, 4mm

Download Technical Drawings 229900, 229903, and 229906 and Technical Bulletin TB-7504

- Superior strain relief with lifetime guarantee; tests in excess of 1,000,000 cycles - eliminates intermittent failures
- Made in America Part No. Description

229903

229904

<u>229905</u> 229906

<u>229907</u>

229908 229900

<u>229901</u> 229902

Personnel Grounding



# Revolutionary Magnetic Interconnect Technology

Meets EN 61340-5-1 including breakaway force test (.45 - 2.3 kg)



Made in the

USA



Jewel<sup>®</sup> magsnap dual-wire wrist straps WITH ADJUSTABLE ELASTIC WRISTBAND AND FIXED SIZED METAL WRISTBAND

- · Magnetic connection between wristband and cord
- Patented (US patents 6,052,053 and 6,205,408) Dual Wire Wrist Strap provides redundancy - if one dual wire wrist strap conductor is severed, operator still has reliable path-to-ground with other wire
- Superior strain relief with lifetime guarantee tests in excess of 1,000,000 cycles - eliminates intermittent failures
- Meets EN 61340-5-1 including breakaway force test (.45 2.3 kg)
- Made in America
- Part No. Description Elastic Band Only, 4mm <u>229923</u> Elastic Band with 1.8m Cord, Angle, 4mm 229924 <u>229925</u> Elastic Band with 3.7m Cord, Angle, 4mm Metal Band Only, 4mm, Small 229928 Metal Band Only, 4mm, Medium Metal Band Only, 4mm, Large 229927 229926 Metal Band with 1.8m Cord, Angle, 4mm, Small <u>229931</u> Metal Band with 3.7m Cord, Angle, 4mm, Small <u>229934</u> <u>229930</u> Metal Band with 1.8m Cord, Angle, 4mm, Medium
- Metal Band with 3.7m Cord, Angle, 4mm, Medium 229933 Metal Band with 1.8m Cord, Angle, 4mm, Large <u>229929</u> Metal Band with 3.7m Cord, Angle, 4mm, Large 229932
- 1.8m Coiled Cord Only, Angle, 4mm 229920 3.7m Coiled Cord Only, Angle, 4mm 229921 6.1m Coiled Cord Only, Angle, 4mm 229922

Download Technical Drawings 229920, 229923, and 229926 and Technical Bulletin TB-7504

# Revolutionary Magnetic Revolutionary Magnetic Interconnect Technology

# 229930

229923

#### **Metal band does not** pinch or pull hair!

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#### Jewel<sup>®</sup> DUAL WIRE WRISTSTRAP WITH METAL WRISTBAND

- Patented (US patents 6,052,053 and 6,205,408) Dual Wire Wrist Strap provides redundancy
- Use with resistive loop technology continuous monitor
  Solid stainless steel wrist band 4mm stud machined
- to exacting tolerances and precise profile • Durable metal band
- Made in America

#### Part No. Description

229951Small, Onyx Metal Band with 1.8m Cord, 4mm229950Medium, Onyx Metal Band with 1.8m Cord, 4mm229949Large, Onyx Metal Band with 1.8m Cord, 4mm229954Small, Onyx Metal Band with 3.65m Cord, 4mm229953Medium, Onyx Metal Band with 3.65m Cord, 4mm229952Large, Onyx Metal Band with 3.65m Cord, 4mm

229948Small, Onyx Metal Band Only229947Medium, Onyx Metal Band Only

229946 Large, Onyx Metal Band Only

#### Jewel<sup>®</sup> dual wire wriststrap with Adjustable elastic wristband

- Patented (US patents 6,052,053 and 6,205,408) Dual Wire Wrist Strap provides redundancy
- · Use with resistive loop technology continuous monitor
- Durable, lightweight fabric
- Has silver impregnated nylon knitted on inside for superior conductivity
- Made in America

#### Part No. Description

- 229940 Onyx Elastic 4mm Snap Wristband Only
- 229941 Onyx Elastic Wristband with 1.8m Cord, 4mm Snap / Angle
- 229942 Onyx Elastic Wristband with 3.65m Cord, 4mm Snap / Angle

# 







#### SERVICE ENGINEER'S WRIST STRAP

- Recommended for field engineers because of durability
- Long lasting; can be worn and removed many times without losing its elasticity
- · Adjustable and re-adjustable; no loose links
- Made in Britain and America

Part No. Description

Adjustable Metal Wrist Strap, 10mm Socket, 4mm Plug Crocodile Clip, Insulated, Black

Note: All wrist strap kits with plugs include alligator clip.

Download Technical Drawings 230115 and Technical Bulletin TB-7504





229625

225703

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#### ADJUSTABLE ELASTIC WRIST STRAP

- No metal to skin contact, choice for those with skin allergies
- Widely adjustable, elasticated fabric band
  Resistance of one Megohm (1x10E6
- ohms) built in to every socket

#### Made in Britain

#### Part No. Description <u>229700</u> Wristband Only, 4mm, Dark Blue 229710 Wristband Only, 4mm, Light Blue 229715 Wristband Only, 4mm, Red Wristband Only, 4mm, Yellow 229725 <u>229705</u> Wristband Only, 4mm, Blue, Pack of 100 Wristband Only, 4mm, Red, Pack of 100 229720 <u>229730</u> Wristband Only, 4mm, Yellow, Pack of 100 229740 Wristband Only, 10mm, Dark Blue Wristband Only, 10mm, Light Blue <u>229750</u> Wristband Only, 10mm, Red 229755 <u>229765</u> Wristband Only, 10mm, Yellow Wristband Only, 10mm, Blue, Pack of 100 229745 Wristband Only, 10mm, Red, Pack of 100 <u>229760</u> 229770 Wristband Only, 10mm, Yellow, Pack of 100 229775 Wrist Strap, Dark Blue / Coiled Cord, 2m, Yellow, 4mm Socket, 4mm Plug <u>229785</u> Wrist Strap, Red / Coiled Cord, 2m, Black, 4mm Socket, 4mm Plug Wrist Strap, Yellow / Coiled Cord, 2m, 229790 Yellow, 4mm Socket, 4mm Plug 229795 Wrist Strap, Dark Blue / Coiled Cord, 2m, Yellow, 10mm Socket, 4mm Plug <u>229800</u> Wrist Strap, Light Blue / Coiled Cord, 2m, Light Blue, 10mm Socket, 4mm Plug Wrist Strap, Red / Coiled Cord, 2m, 229805 Black, 10mm Socket, 4mm Plug <u>229810</u> Wrist Strap, Yellow / Coiled Cord, 2m, Yellow, 10mm Socket, 4mm Plug Wrist Strap, Dark Blue / Coiled Cord, 2m, 229815 Yellow, 10mm Socket, 10mm Socket Wrist Strap, Red / Coiled Cord, 2m, 229825 Black, 10mm Socket, 10mm Socket 229830 Wrist Strap, Yellow / Coiled Cord, 2m, Yellow, 10mm Socket, 10mm Socket

225703 Crocodile Clip, Insulated, Black

Note: All wrist strap kits with plugs include crocodile clip.

Download Technical Drawings <u>229700</u> and <u>229740</u> and Technical Bulletin <u>TB-7504</u>

#### ADJUSTABLE FABRIC WRISTBAND

- Versatile; metal back or plastic back
- Metal helps contact to dry skin insert plastic cover if there are metal-on-skin allergy issues
- Adjustable band to suit wrist circumference of 130mm to 180mm
- 10mm stud connector only
- Import

Part No. Description

229600Adjustable Fabric Wristband, 10mm, Blue229601Adjustable Fabric Wristband, 4mm, Blue

Download Technical Drawing **229600** and Technical Bulletin **TB-7504** 



No exposed tail and no

metal-on-skin contact



#### For comfortable fit





Plastic Cap Prevents Metal-on-Skin Allergy Issues



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ersonnel Grou

#### ADJUSTABLE METAL WRISTBAND

- · High quality stainless steel band made in America and assembled in United Kingdom
- Long lasting; washable
- · Fully adjustable and re-adjustable; no loose links
- Adjustable: 195mm to 245mm circumference
- Made in Britain and America

#### Part No. Description

- Adjustable Metal Wristband, 4mm Stud <u>229615</u>
- Adjustable Metal Wristband, 4mm Stud, XL 229610
- Adjustable Metal Wristband, 10mm Stud Adjustable Metal Wristband, 10mm Stud, XL <u>229620</u>
- 229605
- Crocodile Clip, Insulated, Black 225703

Download Technical Drawings 229615 and 229620 and Technical Bulletin TB-7504

Metal bands do not pinch or pull hair!

#### **DISPOSABLE WRIST STRAP**

- Grounds Operator in Accordance with EN 61340-5-1
- 150cm Long Strap

Part No. Description Disposable Wrist Strap <u>229851</u>

Download Technical Drawing 229851



111111

229610

#### TIP!

229851

230290

Use constant monitors to verify that the operator is continuously grounded. See pages 52

**Right angle banana jack** 

minimizes snagging and

accidental disconnect

#### **COILED CORDS WITH ANGLED PLUG**

- · Right angled plug protrudes less, less likely to be bent or snagged
- 2mm diametre cord with black polyurethane insulation
- 1 Megohm (1x10E6 ohms) resistor built in to socket

#### Part No. Description

1.8m Coiled Cord, 10mm Socket / 4mm Angled Male Plug 230290 230295 1.8m Coiled Cord, 4mm Socket / 4mm Angled Male Plug

Download Technical Drawing 230290 and Technical Bulletin TB-7504

#### REZTORE ESD HAND LOTION

- · When using wrist straps, ESD gloves, or ESD footwear, dissipative formulation creates a superior path to ground; Rp 10E6 ohms
- Special ESD formulation for the electronic manufacturing environment; will not insulate skin like regular lotions
- Enriched with aloe vera
- Made in America

Part No. Description Reztore ESD Hand Lotion, 235 ml <u>229630</u>

Download Technical Bulletin TB-7046



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ROZIDIO.

SD Hand Lotion

**OLDER SAFE** 

C DISSIPATIVE RIST STRAP CONTACT



#### **COILED CORDS**

- 2.5mm polyurethane insulation
- Conductor is high strength 7-end duplex tinsel for strength and flexibility
- 1 Megohm (1x10E6 ohms) current limiting resistor
- built in each socket; no resistor in 4mm plug
- Made in Britain

#### Part No. Description

Part No.	Description
<u>230105</u>	1m Coiled Cord, 4mm Socket / 4mm Plug, Black
<u>230110</u>	1m Coiled Cord, 4mm Socket / 4mm Plug, Black, no resistor
<u>230155</u>	2m Coiled Cord, 4mm Socket / 4mm Plug, Black
<u>230170</u>	2m Coiled Cord, 4mm Socket / 4mm Plug, Yellow
<u>230115</u>	1m Coiled Cord, 10mm Socket / 4mm Plug, Black
<u>230175</u>	2m Coiled Cord, 10mm Socket / 4mm Plug, Black
<u>230200</u>	2m Coiled Cord, 10mm Socket / 4mm Plug, Black, no resistor
<u>230180</u>	2m Coiled Cord, 10mm Socket / 4mm Plug, Black, 2.2 meg
<u>230205</u>	2m Coiled Cord, 10mm Socket / 4mm Plug, Yellow
<u>230220</u>	2m Coiled Cord, 10mm Socket / 4mm Plug, Yellow, no resistor
<u>230210</u>	2m Coiled Cord, 10mm Socket / 4mm Plug, Yellow, 2.2 meg
<u>230300</u>	3m Coiled Cord, 10mm Socket / 4mm Plug, Black
<u>230305</u>	3m Coiled Cord, 10mm Socket / 4mm Plug, Black, no resistor
<u>230340</u>	6m Coiled Cord, 10mm Socket / 4mm Plug, Blue
<u>230145</u>	1m Coiled Cord, 10mm Socket / 4mm Socket, Black
<u>230260</u>	2m Coiled Cord, 10mm Socket / 4mm Socket, Black
<u>230270</u>	2m Coiled Cord, 10mm Socket / 4mm Socket, Yellow
<u>230120</u>	1m Coiled Cord, 10mm Socket / 10mm Socket, Black
<u>230125</u>	1m Coiled Cord, 10mm Socket / 10mm Socket, Black, no resistor
<u>230130</u>	1m Coiled Cord, 10mm Socket / 10mm Socket, Yellow
<u>230140</u>	1m Coiled Cord, 10mm Socket / 10mm Socket, Yellow, no resistor
<u>230135</u>	1m Coiled Cord, 10mm Socket / 10mm Socket, Yellow, 2.2 meg
<u>230225</u>	2m Coiled Cord, 10mm Socket / 10mm Socket, Black
<u>230240</u>	2m Coiled Cord, 10mm Socket / 10mm Socket, Black, no resistor
<u>230230</u>	2m Coiled Cord, 10mm Socket / 10mm Socket, Black, 2.2 meg
<u>230245</u>	2m Coiled Cord, 10mm Socket / 10mm Socket, Yellow
<u>230255</u>	2m Coiled Cord, 10mm Socket / 10mm Socket, Yellow, no resistor
<u>230250</u>	2m Coiled Cord, 10mm Socket / 10mm Socket, Yellow, 2.2 meg
<u>230235</u>	2m Coiled Cord, 10mm Socket / 10mm Socket, Blue
<u>230310</u>	3m Coiled Cord, 10mm Socket / 10mm Socket, Black
<u>230350</u>	6m Coiled Cord, 10mm Socket / 10mm Socket, Blue
<u>230275</u>	2m Coiled Cord, 10mm Socket / 10mm Stud, Black
<u>230280</u>	2m Coiled Cord, 4mm Socket / 10mm Stud, Black

230330 3m Coiled Cord, 4mm Socket / 10mm Stud, Black

Download Technical Drawings <u>230105</u>, <u>230115</u>, <u>230120</u>, <u>230145</u>, <u>230275</u>, and <u>230280</u> and Technical Bulletin <u>TB-7504</u>

#### Jewel<sup>®</sup> dual wire coil cord

- Meets EN 61340-5-1 Personel Grounding Limit
- Dual Wire Coil Cord provides redundancy
- · Use with resistive loop technology continuous monitor
- · Superior resistor connection strain relief
- Made in America

#### Part No. Description

<u>229943</u>	1.8m Cord, 4mm Snap / Angle
<u>229944</u>	3.65m Cord, 4mm Snap / Angle
<u>229945</u>	6.1m Cord, 4mm Snap / Angle

#### **CLIP TO FIT 4MM PL**

Part No. Description 225703 Crocodile Clip, Insulated, Black

Download Technical Bulletin TB-7504



230155







#### TIP!

Use coiled cords for connecting wristbands to ESD Protected Area (EPA) earth bonding point (EBP).

Use straight cords for connecting bench mats or floor mats to EPA earth bonding point (EBP). See page 24

n See our products being Made in America on our web site: Desco.com/Factory







### FOOT GROUNDER SELECTION CHART

All Vermason Foot Grounders are suitable as ESD footwear component in Person/footwear/flooring system meeting EN 61340-5-1 limit of <3.5 x 10E7ohms tested per Clause A.2 and RoHS compliant.

All Vermason Foot Grounders (except Disposable Heel Grounder) are:

- Manufactured with abrasion resistant 10E5-10E6 ohm rubber
- Tear Resistant Rubber with Inner Scrim
- UL listed, Underwriters Laboratory # 90P1
- · Marked with ESD protective symbol, manufacturer's name, and date coded
- Made in America or Made in America or Britain

Foot Grounder	Full Coverage	Heel Grounder with Velcro® Straps	Heel Grounder with Elastic Back and Velcro® Straps	Heel Grounder with Elastic Straps and Clip Fastener	Toe Grounder with Stretchable Velcro®	Disposable	Wescorp Foot Grounders	Standard Foot Grounders
Grounder Type	Foot	Heel	Heel	Heel	Тое	Heel	Toe / Heel	Toe / Heel
Resistor Value	1 megohm	No resistor 1 megohm	1 megohm	1 megohm	No resistor / 1 megohm	No Resistor	1 megohm	1 megohm
Closure Type / Style	Elastic Retention	Velcro® Straps	Elastic Back and Velcro® Straps	Elastic Straps and Clip Fastener	Velcro® Straps	Adhesive Seal	Snap-loc fastener	Hook and loop fastener
Rubber Description	Abrasion Resistant 3-Layer Rubber	Abrasion Resistant 2-Layer Rubber	Abrasion Resistant 2-Layer Rubber	Abrasion Resistant 2-Layer Rubber	Abrasion Resistant 2-Layer Rubber	N/A	Abrasion Resistant 2-Layer Rubber	Abrasion Resistant 2-Layer Rubber
Special Feature	Class 0; reduced charge on person	Economical Model	Comfortable and Lightweight	Comfortable and does not require daily readjustment	Shoes with raised heels	One time use, ideal for visitors	Durable / Long Lasting	Always in Stock
Colour	Yellow	Black with Yellow, Blue, Green, or Pink	Black and Purple with Blue or Green	Purple and Black	Blue and Purple	Black and Yellow	Black and White	Blue and Black
Non- marring	Floor and Shoes	Shoes	Shoes	Shoes	Shoes	Shoes	Shoes	Shoes
Reversible	Yes	Yes	Yes	Yes	No	No		
Size	Small, Medium, Large, XLarge	One Size Fits All	One Size Fits All	One Size Fits All	One Size Fits All	One Size Fits All	One Size Fits All	One Size Fits All
Part Numbers	<u>249250</u> - <u>249253</u>	<u>248500</u> - <u>248570</u>	<u>248650</u> - <u>248670</u>	<u>248675</u> - <u>248690</u>	<u>248695</u> - <u>248715</u>	<u>249200</u> - <u>249220</u>	<u>249265</u> - <u>249266</u>	<u>249260</u> - <u>249261</u>

#### Vermason Foot Grounders - Designed for Europe

Per EN 61340-5-2 paragraph 5.2.8, footwear should be used "where personnel are mobile, in storing areas, operating large machinery, etc., it may be impractical or dangerous to have long cords attached to them." They must be used with an ESD protected floor (such as properly grounded ESD floor finish, carpet tiles, or floor mats) to provide a continuous electrical path from the user directly to the ESD ground. Foot grounders provide a ground path from the moisture layer on the wearer's skin through socks and via the conductive tab and dissipative rubber to the dissipative or conductive floor surface.

Accepted industry standards dictate that foot grounders be worn on both feet to ensure that one foot is always in contact with the floor at all times. It is important that personnel are instructed in the proper use and maintenance of foot grounders, especially the necessity of placing the grounding tab between the foot and shoe. Download Technical Bulletin <u>PPE-5006.E</u> from <u>www.Vermason.co.uk</u> for details.

Look for many of our items which utilise an industrial dual layer rubber with an inner scrim. This produces exceptionally tear resistant foot grounders and provides long life, saving you money.

Vermason foot grounders are made in our Rochester, New Hampshire, USA factory. Manufacturing our products ensures you high quality standards. This also gives us the ability to make custom foot grounders. Just call Customer Service for a quote!

All Vermason foot grounders, when used with an ESD protected floor, fulfill the requirements of EN 61340-5-1.



See our products being Made in Britain on our web site: <u>Click Here</u>







249250

#### FULL COVERAGE FOOT GROUNDERS · Contact points on foot's sole and heel area; charge

- generation is generally lower than conventional heel straps due to the continuous path to ground throughout walking motion. Click HERE for full report from Affinity Static Control Consulting LLC.
- Unique design requires no fastening system
- · Neoprene rubber with no exposed carbon
- One Megohm series resistor
- Made in America

#### Part No. Description

	2000.01.01.0
<u>249250</u>	Full-Coverage Non-Marking Foot Grounder, Small
<u>249251</u>	Full-Coverage Non-Marking Foot Grounder, Medium
<u>249252</u>	Full-Coverage Non-Marking Foot Grounder, Large
<u>249253</u>	Full-Coverage Non-Marking Foot Grounder, X-Large

Download Technical Bulletin 249250

**Non-marking** 

248685

#### **HEEL GROUNDER WITH ELASTIC STRAPS AND CLIP FASTENER**

- · Fits gently on the foot, has broad appeal
- · Clip avoids daily re-adjustment
- 1 Megohm (1 x 10E6 ohms) current limiting resistor; heavy duty external molded resistor
- Blue strap only
- Made in America

#### Part No. Description

<u>248685</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Bag of 1
<u>248675</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Bag of 2
<u>248690</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Bag of 10
<u>248680</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Bag of 25

Download Technical Drawing 248685 and Technical Bulletin TB-7515

#### **TOE GROUNDER WITH STRETCHABLE VELCRO®**

- · Both width and length are adjustable
- 1 Megohm (1 x 10E6 ohms) current limiting resistor
- · Fits women's shoes
- · Blue strap only
- Made in Britain
- Part No. Description

<u>248710</u>	Toe Grounder, 1 Megohm (1x10E6 ohms) resistor, Small, Bag of 1
<u>248700</u>	Toe Grounder, 1 Megohm (1x10E6 ohms) resistor, Small, Bag of 2
<u>248715</u>	Toe Grounder, 1 Megohm (1x10E6 ohms) resistor, Small, Bag of 10
<u>248705</u>	Toe Grounder, 1 Megohm (1x10E6 ohms) resistor, Small, Bag of 25
248695	Toe Grounder, No resistor, Small, Bag of 2

Download Technical Drawing 248710 and Technical Bulletin TB-7515

248710

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See our products being Made in America on our web site: Desco.com/Factory



Clip Fastener









- · Economical model
- · Double heel cup made of abrasion resistant neoprene
- Straps are hook and loop Velcro<sup>®</sup>; hook is 10cm long, loop is 36cm
- · Made in Britain

- Mauc	in Ditain	
Part No. 248500 248510 248505	Description Heel Grounder, no resistor, Yellow Straps, Bag of 2 Heel Grounder, no resistor, Yellow Straps, Bag of 10 Heel Grounder, not resistor, Yellow Straps, Bag of 25	
248565 248555 248570 248560	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Yellow Straps, Bag of 1 Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Yellow Straps, Bag of 2 Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Yellow Straps, Bag of 10 Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Yellow Straps, Bag of 25	
248520 248530 248525	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 2 Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 10 Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 25	
<u>248535</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Green Straps, Bag of 2	
<u>248540</u> <u>248550</u> 248545	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Pink Straps, Bag of 2 Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Pink Straps, Bag of 10 Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Pink Straps, Bag of 25	

Download Technical Drawing 248500 and Technical Bulletin TB-7515

#### HEEL GROUNDER WITH ELASTIC BACK AND VELCRO® STRAP

- · Comfortable, light, less bulky
- 1 Megohm (1 x 10E6 ohms) current limiting resistor; heavy duty external molded resistor
- Straps are hook and loop Velcro»; hook is 10cm long, loop is 36cm
- · Two wear surfaces; doubles the life of the heel grounder
- · Available in multiple attractive colors
- Made in Britain

Part No. Description

1 ant 110.	Beeenplich	
<u>248660</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 1	
<u>248650</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 2	
<u>248665</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 10	
<u>248655</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 25	
<u>248670</u>	Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Green Straps, Bag of 25	
	248660 248650 248665 248655	248650 248655Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 2248665 248655Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 10248655 248655Heel Grounder, 1 Megohm (1x10E6 ohms) resistor, Blue Straps, Bag of 25

Download Technical Drawing 248660 and Technical Bulletin TB-7515

#### **REZTORE ESD HAND LOTION** When using wrist straps, ESD gloves, or ESD footwear, dissipative formulation creates a superior path to ground; Rp 10E6 ohms BAZIDIA When using wrist straps, ESD gloves, or ESD footwear SD Hand Lotion Special ESD formulation for the electronic manufacturing ATIC DISSIPATIVE S WRIST STRAP CONTACT environment; will not insulate skin like regular lotions Enriched with aloe vera • SOLDER SAFE BS QU Made in America Part No. Description Reztore ESD Hand Lotion, 235 ml 229630 Download Technical Bulletin TB-7046



248660

#### Hard-wearing; easy fit

TIP!

If you have ESD susceptible products, ESD foot grounders will not provide ESD protection without being used on an ESD floor. Per EN 61340-5-1 clause 5.3.2 Personnel grounding, "For standing operations, personnel can be grounded via a wrist strap system or by a flooring-footwear system. When a flooring-footwear system is used, either of the two following conditions shall be met:

- The total resistance of the system (from the person, through the footwear and flooring to equipment ground) shall be less than 3.5x10E7 ohms
- The maximum body voltage generations shall be less than 100 volts and the total resistance of the system shall be less than 1x10E9 ohms."

See page 30 for Vermason Floor Finish and page 31 - 33 for Vermason Floor Matting





#### WESCORP HEEL GROUNDERS

- Designed to satisfy Footwear requirements of IEC 61340-5-1
- Wear resistant rubber
- Non-marking interior
- Snap-loc fastening assembly

Part No. Description Toe Grounder, 1 Meg Resistor 249266 Heel Grounder, 1 Meg Resistor 249265

Download Technical Drawing 249266 and 249265





#### STANDARD FOOT GROUNDERS

- · Designed to satisfy Footwear requirements of IEC 61340-5-1
- Top-of-the-line, extra wide bands of rubber
- · Exceptionally tear resistant dual layer rubber with inner scrim
- · Non-marking dissipative interior

Part No. Description Toe Grounder, 1 Meg Resistor 249261 Heel Grounder, 1 Meg Resistor 249260





#### **DISPOSABLE HEEL GROUNDERS**

- Comfortable to wear; yellow for easy identification
- Designed for visitors to the EPA; fits all shoes
- · Fits women's shoes
- · Designed for one time use
- Rg: 10E5 to 10E7 Ohms
- Made in Britain

Part No. Description 249200 Disposable Heel Grounder, Pack of 50 Disposable Heel Grounder, Pack of 100 249205

Download Technical Drawing 249200 and Technical Bulletin TB-7515



#### **Proper Installation of Foot Grounders**

Grounding tab must be placed between stockinged foot and shoe. This is essential to complete the circuit. Charges are removed from body through foot perspiration in the shoe, sustaining electrical contact between the conductive grounding tab and the body.

Vermason foot grounders (excluding toe grounders) feature an extra long 76cm grounding tab. This allows the user to adjust the tab, and use the foot grounder with boots.

Download Technical Bulletin PPE-5006.E for complete instructions.

#### See our products being Made in America on our web site: Desco.com/Factory









#### **DISPOSABLE HEEL GROUNDER DISPENSER**

- · Dispenser is designed to be mounted on wall
- · Printed with instructions for use of disposable heel grounder
- · Dispenser treated with antistatic coating
- Supplied with ten disposable heel grounders
- 315mm x 200mm x 55mm, tray is 105mm deep
- Made in Britain

Part No. Description Disposable Heel Grounder Dispenser <u>249220</u>



#### FOOTWEAR SIGN

**Be prepared** for visitors

- · Reminder to employees to remove conductive footwear on leaving the ESD Protected Area (EPA) or the changing room
- · Designed to be fixed to a wall
- Ref EN 61340-5-2 clause 4.6
- Made in Britain

#### Part No. Description

Rigid Sign, 300mm x 150mm <u>229170</u> Rigid Sign, 600mm x 300mm <u>229175</u>

**Primary source** of electrostatic

229170

Remove all heel

toe grounders and conductive

Attention

grounders,

footwear

charges?

**People!** 

#### STATSHIELD<sup>®</sup> V-NECK OVERSHIRTS

- · Creates Faraday Cage effect; shields ESD susceptible items from charges on operator's clothing.
- 9% carbon conductive nylon fibers woven in chain-link design; provides continuous and consistent shielding throughout garment.
- Panel to panel conductivity Rp-p < 10E7 ohms meets EN 61340-5-1 Garment limit of < 1 x 10E12 ohms tested per ANSI/ESD STM2.1
- 1 Year / 50 Launderings Limited Warranty
- Made in America

#### Part No. Description

- Statshield® V-Neck Overshirt, Small <u>221140</u>
- <u>221141</u> Statshield® V-Neck Overshirt, Medium
- Statshield® V-Neck Overshirt, Large <u>221142</u>
- Statshield® V-Neck Overshirt, X-Large 221143 Statshield® V-Neck Overshirt, 2X-Large 221144

Download Technical Bulletin TB-7571

#### **Custom embroidery** available - See Page 15



See our products being Made in Britain on our web site: Click Here

Unit C, 4th Dimension, Fourth Avenue, Letchworth, Hertfordshire, SG6 2TD, United Kingdom Tel: +44 (0)1462 672005 • Fax: +44 (0)1462 670440 E-mail: Service@Vermason.co.uk • Web: Vermason.co.uk

221142





#### STATSHIELD<sup>®</sup> PREMIUM ESD SMOCK

- · Creates Faraday Cage effect; charges on worker clothing shielded, protecting ESDS devices, patented hip-to-cuff grounding
- Allows your coiled cord to snap to the hip of the smock for hands-free grounding, increasing productivity
- Conductive knitted cuff eliminates need for wristband
- Minimum of 9% carbon conductive nylon fibers woven in chain-link design • provides continuous and consistent charge dissipation; panel to panel conductivity
- · Prevents isolated charged conductor in ESD protected area; superior
- 2-year/100 launderings limited warranty Click HERE
- Click HERE for test results
- Made in America

Design: Colour: Fabric: Fabric Weight: Durability:		3 pockets, collar, and conductive cuff Blue Polyester with 9% minimum carbon suffused fibre 76.3g / sq. metre 100 minimum launderings; see 2 year limited warranty at <u>Vermason.co.uk</u>	S
Part N 221420 221420 221420 221420 221420 221420	O         Statsh           1         Statsh           2         Statsh           3         Statsh	iption nield <sup>®</sup> Premium Smock, Jacket, Blue, Small nield <sup>®</sup> Premium Smock, Jacket, Blue, Medium nield <sup>®</sup> Premium Smock, Jacket, Blue, Large nield <sup>®</sup> Premium Smock, Jacket, Blue, XLarge nield <sup>®</sup> Premium Smock, Jacket, Blue, XXLarge	No wristband required
221130 221131 221132 221133 221133 221134	IStatsh2Statsh3Statsh4Statsh	nield <sup>®</sup> Premium Smock, Jacket, Burgundy, Small nield <sup>®</sup> Premium Smock, Jacket, Burgundy, Medium nield <sup>®</sup> Premium Smock, Jacket, Burgundy, Large nield <sup>®</sup> Premium Smock, Jacket, Burgundy, X-Large nield <sup>®</sup> Premium Smock, Jacket, Burgundy, 2X-Large	
DOMU	iuau rechi	nical Bulletin <u>TB-7516</u>	





221132

221420

#### Limited Warranty – 2 years or 100 launderings



to Ground

See our products being Made in America on our web site: Desco.com/Factory







#### **Did You Know?**

Gloves are worn to prevent components and assemblies from becoming contaminated (assembly gloves) or to protect the operator's hands (handling gloves). In an EPA, the gloves used should be conductive or static dissipative.







## VERMASON WORKING SURFACE MAT SELECTION CHART

All the mats listed meet the EN 61340-5-1 working surface limit tested per EN 61340-2-3, and all dissipative mats meet the EN 61340-5-1 table 3 note 6 recommendation for resistance lower limit.

	Item Description	Material Construction	Resistance Classification (Rp-p in ohms)	Surface	Best Application	Special Features
Rubber	<u>Statfree</u> Euro T2™ 210980 - 210985	Two-layer rubber 1.5 mm thick	Dissipative Side 10E6 -10E8 Conductive Side <10E6	Light Texture	Where chemical and hot solder are used	Highly durable, heat/chemical and abrasion resistant, dual purpose
	<u>Statfree DLR™</u> 228071 - 228261	Two-layer rubber 2 mm thick	Dissipative Side 10E6 -10E8 Conductive Side <10E6	Light Texture	Chemical and hot solder are used	Equivalent to Norastat
Multi-Layer Vinyl	<u>Statfree</u> Z2™ <u>3 Layer</u> 210990 - 210991	Three-layer conductive vinyl 3.2 mm thick	Dissipative 10E6 -10E8	Light Emboss	Where vinyl durability is OK, compatible with continuous monitors	Conductive inner layer provides fast, reliable path to ground while reducing alternative, unintended paths to ground
	<u>Statfree O™</u> <u>3 Layer</u> 211000 - 211001	Three-layer vinyl 9.5 mm thick	Dissipative 10E6 -10E8	Smooth	Ideal for energy absorption for disk drives	Extra thick sponge bottom conductive inner layer, ideal for sensitive drives that require impact resistance
Homogenous Vinyl	<u>Statfree</u> <u>B2™ 2 Layer</u> 228330 - 228333	Two-layer vinyl 1.5 mm thick	Dissipative Side 10E6 -10E8 Conductive Side <10E6	Light Emboss	Economical choice, compatible with continuous monitors	Durable, easy to cut and configure, no special tools needed
Laminate	<u>Micastat</u> ® <u>210960</u> - <u>210973</u>	High pressure Iaminate 0.97 mm thick	Dissipative 10E6 -10E8	Smooth	Laminate, where chemical and hot solder are used	Superior heat, chemical, cut resistant
Bench Matting & Shelf Lining	<u>EVA</u> 228290 - 228310	Shelf Lining 1.5 mm thick	Dissipative 10E6 -10E8	Smooth	ldeal for Shelving	This bench / shelf mat provides significant passive protection in well-traveled assembly areas.

"The most important functional consideration for work surfaces is the resistance from the top of the surface to the groundable point (Rgp). This establishes the resistance of the primary path to ground for items placed on the surface. IEC 61340-5-1 has set a resistance to ground range for work surfaces of less than 1,0 x 10E9 ohms. However, it is sometimes necessary to use work surfaces that are much more conductive. This is allowed under IEC 61340-5-1 but the reasons for using a more conductive work surface shall be documented in the ESD control program plan." (CLC/TR 61340-5-2:2008 User guide clause 4.7.1.2.5 Electrical considerations – Work Surfaces)

For practical guidance see <u>PPE-5025.E</u> Technical Bulletin "Installation and Maintenance of ESD Protective Work Surfaces," available from our web site <u>www.Vermason.co.uk</u>.







#### STATFREE EURO T2<sup>™</sup> - DISSIPATIVE **DUAL LAYER RUBBER** · Durable rubber material, dissipative on one side and conductive on the other · Compatible for use with continuous monitors Dissipative Side Rp-p: 10E6 - 10E8 ohms 210980 Conductive Side Rp-p: 10E3 - 10E4 ohms Thickness: 1.8mm · Lightly embossed surface Superior heat, chemical and wear resistance Due to variations in computer monitor displays, colour shown may not be exact. For true accurate 210983 colour, please request an actual sample. Made in America Part No. Size Roll, Blue, 1.8mm x 0.6m x 12.2m 210980 Roll, Blue, 1.8mm x 0.76m x 12.2m 210981 Roll, Blue, 1.8mm x 1.2m x 12.2m 210982 Roll, Grey, 1.8mm x 0.6m x 12.2m 210983 Roll, Grey, 1.8mm x 0.76m x 12.2m 210984 Roll, Grey, 1.8mm x 1.2m x 12.2m 210985 Download Technical Drawing 210980 and Technical Bulletin TB-7505 **Compatible for use with** STATFREE DLR SERIES **RUBBER MATTING** Two-laver, static dissipative rubber Solder iron resistant and withstands most chemicals Mats supplied with four 10mm studs Easy to clean Low reflecting · Ideal mat to use with constant monitors 228071 Due to variations in computer monitor displays, 0 colour shown may not be exact. For true accurate 228073 colour, please request an actual sample. Part No. Size 228072 0 Mat, 0.9 x 0.6m, Blue <u>228141</u> 0 Mat, 0.9 x 0.6m, Grey 228074 Mat, 0.9 x 0.6m, Green $\bigcirc$ 0 Mat, 0.9 x 0.6m, Beige Mat, 1.2 x 0.6m, Blue Mat, 1.2 x 0.6m, Green Mat, 1.2 x 0.6m, Grey Mat, 1.2 x 0.6m, Beige Roll, 1.0m x 1 linear m, Grey Roll, 1.0m x 1 linear m, Blue Roll, 1.0m x 1 linear m, Beige Roll, 1.0m x 1 linear m, Green Roll, 1.22m x 1 linear m, Blue Roll, 1.22m x 1 linear m, Green 0 Roll, 1.22m x 1 linear m, Grey O Roll, 1.22m x 1 linear m, Beige 0 Roll, 1.22 x 10m, Blue Roll, 1.22 x 10m, Green Roll, 1.22 x 10m, Grey Meets or Roll, 1.22 x 10m, Beige Exceeds Norastat Roll, 1.0 x 10m, Grey **Specifications**

continuous monitors

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<u>228151</u> <u>228157</u> 228156 228116 228121 228126 <u>228131</u> 228071 228072 228073 228074 228076 228091 <u>228096</u> <u>228106</u> 228246 <u>228251</u> 228256 228261 228241 Roll, 1.0 x 10m, Blue 228242 Roll, 1.0 x 10m, Beige 228243 Roll, 1.0 x 10m, Green 228244

Download Technical Drawing 228071



See our products being Made in Britain on our web site: Click Here





#### STATFREE B2™ DISSIPATIVE 2-LAYER VINYL

- Economical dual layer vinyl material; versatile dissipative worksurface table mat provides reliable path to ground and allows for use with continuous monitors
- Abrasion resistant top layer
- · Smooth surface is easy to clean and maintain
- Non-humidity dependence
- Provides consistent electrical performance regardless of ambient humidity
- Dissipative worksurface 10E6 10E8 ohms RTT
- Lead-Free RoHS Compliant
- Due to variations in computer
  monitor displays, color shown may not be exact. For true accurate
- colour, please request an actual <u>sample</u>.Made In America

Part No. Size 228330 Roll, Blue, 1.5mm x 0.61m x 15.2m 228333 Roll, Blue, 1.5mm x 1.22m x 15.2m

Download Technical Drawing 228330

Compatible for use with continuous monitors Clean mats with Reztore Antistatic Surface and Mat Cleaner

See page 35

#### STATFREE Z2<sup>™</sup> - DISSIPATIVE 3 LAYER VINYL ROLLS

- Heat fused vinyl composite
- Conductive grid mesh inner layer
- · Compatible for use with continuous monitors
- Thickness: 3.2mm
- Rp-p: 10E6 10E8 ohms and
- Rg: 10E6 10E8 ohms tested per IEC 61340-2-3
- Abrasion resistant top layer
- Lead-free RoHS compliant
- Grounding hardware not included
- Due to variations in computer monitor displays, colour shown may not be exact. For true accurate colour, please request an actual <u>sample</u>.
- Made in America

#### Part No. Size

20

210990Roll, Grey, 3.2mm x 1.2m x 15.2m210991Roll, Blue, 3.2mm x 1.2m x 15.2m

Download Technical Drawing **210990** and Technical Bulletin **TB-7505** 

210990

210991

# Compatible for use with continuous monitors

Unit C, 4th Dimension, Fourth Avenue, Letchworth, Hertfordshire, SG6 2TD, United Kingdom Tel: +44 (0)1462 672005 • Fax: +44 (0)1462 670440 E-mail: <u>Service@Vermason.co.uk</u> • Web: <u>Vermason.co.uk</u>

See our products being Made in America on our web site: Desco.com/Factory



Only 2 Layer Vinyl!

Proprietary design and construction.

E



#### STATFREE O<sup>™</sup> - DISSIPATIVE **3 LAYER VINYL ROLLS**

- · Thick, energy absorbing
- · Dissipative cushioned vinyl bottom layer
- Soft, pliable, material
- Rp-p: 10E6 10E8 ohms and
- Rg: 10E6 10E8 ohms tested per IEC 61340-2-3 Lead-free RoHS compliant
- · Grounding Hardware not included ٠ Due to variations in computer monitor displays, color shown may not be exact
- For true accurate color, please request an actual sample
- Made in America

Part No. Size Roll, Blue, 9.5mm x 0.6m x 18.3m 211000 Roll, Blue, 9.5mm x 0.9m x 18.3m **211001** 

Download Technical Bulletin TB-7505 and Technical Drawing 211000

> **Compatible for use with** continuous monitors

**CUSOM CUTTING AVAILABTLE** 

Contact customer service for details.

A

#### EVA BENCH MATTING AND SHELF LINING

- · Mat and roll sizes are flexible, tough and fairly hard; offers excellent chemical resistance
- · Lining is ideal conductive shelf liner
- · Low cost
- Rs and Rg: 10E3 to 10E5 ohms, meets EN 63140-5-1
- Thickness 1.5mm, weight is 1.4kg/m<sup>2</sup>
- Mats supplied with four 10mm studs

#### Part No. Size

<u>228290</u>	Mat, Black. 1.55mm, 1.2m x 0.54m
228295	Mat, Black. 1.55mm, 2.4m x 1.1m
228300	Roll. Black. 1.55mm. 0.54m x 8m

- 228285 Roll, Black. 1.55mm, 1.08m x 24m
- 228305 Roll, Black. 1.55mm, 0.36m wide, up to 24m long Roll, Black. 1.55mm, 1.1m wide, up to 24m long 228310

Download Technical Drawing TD-7517 and Technical Bulletin TB-7505

Ideal for use with our PCB Racks and Containers



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228290





231610

#### **PORTABLE FIELD SERVICE KIT - LIGHT WEIGHT**

- Includes mat, high quality wristband set, mat grounding cord with 1 Megohm (1x10E6 ohms) resistor, crocodile clip, pouch
- Made of two-layer blue/black vinyl cloth
- Mat 610mm x 610mm when open
- Rs: 10E3 ohms black side, 10E8 ohm blue side
- Rg: 10E5 to 10E8 ohms, meets EN 61340-5-1
- Made in Britain

Part No.	Description

- 231610 Kit 231605 Mat Only 231641 Pouch Onl
- 231641 Pouch Only

Download Technical Drawing 231610

#### CUSOM CUTTING AVAILABTLE

Contact customer service for details.

#### PORTABLE FIELD SERVICE KIT - HEAVY DUTY

- · No exposed conductive surface safer, cleaner
- Includes mat, high quality adjustable wristband set, 2m long EBP ground cord, crocodile clip, wallet
- Mat 545mm x 590mm when open
- Rs: 10E7 10E9 ohms, Rg: 10E6-10E8 ohm
- Mat made of three layer, hard-wearing coated fabric
- Made in Britain

#### Part No. Description

- 231615 Field Service Kit with Cloth Band, Blue
- 231620 Field Service Kit with Metal Band, Blue
- 231635 Field Service Kit with Cloth Band, Red
- 231625 Field Service Kit with Metal Band, Red

Download Technical Drawing 231615

231635

#### EPA KITS

- · Creates a single operator ESD Protected work area (EPA)
- Hard-wearing Statfree Euro T2<sup>™</sup> work surface, 1.8mm thick, 1.2m x 0.6m, four 10mm male studs
- Dissipative Side Rp-p: 10E6 10E8 ohms, Conductive Side Rp-p: 10E3 - 10E4 ohms; meets EN 61340-5-1
- Made in Britain

22

<u>231662</u>	EPA Kit, with Floor Blue T2 Mat, Sign & UK Plug
<u>231667</u>	EPA Kit, with Floor Grey T2 Mat, Sign & UK Plug
<u>231677</u>	EPA Kit, with Floor Blue T2 Bench Mat, Sign & UK Plug
<u>231687</u>	EPA Kit, with Floor Blue T2 Bench
	Mat Sign LIK Dlug & WS Tastar

Mat, Sign, UK Plug & WS Tester









#### **DISSIPATIVE TOOL ROLL**

- Can be safely transported to and used within an ESD Protected Area (EPA)
- · Made of three-layer, hard-wearing coated fabric
- · Size: 31mm x 510mm when open
- RS: 10E6 to 10E9 ohm
- Made in America

Part No. Description 231600 Static Dissipative Tool Roll



#### DURASTATIC TOOL BOX

- Used to safely contain and transport ESD tools in an ESD Protected Area (EPA)
- Made of polypropylene using durAstatic® technology
- Permanently static dissipative -Rv: 10E9 to 10E10 ohm, T1000: <6sec</li>
- Size: 370mm x 190mm x 135mm
- Made in America

Part No.Description239855Tool Box with Tray

Download Technical Drawing 239855

#### CONDUCTIVE VACUUM CLEANER AND BLOWER

239855

- 1200cm<sup>3</sup> dust bag retains particles ≥0.3 microns
- Powerful 1300W motor without or with electronically adjustable suction
- Made entirely of conductive impact resistant polypropylene
- Kit includes 1.3m hose, two nozzles and a carrying strap

# Part No.Description231700Conductive Vacuum Cleaner231710Conductive VacuumCleaner, Adjustable Suction231725Replacement Bags, Pack of 10231705Carry Bag

Download Technical Bulletin TB-7510





See our products being Made in Britain on our web site: Click Here







and 1 Megohm Resistor

Download Technical Drawing 231105

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#### STRAIGHT CORDS

- 1 Megohm (1x10E6 ohms) resistor in each socket only
- 2.5mm cord diameter ٠
- Many terminations and lengths are possible
- · One end has 10mm socket as standard
- Made in Britain

Part No. Description

(1x10E6 ohms)

**LINK CORDS** 

No built-in resistors

Made in Britain Part No. Description

231280

231267

<u>231285</u>

231265

<u>231266</u>

231290

Part No. Description Cord, Straight, 0.25m, 10mm Socket, 4mm Plug 230465 Cord, Straight, 0.7m, 10mm Socket, 4mm Plug 230490 Cord, Straight, 1.5m, 10mm Socket, 4mm Plug 230385 Cord, Straight, 2.5m, 10mm Socket, 4mm Plug 230415 Cord, Straight, 0.25m, 10mm Socket, 10mm Socket 230470 Cord, Straight, 0.7m, 10mm Socket, 10mm Socket 230495 <u>230395</u> Cord, Straight, 1.5m, 10mm Socket, 10 mm Socket Cord, Straight, 2.5m, 10mm Socket, 10mm Socket 230420 Cord, Straight, 0.7m, 10mm Socket, M5 Ring Terminal 230480 Cord, Straight, 1.5m, 10mm Socket, M5 Ring Terminal 230370 Cord, Straight, 2.5m, 10mm Socket, M5 Ring Terminal 230410 Cord, Straight, 1.5m, 10mm Socket, Crocodile Clip 230380 Cord, Straight, 2.5m, 10mm Socket, Crocodile Clip 230430

Download Technical Drawings 230465, 230470, 230380 and 230480

#### **Ideal for use with** our bench matting



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230475

230485

230500

See our products being Made in Britain on our web site: Click Here





#### **COILED EARTH BONDING POINT CORD**

- · Built-in 10mm socket fits 10mm stud (common ground points) on mat
- · Or use built-in 7mm socket that fits 7mm stud on mat
- · Accepts one 4mm plug from wrist strap to connect to ground
- 1 Megohm (1x10E6 ohms) resistor built in to socket

#### Part No. Description

Coiled Cord, 3m, 10mm Socket + 7mm Socket / 4mm Plug <u>230150</u>



231245

#### EARTH BONDING POINT CORDS

- · Built-in 10mm socket fits 10mm stud on mat · Accepts up to two banana plugs from wrist straps
- to connect to ground (common ground points) • Cord is 4m long, 1 Megohm (1x10E6
- ohms) resistor built into socket

#### Part No. Description <u>23</u>

i uitito.	Decomption
<u>231245</u>	EBP Cord, 4m, 10mm Socket with
	2 x Plug Sockets / M5 Ring Terminal
<u>231255</u>	EBP Cord, 4m, 10mm Socket with
	2 x Plug Sockets / 4mm Plug
<u>231260</u>	EBP Cord, 4m, 10mm Socket with
	2 x Plug Sockets / 10mm Socket
<u>231250</u>	EBP Cord, 4m, 10mm Stud with
	2 x Plug Sockets / M5 Ring Terminal

#### **COMMON REFERENCE POINT PLATE**

- Serves as a grounding hub (common ground points) for various elements in an ESD Protected Area (EPA)
- · Four 10mm studs allow connection of up to four cords
- Size: 125mm x 75mm x 3.5mm
- · EBP label identifies plate as ESD item
- · Made in Britain

26

Part No. Description CRP with 5mm x 10mm Stud <u>231115</u>



See our products being Made in America on our web site: Desco.com/Factory



đ,





EARTH FACILI

#### EARTH FACILITY BRACKETS

- · Serves as a grounding hub for earth bonding points (common ground points), can receive several wires
- Supplied with mounting screws easy to mount
- Strain relief built in ٠
- Size: 40mm x 45mm x 12mm
- · Made in Britain

#### Part No. Description

EF Bracket with M5 Binding Post, No Resistor <u>231425</u> EF Bracket with Insulated Binding Post, No Resistor <u>231420</u>

Download Technical Drawing 231420

Check out the set-up of a typical EPA

#### **EBP BRACKETS**

- Earth Bonding Point (common ground points)
- · Brackets can be fixed to wall or bench
- Black cord 3m long, can exit top or bottom
- Size: 40mm x 45mm x 12mm
- Made in Britain

#### Part No. Description

- EBP Bracket with 10mm Stud, <u>231405</u> 1 Megohm (1x10E6 ohms) Resistor
- EBP Bracket with 10mm Stud, <u>231410</u>
- 2 Megohms (1x10E6 ohms) Resistor
- 231415 EBP Bracket with 10mm Stud, No Resistor

Download Technical Drawing 231405

#### EARTH BONDING POINT PLUGS

- Provide safe and low-cost path to electrical mains earth
- · Fits UK 13A socket or European Schuko socket
- · Made of yellow, impact-resistant ABS plastic
- 1 Megohm (1x10E6 ohms) 1/2 Watt resistor built in to each stud connector
- Made in Britain

#### Part No. Description

	······································
<u>231180</u>	UK Plug with 1 x 4mm Stud, 2 x 10mm Studs
<u>231200</u>	UK Plug with 3 x 10mm Studs
<u>231230</u>	UK Plug with 2 x 4mm Plug Sockets, 1 x 10mm Studs
<u>231195</u>	UK Plug with 1 x 10mm Stud, No Resistor
<u>231185</u>	UK Plug with 1 x 10mm Stud
<u>231225</u>	UK Plug with 1 x 2BA Binding Post, No Resistor
231135 231125 231170	European Plug, 3 x 10mm Studs European Plug, 1 x 4mm / 2 x 10mm Studs European Plug, 2 x 4mm Plug Sockets, 1 x 10mm Stud

Download Technical Drawings 231135 and 231180





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231425



#### **EBP BARS**

- Earth Bonding Point Bars (common ground points) designed to be mounted on under-side of bench top or shelf
- Supplied with screws and spare ring terminal, black cord 3m long, exits via strain relief on right
- Fitted with three 1 Megohm (1x10E6 ohms) 1/2 Watt resistors
- Made in Britain

**Benchware & Field Service** 

#### Part No. Description

i alt NO.	Description
<u>231271</u>	EBP Bar with 3 x 10mm Studs, Grey
<u>231270</u>	EBP Bar with 3 x 10mm Studs, Grey, No Resistor
<u>231275</u>	EBP Bar with 3 x 10mm Studs, Yellow
<u>231288</u>	EBP Bar with 2 x 10mm Studs,
	1 x 4mm Plug Socket, Grey
<u>231296</u>	EBP Bar with 2 x 4mm Plug
	Sockets, 1 x 10mm Stud, Yellow
<u>231305</u>	EBP Bar with 3 x 4mm Plug Sockets, Yellow
D	

Download Technical Drawing 231270

Check out our selection of coiled cords, wristbands and mats

231271

#### **SLIM EBP BARS**

- Slim Earth Bonding Point Bars (common ground points) designed to fit underneath bench tops with narrow overhang >16mm
- 3 x 1 Megohm (1x10E6 ohms) 1/2 Watt resistors fitted (except 231350)
- Made of yellow ABS with welded back cover, 110mm x 16.5mm x 37mm
- Made in Britain

#### Part No. Description

i artivo.	Description
<u>231345</u>	Slim EBP with 3 x 10mm Studs
<u>231350</u>	Slim EBP with 3 x 10mm Studs, No Resistor
<u>231360</u>	Slim EBP with 3 x 4mm Studs

Download Technical Drawing 231345



#### **EBP BOXES**

- Earth Bonding Point (common ground points) Boxes designed to be mounted on bench
- Black cord 3m long, can exit towards left or right
- 1 Megohm (1x10E6 ohms) 1/2 Watt resistor for each connector
- · Made in Britain

#### Part No. Description

- 231390 EBP Box with 3 x 10mm Studs
- 231395 EBP Box with 3 x 10mm Studs, No Resistor
- 231400 EBP Box with 3 x 4mm Plug Sockets
- 231380 EBP Box with 2 x 4mm Plug Sockets, 1 x 10mm Stud
- EBP Box with 2 x 4mm Plug Sockets, 1 x 10mm Stud, No Resistor

Download Technical Drawing 231390







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#### EPA WARNING SIGNS · Self adhesive: under-printed on 0.4mm thick PVC Attention Rigid: printed on 3mm thick yellow "foamex" ٠ · Rigid sign has holes for hanging **ESD** protected · Treated with antistatic coating · Made in Britain area Part No. Description 229125 Self-adhesive, 100mm x 50mm **Observe precautions for** Self-adhesive, 300mm x 150mm 229100 handling electrostatic Self-adhesive, 600mm x 300mm <u>229115</u> discharge sensitive devices Rigid, 300mm x 150mm 229135 Rigid, 600mm x 300mm See set-up of **229140** a typical EPA 229100 **EPA WARNING SIGNS**, Printed **TWO SIDED** on both Attention sides · Suitable for hanging overhead in ESD protected an EPA (ESD protected area) Printed both sides area Treated with antistatic coating Made in Britain • Observe precautions for Part No. Description handling electrostatic Rigid Two-sided, 600mm x 300mm 229150 discharge sensitive devices Rigid Two-sided, 1200mm x 600mm 229160 229150 EPA EXIT SIGNS · Help raise awareness of the EPA (ESD protected area) · Conforms to EN 61340-5-2 clause 4.6 Attention · An aid to both visitors and employees Made in Britain You are now Part No. Description leaving this Self-adhesive, 300mm x 150mm 229230 Self-adhesive, 600mm x 300mm <u>229235</u> ESD protected Rigid, 300mm x 150mm 229210 Attention Rigid, 600mm x 300mm 229225 You are now leaving this area ESD protected See Page 36 for area 229225 demarcation tape 229210 CAUTION WEAR WRIST STRAP SIGN Static Sensitive Devices · A reminder to employees to fit a wrist strap on when entering an EPA (ESD protected area) Available in two versions and two sizes **ALWAYS** Made in Britain WEAR YOUR Part No. Description WRIST STRAP Self-adhesive, 300mm x 150mm 229195 Rigid, 300mm x 150mm 229185 <u>229190</u> Rigid, 600mm x 300mm 229195



See our products being Made in Britain on our web site: <u>Click Here</u>





#### **FOOTWEAR SIGN**

- Reminds employees to remove conductive footwear on leaving the ESD Protected Area (EPA) or changing room - helps extend life of expensive ESD footwear
- · Designed to be fixed to a wall
- Ref EN 61340-5-2 clause 4.6
- Made in Britain

 Part No.
 Description

 229170
 Rigid, 300mm x 150mm

 229175
 Rigid, 600mm x 300mm

Attention

Remove all heel grounders, toe grounders and conductive footwear

229170

#### See Page 8 for our heel grounders and Page 28 for our floor paint

#### EPA SIGN, HIGH VOLTAGE

- Use where there are exposed potentials >250 VAC
- Recommended in EN 61340-5
- Where using personnel grounding device is not recommended
- Two colour on 3mm thick yellow "foamex"
- Treated with antistatic coating
- Made in Britain

Part No. Description 229180 Rigid, 600mm x 300mm

# Attention

# High voltage ESD Protected area

Observe precautions for handling electrostatic discharge sensitive devices

229180

#### **EPA SIGN, UNPROTECTED AREA**

- Designed no-go areas for unshielded ESD sensitive devices
- Recommended in EN 61340-5
- · Red print on yellow 3mm "foamex"
- Treated with antistatic coating
- Made in Britain

Part No. Description 229165 Rigid, 300mm x 150mm

#### TIP!

30

Use signs to clearly identify where ESD Protected Areas start and where ESD Protected Areas end!











STATGUARD

220521

STATGUARD

220522

#### **STATGUARD® FLOOR FINISH**

- · Low-tribocharging, fulfilling requirements of EN 61340-5-1
- Static dissipative Rp-p 10E6 10E9 ohms
- · Durable high gloss floor
- Can be applied on many hard surfaces or sealed floors including vinyl, VCT, linoleum, rubber, asphalt, and concrete; versatile, turns many floors into an ESD floor
- UL classified for slip resistance only; for worker safety and mitigates user liability
- Made in America; superior quality

Part No. Description <u>220521</u> Statguard<sup>®</sup> Floor Finish, 10I Bag-in-Box

Download Technical Bulletin TB-7042

Packaging - Recyclable

**Good for use with** 

**ESD Floor Mats** 

**Bag-in-Box** 

- Prevents waste material

#### STATGUARD<sup>®</sup> FLOOR CLEANER

- Formulated with dissipative agents that rejuvenate and improve the properties of floor finish
- Cleans floors coated with Statguard<sup>®</sup> Floor Finish
- Static Dissipative: Rp-p 10E6 10E9 ohms
- Listed with the number UBA 50550001 by the German Umweltbundessamt
- Listed by the Swiss Federal Office of Public Health as BAG T Nr. 60108
- Made in America; superior quality

Part No. Description

220522 Statguard<sup>®</sup> Floor Cleaner, 10I Bag-in-Box

Download Technical Bulletin TB-7041

#### **STATGUARD® FLOOR STRIPPER**

- Non-ammoniated and phosphate-free; environmentally safe, biodegradable
- Low pH formulation (pH 10.5); breaks up and lifts multiple layers of Statguarde Floor Finish
- Strips floor finish from vinyl, VCT, concrete, rubber, terrazzo, quarry tile, brick, slate, and unglazed ceramic
- Made in America; superior quality

Part No. Description <u>220523</u> Statguard<sup>®</sup> Floor Stripper, 10I Bag-in-Box

Download Technical Bulletin TB-7026

#### To ground mobile personnel, you need both an ESD floor and ESD footwear

See pages <u>10</u> - <u>13</u>





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210950

211010

#### STATFREE S PLUS<sup>™</sup> - DISSIPATIVE ANTI-FATIGUE RUBBER

- · Combines a cross-link vinyl/nitrile rubber construction
- Extremely durable embossed surface
- · Beveled edges
- · Outperforms other anti-fatigue mats, even in low temperatures
- Rp-p and Rg < 10E9 ohms tested per EN 61340-4-1</li>
- · Grounding hardware not included
- Lead-free RoHS compliant
- Made in America

#### Part No. Size

looring

 210950
 Roll, Grey, 9.5mm x 0.9m x 18.3m

 210951
 Roll, Grey, 9.5mm x 1.2m x 18.3m

Download Technical Drawings 210950

#### All mats are date and lot coded for quality control traceability

#### STATFREE I<sup>™</sup> - CONDUCTIVE ANTI-FATIGUE INTERLOCKING RUBBER

- Premium nitrile butadiene homogenous rubber with no clay or silica fillers
- Ergonomic design dome / support cell structure
- Patented interlocking edge (patent no. 5,907,934)
- Rp-p and Rg 10E4 10E5 ohms tested per EN 61340-4-1
- Grounding hardware not included
- Lead-free RoHS compliant
- Superior warranty
- Made in America

Part No. Size <u>211010</u> Mat, Black, 12.7mm x 0.6m x 0.9m

Download Technical Drawings 211010

#### TIP!

Suitable for ESD flooring component in Person/footwear/flooring system as personnel grounding method <3,5 x 10E7 ohms per IEC 61340-5-1 clause A.2.

#### **STATGUARD® CARPET PROTECTOR**

- Makes non-ESD chair fabrics and carpet ESD safe; controls against ESD while protecting fabric colour and life
- Protects ESD safe chair fabrics and carpet from soil and stains maintains new-looking appearance of chair fabrics and carpet
- · Water based easy to apply
- Rp-p: 10E5 10E9 ohms per EN 61340-4-1
- · Can be applied to fabric chairs, carpet and other fiber materials
- Coverage: 10.4 square meter per liter of diluted concentrate
- · Lead-free RoHS compliant
- Made in America

Part No.Description220525Statguard Carpet Protector, 3.81220526Statguard Carpet Protector, 11

Download Technical Bulletin TB-7043

220526

STATGUARD<sup>®</sup>

STATIC DISSIPATIVE CARPET PROTECTOR

A DESCRIPTION OF THE OWNER OWNE

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STATGUARD

STATIC DISSIPATIVE CARPET PROTECTOR

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# FLOOR MAT SELECTION CHART

All Vermason floor mats meet the EN 61340-5-1 flooring limit tested per EN 61340-4-1

	Statfree	Material Construction	Resistance Classification (Rp-p in ohms)	Surface	Best Application	Special Features	7
	<u>CV</u> 211040 - 211041	Homogeneous reversible 1.5 mm thick and 3.2 mm thick	Conductive 10E4 - 10E5	Light Texture	Moving carts, pallet jacks and forklift trucks; chairs with casters	Lays flat; very durable, chemical resistant, hard surface	
Vinyl	<u>S+</u> 210950 - 210951	Cross-link vinyl/nitrile rubber 9.5 mm thick	Dissipative 10E6 - 10E8	Pebble Embossed	Anti-fatigue runner meets EN 61340-5-1	Extremely durable, good antifatigue properties	
	<b><u>F+</u></b> 211030	Homogeneous 3.2 mm thick	Dissipative 10E4 - 10E5	Corrugated top, smooth bottom	Wet areas, runner	Economical flooring with corrugated anti-slip surface	
Rubber	<u>i</u> 211010	Interlocking rubber 12.7 mm thick	Conductive 10E4 -10E5	Air cell / dome	Ergonomic - Great anti-fatigue properties; clean room	Ideal for whole room application where material is needed	
	<u>G2</u> 211020 - 211021	Homogeneous reversible 1.5 mm thick	Conductive 10E4 -10E5	Light Texture	Wave solder areas	Highly durable, heat and chemical resistant, easy to cut, lays flat	
	DLR 210926 - 210927	Dissipative Dual Layer 2.5 mm and 3.5 mm thick	Dissipative 10E6 - 10E8	Light Texture	Chemical and hot solder are used	Equivalent to Norastat	

"Electrostatic conductive floor is characterized by a resistance less than 1 x 10E6 ohms" [EN 61340-4-1 clause 1.3.1]

#### ALL Vermason Statfree® Mats Provide:

- · Antistatic, low tribocharging; minimal charge generation on mat
- High quality material with dissipative or conductive electrical properties; when properly grounded, safely removes electrostatic charges from equipment and people to protect your ESD sensitive products
- Non-humidity dependence; provides consistent electrical performance regardless of ambient humidity
- · Dimensionally stable; minimal shrinkage and curling

#### **STATFREE G2<sup>™</sup> - CONDUCTIVE SMOOTH RUBBER**

- 10E3 10E5 ohm resistance
- Meets ESD protective flooring requirements of EN 61340-5-1
- Durable homogeneous rubber
- · Superior heat, chemical, and wear resistance
- · Non-humidity dependence
- Lead-free RoHS compliant
- Made in America

 Part No.
 Size

 211020
 Mat, Black, 1.5mm X 1.2m X 2.4 m

 211021
 Roll, Black, 1.5mm X 1.2m X 12.2 m

Download Technical Drawings 211020



See our products being Made in Britain on our web site: Click Here Unit C, 4th Dimension, Fourth Avenue, Letchworth, Hertfordshire, SG6 2TD, United Kingdom Tel: +44 (0)1462 672005 • Fax: +44 (0)1462 670440 E-mail: <u>Service@Vermason.co.uk</u> • Web: <u>Vermason.co.uk</u>





#### STATFREE DLR<sup>™</sup> - DISSIPATIVE DUAL LAYER RUBBER

- Designed as working surface mat, can be used as a colourful floor mat
- Dual-layer rubber, static dissipative coloured side or conductive black side
- Rg: 10E6 to 10E8 ohms tested per IEC
   61240.4.1 month EN 61240.5.1 flooring
- 61340-4-1 meets EN 61340-5-1 flooring limit • Made in America

#### Part No. Size

looring

 210926
 Roll, Light Grey, 2.5mm X 1.9m x 10m

 210927
 Roll, Dark Grey, 3.5mm X 1.22m x 10m

Download Technical Drawings 210926



#### STATFREE F PLUS<sup>™</sup> - CONDUCTIVE CORRUGATED VINYL

- Rp 10E3 10E5 ohms meets EN 61340-5-1 Table 1 requirement for ESD floor when grounded
- · Economical vinyl for floor mats and runners
- Corrugated slip resistant surface; provides excellent traction in wet environments
- Easy to cut; configure to your requirements
- Made in America

#### Part No. Size 211030 Conductive Black Vinyl Roll, 3.2mm x 1.2m x 12.2m

Download Technical Drawings 211030



#### STATFREE CV<sup>™</sup> CONDUCTIVE HOMOGENEOUS VINYL

- 10E3 10E5 ohm resistance
- Durable homogeneous vinyl material with conductive electrical properties
- Chemical resistant
- Lead-free RoHS compliant
- Made in America

#### Part No. Size

 211040
 Black Vinyl Roll, 3.2mm X 1.2m X 12.2m

 211041
 Black Vinyl Mat, 3.2mm X 1.2m X 2.4m

Download Technical Drawings TB-7007



Charleswater Europe Statfree® Matting for floors, working surfaces, or shelves, are ESD protective products specifically designed to provide ESD protection for ESD sensitive assemblies and devices. Per IEC 61340-5-1, all conductors in the ESD protected area, including mobile personnel via foot grounders, must be grounded.







#### STATGUARD<sup>®</sup> CONDUCTIVE ACRYLIC LATEX FLOOR PAINT

- Easy to repair, touch up, and maintain; excellent for heavy traffic in factories and contract building applications
- Adheres to floor, walls, or wood furniture; provides static control on concrete and epoxy floors and in places which are difficult to protect
- Conductive in accordance per EN 61340-5-1; Rp-p 10E5 10E6 ohm
   Deplease static control floor mate in cleaternice
- Replaces static control floor mats in electronics, manufacturing, assembly, and test areas

#### Made in America

Part No.	Description
<u>210220</u>	Statguard <sup>®</sup> Paint, Grey, 3.8l
210221	Statguard <sup>®</sup> Paint, Grey, 19l
210221	Statguard <sup>®</sup> Paint, Light Grey, 191

Download Technical Bulletin TB-7001





Flooring

210221

Clean your floor using Statguard Floor Cleaner



See Pages 30

#### **STATGUARD® CONDUCTIVE EPOXY**

- · One coat system saves labour
- The only conductive ONE COAT 2-part epoxy on the market
- Epoxy is a tight cross-linking thermosetting epoxide
- polymer providing superior toughness and durability
- Water based, safe for use and shipment
  4 gallon kit with pre-measured part A
- and B, just add together and mix
- Thin mil system allows for easy repair for damaged areas
   FOR figure FN 04040 5 4 to the large FN 04040 4 4
- ESD floor per EN 61340-5-1 tested per per EN 61340-4-1
- Rp-p 10E4 10E6 ohms is suitable for ESD flooring component in flooring - footwear System as primary grounding method <3.5 x 10E7 ohms per EN 61340-4-5 floor materials and footwear resistance in combination with a person
- Made in America
- Part No. Description

210226Statguard® Epoxy Primer, Light Grey, 151210225Statguard® Epoxy Coating, Light Grey, 151

Download Technical Bulletin TB-7039 and TB-7040

Light Grey



210226



See our products being Made in Britain on our web site: <u>Click Here</u>





#### **REZTORE™ TOPICAL ANTISTAT**

- · Antistatic, low tribocharging; keeps triboelectric charges well below 100 volts per EN 61340-5-1
- · Long lasting hard coat formula protection that lasts three times as long as the other leading brands
- Static dissipative: Rp-p 10E6 Ohms; provides a safe path to ground
- Removes contaminating particulate; eliminates possible ESD event
- Made in America

#### Part No. Description

Flooring

- Reztore™ Topical Antistat, 1I Spray, 1 Unit 229010 Reztore™ Topical Antistat, 1I Spray, Carton of 12 229011
- Reztore<sup>™</sup> Topical Antistat, 10I Refill <u>229012</u>

Download Technical Bulletin TB-7005

For our selection of Benchmats see Page 17 – 20

#### **REZTORE™ ESD SURFACE AND MAT CLEANER**

- Static dissipative solution: Rp-p 10E8 ohms; cleans and restores ESD mats
- Removes contaminants; eliminates possible source of ESD event
- · Available in dissipative pop-up dispenser as "Static Wipes"; ideal for cleaning static dissipative mats, conductive mats, electronic instrumentation, medical equipment, computer monitors and keyboards
- Reztore<sup>™</sup> Surface and Mat Cleaner is listed with the number UBA 50550002 by the German Umweltbundessamt
- Reztore<sup>™</sup> Static-wipes are listed with the number UBA 50550003 by the German Umweltbundessamt
- · Listed by the Swiss Federal Office of Public Health as BAG T Nr. 610200
- Made in America
- Part No. Description

36

i art no.	Description
<u>229020</u>	Reztore <sup>™</sup> Surface and Mat Cleaner, 500ml
	Trigger Spray, Carton of 12
<u>229021</u>	Reztore <sup>™</sup> Surface and Mat
	Cleaner, 1I Spray, 1 Unit
<u>229022</u>	Reztore <sup>™</sup> Surface and Mat Cleaner, 1I Spray,
	Carton of 12
<u>229023</u>	Reztore <sup>™</sup> Surface and Mat Cleaner, 10I Refill
<u>229024</u>	Reztore™ Static-Wipes,
	Pop-up Dispenser (160 wipes)
<u>229025</u>	Reztore <sup>™</sup> Static-Wipes, Pop-up

Dispenser (60 wipes), Carton of 12

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ave money by re-filling 500ml and 11 bottles

229020

#### **New and Improved Formula!**





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FOR END USE ONLY





229010



229024

229025









# FLOOR MARKING TAPE

- Suitable for defining the boundaries of ESD Protected Areas (EPAs)
- · Self adhesive
- PVC, laminated with clear polypropylene for durability and washability
- · Made in Britain

Part No.Description210300Floor Tape, 75mm, 33m Tape210310Floor Tape, 50mm, 66m Tape with Arrows

Download Technical Drawing 210300

<u>Check out the set-up</u> of a typical EPA

# **COPPER EARTHING TAPE**

- · Can be used to ground ESD matting, polishes, and paint
- 0.145mm thick copper, 19mm wide, 50m long roll
- Self-adhesive, with release paper backing
- Made in Britain

Part No. Description (W x L) <u>210315</u> Copper Tape, 0.145mm x 19mm x 50m





# FLOOR GROUNDING KIT AND TEST POINT

- Supplied complete with two-meter long self-adhesive copper earthing tape
- Plug socket provides handy reference point when auditing floor
- Should be mounted on wall; dowels and screws not supplied
- Will ground an area up to 10m x 20m
- Made in Britain

Part No. Description <u>210320</u> Floor Grounding Kit

210320



See our products being Made in Britain on our web site: <u>Click Here</u>





# **IONISER SELECTION CHART**

Model	Туре	# of Fans	Airflow Rate	Offset Voltage Balance	Decay Times	Alarms	Special Features
<u>200005</u>	Bench Top	1	47 L / sec	±3V Auto	< 2 sec. at 30.5 cm from charged plate analyzer	Visual & Alarms	Sense feedback balancing
<u>50640</u>	Bench Top	1	16 L / sec	±5V Typical ±20V Maximum	< 2 sec. at 30.5 cm from charged plate analyzer	Visual & Alarms	Mini compact size
<u>50670</u>	Bench Top	1	47 L / sec	±3V Typical ±5V Maximum	< 2 sec. at 30.5 cm from charged plate analyzer	Visual & Alarms	Sense feedback balancing
<u>200261</u>	Overhead	2	80 L / sec	±10V Auto	< 2 sec. at 45.7 cm from charged plate analyzer	Visual & Alarms	3 fan speeds
<u>50671</u>	Overhead	2	94 L / sec	±3V Auto	< 2 sec. at 45.7 cm from charged plate analyzer	Visual & Alarms	Stainless steel housing
<u>200260</u>	Overhead	3	141 L / sec	±10V Auto	< 2 sec. at 45.7 cm from charged plate analyzer	Visual & Alarms	3 fan speeds
<u>50672</u>	Overhead	3	141 L / sec	±3V Auto	< 2 sec. at 15.2cm from charged plate analyzer (30 PSI)	N/A	Stainless steel housing
<u>200004</u>	Point- of-Use	N/A	2 L / sec @ 2 Bar	±25V Adjustable	< 2 sec. at 15.2cm from charged plate analyzer (30 PSI)	N/A	Ion Python Foot Switch
<u>200045</u>	Point- of-Use	N/A	2 L / sec @ 2 Bar	±25V Adjustable	< 2 sec. at 15.2cm from charged plate analyzer (30 PSI)	N/A	lon Python Hand Gun
<u>50644</u>	Point- of-Use	N/A	2 L / sec @ 2 Bar	±30V Adjustable	< 1 sec. at 15.2cm from charged plate analyzer (30 PSI)	N/A	Modular Ergonomic Design Hand Gun

## **Vermason Ionisers - Designed for Europe**

Per IEC 61340 5-1 paragraph 5.2.9, "Ionisers shall enable either polarity of charge on items to be brought down and maintained to less than 100 V." IEC 61340-5-2 paragraph 5.2.9 states that "Ionisers should be considered as a method for charge neutralisation in cases where grounding cannot be achieved. Air ionisation can neutralise the static charge on insulated and isolated objects by producing separate charges in the molecules of the gases of the surrounding air. When a static charge is present on objects in the work environment, it will be neutralised by attracting opposite polarity charges from the ionised air. Note that ionisation systems should not be used as a primary means of charge control on conductors or people. As with all ionisers, periodic maintenance will be needed to provide optimum performance. To select the best ioniser for your application, IEC 61340-5-2 paragraph 5.2.9 advises, "The following list contains important points for the selection process: charge neutralisation, discharge time, ion balance, product sensitivity, solution to static problem, environmental considerations, airflow; physical dimensions."

lonisers do not replace or eliminate the need for wrist straps or foot grounders. However, in areas where insulators must

be used, an ioniser can minimise problems resulting from static charges. In addition ionisation minimizes ElectroStatic Attraction (ESA), reducing contamination of airborne particles adhering to parts.

Vermason's top-of-the-line ionisers are made in America and manufactured at our Chino, CA, USA factory by our well-trained production team. Customised circuitry is wave soldered and each ioniser is tested and calibrated to NIST traceable standards.



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# **BENCH TOP IONISER**

- · Neutralises electrostatic charge
- Features steady state DC ionisation and patented (US Patent #4,974,115) Sense Feedback Balancing
   achieves ion balance control and high output
- · Small and compact easy to move and takes up little space
- Rapid access maintenance designed to be easily and quickly disassembled for cleaning or replacing emitter points. This method removes the contamination from the work area instead of redistributing it.
- Made in America

#### Part No. Description

- 200005 Bench Top Ioniser, 220V (Power cord must be ordered separately)
- 200155 Emitter Point Tip Cleaner, Pack of 20
- 200165 Replacement Emitter Points, Pack of 100
- 200220 Power Cord for Continental Europe (Schuko) 2 pin
- 200225 Power Cord for UK/Ireland/Asia 3 pin
- 200230 Balance Alarm Programmer

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# **EMIT** BENCH TOP ZERO VOLT IONISER

- The best balancing ioniser available
- Offset voltage controlled to ±3 Volts typical
- Features steady state DC ionisation and EMIT's patented (US Patent #4,974,115) Sense Feedback balancing
- Rapid Access Maintenance
- CSA approved
- Made in America
   Part No. Description

# **EMIT** Patented Technology Now with 5 year warranty!

EMIT Patented Technology

- 50670Zero Volt Ioniser, 220V<br/>(Power cord must be ordered separately)200155Emitter Point Tip Cleaner, Pack of 20
- 200160 Replacement Emitter Points for ZVI, Pack of 8
- 200165 Replacement Emitter Points, Pack of 100
- 200220 Power Cord for Continental Europe (Schuko) 2 pin
- 200225 Power Cord for UK/Ireland/Asia 3 pin
- 200230 Balance Alarm Programmer
- Download Technical Bulletin TB-6533

# **EMIT** MINI ZERO VOLT IONISER

- · Neutralises electrostatic charge
- · Powered by 24 volts DC; AC adapter must be ordered separately
- Ultra compact size 13.3cm H x 8.9cm W x 4.3cm D
- · Low offset voltage with feedback alarms
- Two fan speeds, high and low
- Made in America

Now with 5 year warranty!

Part No.Description50640Mini Ioniser (Power supply must be ordered separately)200155Emitter Point Tip Cleaner, Pack of 20200160Replacement Emitter Points for ZVI, Pack of 8200165Replacement Emitter Points for System ZVI, Pack of 100200170Power Adapter, 2 Pin, 220V, Euro Specs200175Power Adapter, 3 Pin, 220V UK/Asia Specs

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**X** ( E

X CE



200005



50670

MINI IONIZER

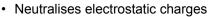
EMIT





# CHARGEBUSTER OVERHEAD IONISER

40



- 3 fan (200260) / 2 fan (200261) steady state DC ionisation with patented (US Patent #4,974,115) Sense Feedback Balancing
- · 220 volt input voltage
- · Audible and visual alarm through single tri-colour LED
- 3 position fan speed: low, medium, high •
- Made in America

#### Part No. Description

<u>200260</u>	109cm Chargebuster Overhead Ioniser, 220V
	(Power cord must be ordered separately)
<u>200261</u>	61cm Chargebuster Overhead Ioniser, 220V
	(Power cord must be ordered separately)
<u>200155</u>	Emitter Tip Point Cleaner, Pack of 20
<u>200160</u>	Replacement Emitter Points for ZVI, Pack of 8
<u>200165</u>	Replacement Emitter Points, Pack of 100
200220	Power Cord, 2 Pin, 220 volt, Euro Specs
200225	Power Cord, 3 Pin, 220 volt UK/Asia Specs

Download Technical Bulletin TB-7528

# **EMIT**OVERHEAD ZERO VOLT IONISER

- · Neutralises electrostatic charge
- · Best overhead ioniser now available from Vermason
- Low balance (offset voltage) balance ±3 volt, typically; ±5 volts maximum controlled via patented (US Patent #4,974,115) Sense Feedback Balancing
- Fast discharge time tested at 3.1 seconds under fan ±1,000 volts to ±100 volts per EN 61340-5-1 (46cm under fans)
- Made in America

#### Part No. Description

<u>50671</u>	Overhead Zero Volt 2 Fan Ioniser, 220V
	(Power cord must be ordered separately)
<u>50672</u>	Overhead Zero Volt 3 Fan Ioniser, 220V
	(Power cord must be ordered separately)
<u>200155</u>	Emitter Point Tip Cleaner, Pack of 20
<u>200160</u>	Replacement Emitter Points for ZVI, Pack of 8
<u>200165</u>	Replacement Emitter Points, Pack of 100
<u>200325</u>	Remote Control Infrared, Battery Operated
<u>200220</u>	Power Cord for Continental Europe (Schuko) 2
<u>200225</u>	Power Cord for UK/Ireland/Asia 3 pin

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200260

Vermason

50671



X CE



EMIT Patented Technology Now with 5 year warranty!





2 pin

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# ION PYTHON SYSTEM

- Eliminates electrostatic attraction by neutralising and blowing particles off products
- Rugged construction; long life
- · Intermittent duty
- · Offset voltage (balance) adjustable flexibility in uses
- Replaceable air filter keeps air free of contaminants
- Made in America

#### Part No. Description

<u>200004</u>	Controller, Air Nozzle, Hose, Foot Switch, 220 volt
	(Power cord must be ordered separately.)
<u>200045</u>	Controller, Hand Gun with Hose, 220 volt
	(Power cord must be ordered separately.)
<u>200050</u>	Ion Python Attachment
<u>200055</u>	Foot Switch
<u>200065</u>	Nozzle/Hand Gun Attachment
<u>200070</u>	Replacement Filter, 2-pack

Download Technical Bulletin TB-7530



Localised, accurate static control



# **EMIT** ION CHARGEBUSTER GUN

- Compressed air ioniser; neutralizes electrostatic charges to eliminate attraction, visual imperfections, and contamination issues by dislodging charged dust and debris
- Fast, < 1 second Discharge Times with ±30 volt offset voltage balance; tested per ANSI/ESD STM 3.1
- Intermittent duty
- · Modular design with 2m ESD protective hose and trigger switch
- · Use filtered air or nitrogen no adjustment required
- Console mounting hardware included
- 1-Year Limited Warranty
- 220 volt Power supply included

# Part No.Description50644Chargebuster Ion Gun, 220 volt50646Replacement Filter, In-Line, Ion Gun, Pack of 3

#### Download Technical Bulletin TB-6559

50644

(4)

CHARGEBUSTER

ION GUN

EMIT

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<u>50750</u> /

<u>50751</u> / <u>50746</u> / 50747

# **TESTER SELECTION CHART**

222514 /

222508

222518

				<b>V</b> JL	
		<u>222610</u> 222611	<u>225220</u>	<u>222506</u> 222504	<u>222507</u>
Equipment					
uiț	Single-Wire Wrist Strap	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
6	Dual-Wire Wrist Strap				
	Footwear	$\checkmark$			$\checkmark$
Test	Independent Testing				
F	Mountable	$\checkmark$		$\checkmark$	$\checkmark$
	Derteble	/	/		

Dual-Wire Wrist Strap								$\checkmark$	$\checkmark$
Footwear	$\checkmark$			$\checkmark$		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Independent Testing								$\checkmark$	$\checkmark$
Mountable	$\checkmark$		$\checkmark$						
Portable	$\checkmark$	$\checkmark$							
Relay Output							$\checkmark$	$\checkmark$	$\checkmark$
Data Acquisition									$\checkmark$

"All Vermason testers are in accordance with EN 61340-5-1 Annex A test methods A.1 and/or A.2"

# **Vermason Testers - Designed for Europe**

The decision to purchase Vermason ESD control products should be an easy one. A high-tech company's analysis is that when properly implemented, money spent on the ESD control programme will provide a financial return of ninety-five to one in savings, getting better quality with fewer reworks, rejections, and returns. That's a £95 return for every £1! That's a ROI of 9,500%!

To get that 95 to 1 financial return, your ESD control products must be working. A quick test with a charged plate analyser will quickly demonstrate that wrist straps and foot grounders nearly instantaneously remove generated electrostatic charges to ground. However, there must be an electrical path to ground. IEC 61340-5 requires that an organization verify the effectiveness of their ESD control program. To make sure the money you invest is providing a return, use Vermason Combo Testers and require your workers to daily or twice daily test the integrity of their wrist straps and foot grounders. Or to save more money, use our Continuous Monitors to continuously verify the effectiveness of your ESD protected working station and simultaneously satisfy IEC 61340-5 and ISO logging requirements.



222535

222550







# **EMIT** SMARTLOG TESTER V4 WITH SOLID STATE TESTER

• By touching the electrode button once, the SmartLog V4<sup>™</sup> tests the resistance path limits of the wearer's wrist strap or ESD garment and both ESD footwear, independently and within one second

X CE

- The software manages personnel and ESD test data o TEAM5 Software Operation Manual
  - o TEAM5 Software Comparison Chart
- · Employee ID table easily update the user list
- · Test options include:
  - o Footwear with wrist optional
     o User choice allows user to chose test performed; 1) Wrist 2) Foot or 3) Both
- Split footplate design allows for individual footwear testing all in one test
- New solid state touch test design with no moving parts provides a reliable solution for high volume wrist strap and foot ground testing
- No need to dedicate a computer
- Team 5 Basic software included
- All required components included in system
- Independent audible and visual alarm conditions
- Reads Code 39 and Code 128 Barcode
- 5-year limited warranty
- Customer Checklist
- Troubleshooting Guide
- Made in America

Wrist strap range: 750 Kilohm - 35 Megohm Footground range: 750 Kilohm - 35 Megohm

Part No.	Description
<u>50746</u>	SmartLog V4, 220 volt, with Keypad and Software
<u>50747</u>	SmartLog V4, 220 volt, with Keypad, without Software
<u>50750</u>	SmartLog V4, 10mm adapter, 220 volt
<u>50751</u>	SmartLog V4, 10mm adapter, 220 volt without software
<u>50491</u>	Team 5 Enterprise Software License, 1 Year
<u>50493</u>	Team 5 Software License, 1 Year
<u>50380</u>	Card Reader
<u>50443</u>	Laser Barcode Scanner
<u>50446</u>	Numeric Keyboard Attachment
<u>50586</u>	Interchangable Blades, for Adapter, UVLM, UK Plug
<u>50587</u>	Interchangable Blades, for Adapter, UVLM, Euro Plug
<u>50480</u>	Adapter, 12 VDC, North American Plug
<u>222728</u>	Ethernet Adapter, 10/100

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New and Improved Version

**EMIT** Patented Technology Now with 5 year warranty!









Use our Calibration Units to Calibrate your Vermason Testers

See page 47

See our products being Made in Britain on our web site: <u>Click Here</u>







# **COMBO TESTER**

- Dual test circuits versatile, tests footwear and wrist straps
- Positive rocker switch actuation reliably changes test mode
- LED's display clear test results simple operation
- Made in America

Wrist strap range: 750 Kilohm - 35 Megohm Footground range: 750 Kilohm - 35 Megohm

Par	t	No.	De	scri	ptior	۱
			~		_	

Test Equipment

- 222610 Combo Tester
- 222611 Combo Tester with Stand
- 222612 Footplate for Combo Tester
- 222625 AC Adapter, 220VAC
- 222650 Calibration Unit

Download Technical Bulletin TB-7533



# To see our full range of Wriststraps see Page <u>5</u> – <u>7</u>

# **COMBO TESTER X3 WITH STAND**

- · Simultaneous testing of wrist strap and foot wear in up to 3 seconds
- Split foot plate allows both foot grounders (or shoes) to be tested independently
- Solid state touch test button with no moving parts; increase accuracy of testing and lifetime of product
- 30 Volt test signal; provides accurate tests that are not humidity dependent
- Relay for use with automatic doors or other locking systems allows for controlled access to ESD protected areas
- NIST calibrated with certificate; calibrated with accepted procedures and standards traceable to the National Institute of Standards and Technology. For more information on calibration of Vermason products, see <u>Calibration</u>
- Made in America

#### Stand

- Allows Combo Tester X3 to set up in convenient area for testing of operators
- Heavy gauge black powder-coated construction
- Minimizes corrosion and other contamination when used in clean or sensitive areas
- Made in America

#### Part No. Description

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<u>222550</u>	Combo Tester X3 with Dual Footplate	
<u>222551</u>	Combo Tester X3 with Dual Footplate and Stand	ĺ
<u>222553</u>	Combo Tester X3 with Dual	
	Footplate & 10mm Snap Adaptor	
<u>222554</u>	Combo Tester X3 with Stand &	2
	10mm Snap Adaptor	
<u>222552</u>	Stand for Combo Tester X3	
222650	Calibration Unit	

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NEWI

### Vermason

ESD PERSONAL GROUNDING TEST STATION Combo Tester X<sup>3</sup> Footwear / Wrist Strap Test 1. Step on the foot plates (one foot on each foot plate).

The results of the test are displayed. The results of the test are displayed.

wrist strap test are displayed above the to Green lights indicate a pass condition.



222550

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222552

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# HIGH SPEED, HIGH ACCURACY COMBINED FOOTWEAR / WRIST STRAP TESTER

- Checks the resistance of the shoes, heel grounders, toe grounders or wrist straps of the wearer
- Indicates two pass levels: 10 Megohms (1x10E7 ohms) and 35 Megohms (3.5x10E7 ohms) as recommended in EN 61340-5-1
- Very fast response: <2s reduces queues
- 9 volt battery included, power supply available separately
- Made in Britain

Part No.Description222518Combined Test Station222529220 volt Power Supply, UK222530220 volt Power Supply, Europe

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# FOOTWEAR TEST PLATES

- · Choice of two sizes
- Stainless steel mounted on an insulated yellow vinyl base with anti-skid pads
- 222502 is the most popular plate
- · Lead wire is not included
- Made in Britain

#### Part No. Description

222502Single Foot Size: 340mm x 140mm222501Two Footed Size: 400mm x 325mm





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Top selling tester





X CE

**X**CE

STATION

# **PERSONNEL TEST STATION WITH OUTPUT CONTACT**

ESD Personne

222535

ESD Footwear Test Plate

GROUNDING TEST

0

- Output contact can be used to connect to a door latch, beacon or other apparatus - a contact for each LED and signal indicates that a test is in progress
- Output contact rating: 50 volt AC/DC, 0.5A
- ON/OFF output signal is 9VDC, 0.1A
- Supplied with wall panel, 222502 foot plate, battery, calibration certificate, 1.5m output lead and free end to connect to device controller
- Optional power supply needs to be ordered separately: UK Version: 222529, EURO Version: 222530
- Made in Britain

Part No.	Description
222535	Output Contact Personnel
	Test Station
222529	220 V Power Supply, UK
222530	220 V Power Supply, Europe
223002	Calibration Unit

Download Technical Bulletin TB-7540

# **COMPACT WRIST STRAP / FOOTWEAR TESTER**

- Popular tester for less intensive use that meets EN 61340-5 basic requirements
- · LEDs indicate pass, fail high and fail low as well as battery low
- · Fail high level: 35 Megohms; fail low level: 0.75 Megohm
- · 9 volt test voltage powered by PP3 battery
- · Made in Britain and America

#### Part No. Description

 222507
 Wrist Strap and Footwear Test Station

 223001
 Calibration Unit

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# HIGH SPEED, HIGH ACCURACY WRIST STRAP TESTER AND TEST STATION

- 24 volt test voltage, digital circuit: ±3% accuracy
- Very fast response: <2 seconds; avoids queues at the test station
- Pushing test button activates ON/ OFF switch and initiates the test
- LED and buzzer indicate fail low, pass <10 Megohms (1x10E7 ohms), pass</li>
   <35 Megohm (3.5x10E7 ohms) or fail high; buzzer sounds on pass
- Made in Britain

Part No.	Description
222508	Wrist Strap Tester

- 222514 Wrist Strap Test Station
- 222529220 volt Power Supply, UK222530220 volt Power Supply, Europe
- 223002 Calibration Unit

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222514

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222507











#### GROUNDING TEST STATION COMPACT WRIST STRAP TESTER · Popular tester for less intensive use that meets EN 61340-5-1 basic requirements · LEDs indicate pass, fail high and fail low as well as battery low A Test Equipmen⁺ Fail high level: 35 Megohms; fail low level: 0.75 Megohm 9 volt test voltage powered by PP3 battery 0 · Made in Britain and America Part No. Description Wrist Strap Tester and Wallplate 222506 Wrist Strap Tester 222504 222506 Calibration Unit 223001 Download Technical Bulletin TB-7507 **X** (E RAP WRIS 222504 AC OUTLET ANAL AND WRIST STRAP AC OUTLET ANALYSER AND ermason WRIST STRAP TESTER ERATO · Verifies proper AC outlet wiring and ground path integrity, enabling effectiveness of grounding products · Internal audit tool; tests to practical resistance limits · Convenient, easy to test wrist strap at lab or workstation Made in America Part No. Description AC Outlet Analyser and Wrist Strap Tester, UK Plug 224713 AC Outlet Analyser and Wrist Strap Tester, Euro Plug 224714 224713

Download Technical Bulletin TB-7509

# WRIST STRAP TESTER, 9V BATTERY

- Portable small package; supervisor can use to spot check users on shop floor
- For use with Single Wire Wrist Straps
- · Battery powered 9 volt tester; no adapter needed
- Test results include fail low, pass, and fail high; if wrist strap fails, the operator will know if the failure is too high or too low
- Test can be performed during normal use at the workstation; improved productivity, workers can test without having to leave the workstation
- Range: 800 Kilohm 10 Megohm
- NIST calibrated with certificate; calibrated with accepted procedures and standards traceable to the National Institute of Standards and Technology
- For more information on calibration of Vermason products, see <u>Calibration</u>
- Made in America

Part No. Description 225220 Wrist Strap Tester, 9 volt Battery





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225220

LOW BATT

WRIST STRAP

TESTER







# **CALIBRATION UNIT**

- Calibrates items <u>222504</u>, <u>222506</u> and <u>222507</u>
- No power supply needed
- Made in Britain

48

Part No. Description 223001 Calibration Unit



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Equipmen

# **CALIBRATION UNIT**

- · Use to calibrate wrist strap, footwear or combined testers
- · Versatile, works with most makes of tester
- Accuracy is ± 3%
- Supplied with 10mm socket to 10mm socket adapter, test certificate and instructions for use
- Calibrates items <u>222508</u>, <u>222514</u>, <u>222518</u> and <u>222535</u>
- Made in Britain

Part No. Description 223002 Calibration Unit

Download Technical Bulletin TB-7543



- Accurately measures Rp-p or R<sub>G</sub> for quick checks, factory audits, or test lab evaluation of product; versatile tool measuring surface resistance as exponent number illuminates immediately, but designed to measure for full 15 second electrification period and exceeds accuracy requirements of EN 61340-5-1 Annex A
- Meter measures ambient temperature and relative humidity; available when required for test records
- Colour coded LED and digital LCD read-out

   easy to read, no interpretation needed; can
   easily be used for quick go/no go checks
- Made in America

#### Meter Weight: 439g

Dimensions: 203mm (L) x 109mm (W) x 41mm (H) Power Supply: Two AA alkaline batteries

Part No. Description

- 222630 Surface Resistance Test Kit
- 222631 Meter Only
- 222632 Resistivity Attachment (Optional)
- <u>222633</u> Leads for Electrodes (set of 2)
- 222634 Electrodes for Surface Resistance Test Kit, 2.3kg (set of 2)

Download Technical Bulletin TB-7545





223002

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# ANALOGUE SURFACE RESISTANCE METER

- Analog compliance verification surface resistance checker; used for determining if a surface is dissipative, conductive or insulative
- Automatic test range voltage selection per compliance verification ESD EN 61340-5-1; starts tests at 10 volts and automatically switches to 100 volts if the measurement is over 10E5 ohms
- Portable operation with 9 volt battery; no charging or sourcing of special batteries needed
- LED illuminates when battery power is low
- Prevents operator from making bad measurements
- Test kit includes set of 2.2kg electrodes and leads
- Use with the meter to measure resistance point-to-point (Rp-p) and resistance to ground (Rg)
- NIST calibrated with certificate; calibrated with accepted procedures and standards traceable to the National Institute of Standards Technology
- Made in America
- Part No. Description
- 222635 Analog Surface Resistance Test Kit
- 222636 Analog Surface Resistance Test Leads
- 222637 Analog Surface Resistance Test Meter
- 222634 Electrode Pair, 2.27 kg



# SURFACE RESISTANCE CHECKER

- Automatically selected 10 volt and 100 volt test voltage
- Fitted with a built in 15-second timer to help user to comply with EN guidelines
- Range 10E3 to 10E12 ohm
- Built-in parallel electrodes or switch to use one or two 2.2kg electrodes
- Made in Britain
- Part No. Description 225717 Surface Resistance Checker 225718 Kit including two 222008 Cylindrical Probes and leads

Download Technical Bulletin TB-7547

# µMEG<sup>™</sup> POCKET MEGOHMMETER

- Quick indication of surface resistivity and surfaceto-ground resistance (ground cord included)
- Small, convenient pocket-size mini tester; perfect for fast spot-checking of dissipative and conductive surfaces
- Replaceable 9 volt battery; easy operator replacement
- Made in America

50

Surface Resistivity: Range to 10E10 ohms Surface-to-Ground Resistance (Rg): Range to 10E9 ohms

Part No. Description 222640 Tester, 9VDC Battery

Download Technical Bulletin TB-7548



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225718

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Assay Push Here Here Push Here Push

222635





# CONCENTRIC RING PROBE

- · Use for testing surface resistance to EN 61340-5-1 and ESD S11.11
- · Available with carbon loaded conductive pads
- · Probe resistance with carbon loaded pads: <500 ohms
- · Made in Britain

Part No. Description Probe Kit with Cable and Carry Case <u>222003</u> Concentric Ring Probe 222002

Download Technical Bulletin TB-7549



# CYLINDER PROBES

- Used to measure point to point resistance (Rp-p), resistance to ground (R<sub>G</sub>) and volume resistance (Rv) in accordance with EN 61340-5
- Carbon loaded conductive rubber pads that ٠ do not mark the surface to be tested
- Internal resistance <50 ohms
- Made in Britain

Part No. Description 63mm, 2.3kg, Black Probe 222008 Boxed Set with Two 222008 222009

Download Technical Bulletin TB-7550

#### TIP!

Where there is a field, there is also a charge! Use a field meter to determine and demonstrate the presence of electrostatic charges.

# ESD SURVEY KIT

- Everything needed to conduct an ESD control program survey
- · Kit includes all the tools required to survey to fulfill your EN 61340-5-1 Compliance Verification Plan
- Contents:
  - (1) 50598 Ionisation Test Kit
  - (includes Digital Static Field Meter)
  - (1) 50553 HBM Test Fixture
  - (1) 222630 Surface Resistance Test Kit
  - (1) 222632 Resistance Meter Attachment
  - (1) 224713 Outlet Analyser
  - (1) Fluke 114-A Meter
  - (1) 229904 Jewel Wrist Strap
  - (1) 249250 Foot Grounder
  - (1 set) Training Paddles
  - (1) Heavy duty carrying case
- · Made in America

Part No. Description ESD Survey Kit <u>222685</u>

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# **EMIT** DIGITAL STATIC FIELD METER / IONISATION TEST KIT

- Portable electrostatic meter for ESD testing of static fields; an effective problem solving tool that may be used to identify items that are able to be charged
- · Optical distance indicator; ensures accuracy and repeatability
- HOLD Button; allows the measurements to be retained for easy reading
- Auto-ranging; easy to use and operate; no adjustments
- LCD display; easy to read; no interpretation necessary
- Conductive plate Accessory; 50567 with metal allows the user to measure the discharge times of air ionisation equipment
- Human body model (HBM) test fixture accessory; 50553 with ion test kit allows user to approximate electrical charges generated on the human body while walking or moving
- Test kit upgrade; 50566 test kit upgrade includes charger and conductive plate
- 5-Year Limited Warranty
- Made in America

Test Equipment

#### Part No. Description

- 50597 Digital Static Field Meter
- 50598 Complete Field Meter / Ion Test Kit
- 50566 Portable Test Kit Upgrade, for Ionisers
- 50567 Charging Plate for Field Meter
- 50553 Personal HBM Test Fixture

Download Technical Bulletin TB-6567

# Now with 5 year warranty!

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# CHARGED PLATE ANALYSER

- Audits ioniser's overall performance precisely measures offset voltage (balance) and discharge times
- Digital display eliminates user interpretation of results, easy to read
- Precise measurement of static charges on isolated conductive plate
- Made in America

#### Part No. Description

i uitito.	Decemption	
<u>222670</u>	Charged Plate Analyser, 220 volt,	2
	(Power cord must be ordered separately)	
<u>200220</u>	Power Cord for Continental Europe (Schuko) 2 p	in
<u>200225</u>	Power Cord for UK/Ireland/Asia 3 pin	

Download Technical Bulletin TB-7555







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2





# CONTINUOUS MONITOR SELECTION CHART

	<u>222600</u>	<u>222605</u>	<u>222740</u>	<u>50515</u>	<u>50537</u>
Single-Wire	$\checkmark$	$\checkmark$	$\checkmark$		
4mm Parking Stud	$\checkmark$	$\checkmark$	$\checkmark$		
10mm Parking Stud	$\checkmark$	$\checkmark$			
Dual-Wire				$\checkmark$	$\checkmark$
Operator(s) Monitored	1	1	2	2	2
Zero Volt Monitoring					$\checkmark$
Audible & Visual Alarm	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$
Working Surface(s) Monitored	1	1	2	2	2
Point-to-Point Working Surface Monitoring	$\checkmark$	$\checkmark$			
Point-to-Ground Working Surface Monitoring			$\checkmark$	$\checkmark$	$\checkmark$

## FEATURES AND BENEFITS OF VERMASON WAVE DISTORTION TECHNOLOGY

- Real-time monitoring of ESD workstation including wrist strap, mat, and cords.
   Pays for itself ensures ESD protected workstation, reducing catastrophic and latent defects.
- Utilizes reliable wave distortion technology; provides true 100% continuous monitoring; cannot be fooled; no false alarms; not
  pulsed current which is off over 90% of the time.
- Can be used with any brand of single-wire wrist strap and cord; with less expensive, more durable single-wire components, life-cycle costs of monitor/wrist strap/cord are up to 66% lower than dual-wire approach.
- Miniscule electrical current required to generate waveform; no reported case of skin irritation.
- Designed for use by 1.5 m tall 40.8 kg person to 1.83 m 113.8 kg person; individual adjustment for each operator is almost never necessary.
- Provided with calibration to European standards; simple means to assure accurate performance; lower calibration life cycle costs.







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# **DUAL OPERATOR CONTINUOUS MONITOR WITH SATELLITES**

6

222740

Check out the set-up of a typical EPA

- Control unit LEDs indicate proper grounding of two mats and two operators; allows mounting of control unit at eye level, not using any working surface area
- Two satellite remote monitors include monitored wrist strap ground, parking stud, and unmonitored ground for guest or equipment
- Utilises reliable wave distortion technology; provides true 100% continuous monitoring
- Made in America

#### Working surface requires conductive layer Operator wrist strap range:

1 Megor	nm to 10 Megohms (1 x 10E6 to 1x10E7 ohms)
Part No. <u>222740</u> <u>229904</u>	Description Dual Operator Monitor 220V with 2 Satellites, with 2 each Single-Wire Jewel® Elastic Wrist
<u>222741</u> 222601	Strap Kits (Includes 222601 adapter) Replacement Satellite Adapter for Monitors, 24VAC 220V, IEC Input Universal
<u>200220</u> <u>200225</u> <u>222750</u>	(Separate power cord required for the power adapter) Power Cord, Europe Power Cord, UK / Asia Calibration Unit

#### Download Technical Bulletin TB-7558

# JEWEL® WORKSTATION CONTINUOUS MINI MONITOR

- · Small size: 70mm x 53mm; takes up minimal working surface area
- Utilises reliable wave distortion technology provides true 100% continuous monitoring. Cannot be fooled; no false alarms. Not pulsed current which is off over 90% of the time.
- Two 10mm threaded studs installed on bottom of unit to snap monitor flush on mat
- Made in America

Working surface requires conductive layer Operator wrist strap range: 1 Megohm to 10 Megohms (1 x 10E6 to 1x10E7 ohms)

Part No.	Description
<u>222600</u>	Continuous Mini Monitor, Sapphire, 220 volt
	(Power adapter must be ordered separately)
<u>222601</u>	Power adapter, 220 volt, IEC Input Universal
	(Separate power cord required for the power adapter)
<u>200220</u>	Power Cord, Europe
200225	Power Cord, UK / Asia
222750	Calibration Unit

Download Technical Bulletin TB-7559

# MONITOR CALIBRATION UNIT

- · Passive device with no power source required
- Multiple jacks
- Calibrates <u>222600</u>, <u>222740 and 222605</u>
- Made in America

Part No. Description 222750 Monitor Calibration Unit, NIST

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#### TIP!

"Constant on-line monitors can be used so that any breaks will be immediately found." (IEC-61340-5-2 clause 5.2.7 Wrist Strap)







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**Continuous Monitors** 

# **EMIT** DUAL OPERATOR PROGRAMMABLE RESISTIVE LOOP WORKSTATION MONITOR

- Dual wire continuous monitors provide redundancy; even if one dual wire wrist strap conductor is severed, operator has reliable path-to-ground with the other wire
- Patented resistance loop monitoring technology
- Monitoring of two operators and two continuous ground connections independently
- For use with dual-wire wrist straps
- Adjustable alarm level
- · Independent alarming conditions: audible and visual
- Resistance, programmable, no manual adjusment necessary
- Visual display for all status
- Test for proper calibration with the <u>50524</u> dual-wire monitor limit comparator
- Does not include power supply. Use 50540 power supply in Europe.
- Made in America

#### Part No. Description

**Dual Operator Programmable 50515** Resistive Loop Workstation Monitor Interchangable Blades, for Adapter, UVLM, UK Plug **50586** Interchangable Blades, for Adapter, UVLM, Euro Plug 50587 <u>50480</u> Adapter, 12 VDC, North American Plug Replacement Black Remote / Guest Jack <u>50525</u> Replacement Grey Remote / Guest Jack **50526** Power Supply, 220 volt, Europe, 2 Pin <u>50540</u> Limit Comparator for Dual Wire Monitors 50524

Download Technical Bulletin TB-6514



**EMIT** Patented Technology Now with 5 year warranty!

# SINGLE WIRE MULTI-MOUNT CONTINUOUS MONITOR

- Continuously monitors the integrity of one operator and one working surface, eliminating the need for periodic testing and recording. Ideal for individual workstations for assembly, test, packaging or other applications.
- Wave distortion technology provides real-time continuous monitoring for operator path to ground and presence of 1 Megohm resistor
- True continuous monitoring (versus pulsed or intermittent) of wrist strap functionality and operator safety according to accepted industry standards
- Easy to install housing with screws or adhesive backed velcro<sup>®</sup> strips; optional mounting suitable to most machinery and work area, even in hard to reach locations
- Calibration unit available for accurate performance and conformity testing in the field (see Vermason item 222750 <u>Click Here</u>)
- Calibrated with accepted procedures and standards traceable to the National Institute of Standards and Technology. For more information on calibration of Vermason products, and Calibration
- calibration of Vermason products, see Calibration
- Made in America

#### Part No. Description

222605Single Wire Multi-Mount Continous Monitor, 220 volt222601Adapter, 24 VAC, 220V, IEC Input Universal222750Calibration Unit200220Power Cord, Europe200225Power Cord, UK / Asia

Download Technical Bulletin TB-7576





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# **EMIT** ZERO VOLT MONITOR

- Dual Wire Continuous Monitors provide redundancy; even if one dual wire wrist strap conductor is severed, operator has reliable path-to-ground with the other wire
- Most advanced means of monitoring the ground path for operators, workstations, and equipment
- Equal opposite polarity signals bring operator to zero volts to ground
- For use with dual-wire wrist straps
- Durable stainless steel enclosure
- Test voltage signal +1.25 vdc and -1.25 vdc
- Operator charge detection
- Made in America

#### Part No. Description

i altivo.	Description
<u>50537</u>	Zero Volt Monitor, with 2 Wrist Straps
<u>222695</u>	Power Supply, 3 Pin, 220 volt, UK/Asia Specs
<u>222694</u>	Power Supply, 2 Pin, 220 volt Euro Specs
<u>50586</u>	Interchangable Blades, for Adapter, UVLM, UK Plug
<u>50587</u>	Interchangable Blades, for Adapter, UVLM, Euro Plug
<u>50480</u>	Adapter, 12 VDC, North American Plug
<u>50524</u>	Limit Comparator for Dual Wire Monitors

Download Technical Bulletin TB-6515

# **EMIT** LIMIT COMPARATOR FOR DUAL WIRE MONITORS

- Verifies the calibration of the <u>50515</u> and <u>50537</u> zero volt monitor
- Checks 4 operator conditions: fail low, pass safe (low limit), pass safe (high limit), and fail high
- Made in America

#### Part No. Description

50524 Limit Comparator for Dual Wire Monitors

Download Technical Bulletin TB-6515

## We perform ESD training and surveys

Contact customer service to make an appointment.

# PERSONNEL STATIC CHARGE VISUALISER STATICHECK™

- Shows the electrostatic potential of the operator from 0 to ±5,000 volt
- Can be mounted outside an EPA for training and checking purposes
- Can also show the effect of grounding the operator
- Inside an EPA it can be used to demonstrate that operator potential is below a desired limit
- Made in America

Part No. Description

223509 Staticheck™ Charge Visualiser with Ground Cord, Battery, Case

Download Technical Bulletin TB-7570



50537

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# **ESD BAG SELECTION CHART**

Physical Properties	<u>Statshield</u> ≞ <u>Standard</u> - <u>Metal In Bags</u>	<u>Statshield<sup></sup> Standard</u> - <u>Metal Out</u> <u>Bags</u>	<u>Statshield</u> ≞ <u>ESD-Moisture</u> <u>Barrier Bags</u>	<u>Bubble</u> Shielding Bags	<u>Antistatic</u> <u>Pink Bags</u>	<u>Antistatic</u> <u>Pink Bubble</u> <u>Bags</u>	<u>Conductive</u> <u>Black Bags</u>
Resistance of polyester outer layer	10E11 ohms	10E8 ohms	10E12 ohms	10E9 to 5 x 10E11 ohms	1010 to 1011 ohms	10E10 to 10E12 ohm	10E5 ohms
Resistance of aluminium layer	10E2 ohms	10E2 ohms	10E2 ohms	10E10 to 10E12 ohms	-	-	-
Resistance of polyethylene	10E11 ohms	10E12 ohms	10E12 ohms	-	10E11 ohms	10E11 ohms	10E11 ohms
Aluminium metal layer location	Between polyester & polyethylene	Outer layer coated with abrasive resistant coating	Dual metal layers between plastic layers	Between polyester & polyethylene	-	-	-
Faraday Cage ESD shielding	Yes	Yes	Yes	Yes	No	No	No
Energy penetration (nanojoules)	<25	<20	<50				
Thickness (nominal)	3.0 mil	3.0 mil	3.6 mil	5mm (height of bubbles)	2.7 mil	5mm (height of bubbles)	2.8 mil
Puncture resistance	>10#	>10#	>20#	>25lbs			
Moisture barrier MVTR	<0.40 grams	<0.40 grams	<0.02 grams	<0.2 grams	>0.8gr/m2 24 hr at 50% rH & 20ºC		>0.8gr/m2 24 hr at 50% rH & 20ºC
Application	Transport or store ESDS outside protected area	Substitute for Metal In where end user requires	Stands up to many automatic vacuum packaging operations	Transport or store ESD sensitive items that require mechanical protection outside an EPA	Economical bags for use with non-ESD sensitive items destined for use in an EPA	Economical bags for use with non-ESD sensitive items that require mechanical protection destined for use in an EPA	Ideal for storage of ESD sensitive items within an ESD controlled storage area
Durability	Good	Less Durable	Superior	Good	Less Durable	Good	Good
Available with Zipper	Yes	Yes	No	No	Yes	No	No
Part Numbers	<u>201015</u> - <u>201560</u>	<u>202100</u> - <u>202280</u>	<u>204549</u> - <u>204610</u>	<u>200510</u> - <u>200545</u>	<u>203000</u> - <u>204155</u>	<u>202505</u> - <u>202530</u>	<u>203530</u> - <u>203700</u>

# Vermason ESD Bags - Designed for Europe

We refuse to put your products at risk. We use only the highest quality materials in our full line of static shielding bags. Vermason bags are made in America at our Canton, MA facility on specially designed bag machines. Great care is given to produce the finest quality bags.

ESD Bags meet EN 61340 5-1 requirement:

- "low charging packaging exhibiting properties which minimize any charge generation" (paragraph 3.18.1)
- "electrostatic discharge shielding barrier or enclosure that limits the passage of current and attenuates the energy resulting from an electrostatic discharge such that the maximum energy from 1 000 V human body model discharge is less than or equal to 50 nJ." (paragraph 3.18.2)
- · Identified with ESD packaging symbol, manufacturer, and
- batch identification number (paragraph 4.1.2) See our products being Unit C. 4th Dim



See our products being Made in Britain on our web site: <u>Click Here</u>







# STATSHIELD® TRANSPARENT METAL-IN STANDARD ESD SHIELDING BAGS

Thermal Transfer does not flake or peel off!

- ESD shielding limits energy penetration from ESD and eledctrostatic charges
- Rs: 10E9 to 5 x 10E11 ohms inside and out
- Protects ESD sensitive items

Part No. Internal Dimensions (W x L)

- Good see-through clarity
- Sold 100 per pack
- <u>Click HERE</u> to see how to determine the correct size bag for your application
- Made in America

75mm x 125mm (3" x 5") 201015 100mm x 150mm (4" x 6") 201025 100mm x 760mm (4" x 30") <u>201040</u> 125mm x 200mm (5" x 8") <u>201050</u> 150mm x 200mm (6" x 8") 150mm x 255mm (6" x 10") 201065 <u>201070</u> 150mm x 760mm (6" x 30") 201071 200mm x 255mm (8" x 10") 201105 200mm x 305mm (8" x 12") 201110 200mm x 405mm (8" x 16") 201115 255mm x 305mm (10" x 12") <u>201120</u> 255mm x 355mm (10" x 14") 201130 255mm x 610mm (10" x 24") 201135 280mm x 380mm (11" x 15") 305mm x 355mm (12" x 14") 201100 201140 305mm x 405mm (12" x 16") 201145 305mm x 455mm (12" x 18") <u>201150</u> <u>201160</u> 355mm x 455mm (14" x 18") 201161 380mm x 455mm (15" x 18") 405mm x 455mm (16" x 18") 201165 405mm x 610mm (16" x 24") 201175 455mm x 455mm (18" x 18") 201180 455mm x 610mm (18" x 24") 201190 610mm x 760mm (24" x 30") <u>201210</u> 75mm x 125mm (3" x 5"), with zipper 201500 100mm x 150mm (4" x 6"), with zipper 201510 100mm x 735mm (4" x 29"), with zipper 201511 125mm x 200mm (5" x 8"), with zipper 150mm x 200mm (6" x 8"), with zipper 150mm x 255mm (6" x 10"), with zipper 201515 <u>201520</u> <u>201525</u> 150mm x 735mm (6" x 29"), with zipper <u>201526</u> 200mm x 255mm (8" x 10"), with zipper 200mm x 305mm (8" x 12"), with zipper <u>201530</u> 201535 255mm x 305mm (10" x 12"), with zipper <u>201540</u> 255mm x 610mm (10" x 24"), with zipper 201545 255mm x 355mm (10" x 14"), with zipper 201546 280mm x 380mm (11" x 15"), with zipper 305mm x 405mm (12" x 16"), with zipper 305mm x 455mm (12" x 16"), with zipper 201547 <u>201550</u> <u>201551</u> 355mm x 455mm (14" x 18"), with zipper 201552 380mm x 455mm (15" x 18"), with zipper 201553 455mm x 455mm (18" x 18"), with zipper 201555 455mm x 610mm (18" x 24"), with zipper <u>201556</u> 201560 505mm x 505mm (20" x 20"), with zipper

Download Technical Drawings 201000 and 201500

201105

Low Charging Zipper!

Custom Sizes and Printing Available!

# For Self-Adhesive Labels CLICK HERE









- Aluminum metal outer layer of laminated film metal-out required by many end-users; meets requirements of MIL-PRF-81705D, Type III
- Shielding protects ESD sensitive items
- Integral antistatic, low tribocharging properties bags will not electrostatically charge during movement
- Resistance of outer surface: <10E8 ohms
- <u>Click HERE</u> to see how to determine the correct size bag for your application
- Made in America

Part No. Internal Dimensions (W x L) 75mm x 125mm (3" x 5") <u>202100</u> 100mm x 150mm (4" x 6") 202105 100mm x 760mm (4" x 30") <u>202110</u> 125mm x 200mm (5" x 8") 202115 150mm x 255mm (6" x 10") <u>202120</u> 150mm x 760mm (6" x 30") <u>202125</u> 200mm x 255mm (8" x 10") 200mm x 305mm (8" x 12") 202130 202135 255mm x 305mm (10" x 12") <u>202140</u> <u>202145</u> 255mm x 355mm (10" x 14") 255mm x 610mm (10" x 24") <u>202150</u> 280mm x 380mm (11" x 15") 305mm x 405mm (12" x 16") 202155 <u>202160</u> 305mm x 455mm (12" x 18") 202165 380mm x 455mm (15" x 18") <u>202170</u> 202175 455mm x 455mm (18" x 18") 455mm x 610mm (18" x 24") <u>202180</u> 202200 75mm x 125mm (3" x 5"), with zipper 100mm x 150mm (4" x 6"), with zipper 202205 125mm x 200mm (5" x 8"), with zipper 150mm x 255mm (6" x 10"), with zipper 150mm x 760mm (6" x 30"), with zipper 200mm x 255mm (6" x 10"), with zipper <u>202215</u> 202220 202225 202230 200mm x 305mm (8" x 12"), with zipper 202235 255mm x 305mm (10" x 12"), with zipper 255mm x 355mm (10" x 14"), with zipper 255mm x 355mm (10" x 14"), with zipper 202240 202245 202250 280mm x 380mm (11" x 15"), with zipper 202255 305mm x 405mm (12" x 16"), with zipper 305mm x 455mm (12" x 18"), with zipper 380mm x 455mm (12" x 18"), with zipper 455mm x 455mm (18" x 18"), with zipper <u>202260</u> 202265 202270 202275 202280 455mm x 610mm (18" x 24"), with zipper

#### Download Technical Drawings 202100 and 202220

# **BUBBLE SHIELDING BAGS**

- Combines "Faraday Cage" and mechanical protection
  Shields about twice as well as normal
- shielding bag of equivalent size
- Rs inside and out: 10E10 to 5 x 10E11 ohms
- <u>Click HERE</u> to see how to determine the correct size bag for your application
   Made in Britain
- Part No  $W \times I + FI \Delta P$

Part No.	W X L + FLAP
<u>200510</u>	100mm x 150mm + 25mm (4" x 6" + 1")
<u>200515</u>	150mm x 255mm + 25mm (6" x 10" + 1")
<u>200520</u>	200mm x 255mm + 25mm (8" x 10" + 1")
<u>200530</u>	255mm x 305mm + 50mm 10" x 12" + 2")
<u>200535</u>	305mm x 405mm + 50mm (12" x 16" + 2"
<u>200540</u>	355mm x 455mm + 50mm (14" x 18" + 2"
<u>200545</u>	455mm x 455mm + 50mm (18" x 18" + 2"



#### Download Technical Drawing 200510

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200520



Thermal Transfer does not flake or peel off!

# Low Charging Zipper!

202130

Custom Sizes and Printing Available!





# STATSHIELD® MOISTURE BARRIER SHIELDING BAGS

- · Provide ESD and moisture protection
- Film thickness: 90 micron (3.6mil)
- Bag is opaque, printed and designated as ESD moisture barrier bag
- Used to pack SMD reels or trays and IC tubes
- Use with humidity indicator cards and dessicant
- Rs: <10E11 ohms at 15% rH</li>
- Click HERE to see how to determine the correct size bag for your application
- Made in America

Packaging

Part No. Internal Dimensions (W x L)

125mm x 200mm (5" x 8") 150mm x 255mm (6" x 10") 204549 204550 200mm x 255mm (8" x 10") 204551 255mm x 305mm (10" x 12") <u>204552</u> 255mm x 610mm (10" x 24") 204575 255mm x 660mm (10" x 26") 204580 255mm x 760mm (10" x 30") <u>204581</u> 305mm x 405mm (12" x 16") 204585 380mm x 455mm (15" x 18") <u>204586</u> 400mm x 455mm (16" x 18") 204595 455mm x 455mm (18" x 18") <u>204605</u> 455mm x 610mm (18" x 24") 204610

Download Technical Drawing 204580

Storage problems? Check out our shelf liner on Page 20

# HUMIDITY INDICATOR CARDS

- · Low-cost method of verifying the effectiveness of moisture barrier packaging
- · Indicates the relative humidity level at which the contents have been stored
- Colour changes quickly and clearly from pink to blues as rH levels are exceeded
- Made in Britain

Part No. Description 6 spot, 40mm x 120mm, can of 200 <u>204502</u>

Download Technical Drawing 204502

# DESICCANT

- Sold in packs of 600
- For use in conjunction with moisture barrier bags whenever moisture control is a critical factor in the packaging of electronic products
- At 50% rH and 25°C it will absorb 27% water by weight
- Packed in woven, non-leaching HDPE sachets
- Meets Mil D-3464E, DIN 55473A and B and Afnor 00321 requirements
- · Made in Britain

Part No. Description

Desiccant, 1/2 Unit (10g), Pack Of 600 204514 Desiccant, 1 Unit (25g), Pack Of 300 204516

Download Technical Drawing 204515



204514

204580

See our products being Made in America on our web site: Desco.com/Factory



204502





Packaging

## **ANTISTATIC PINK BAGS**

- · For use with non-ESD sensitive items destined for use in an EPA
- Economical
- Made of polyethylene, 0.070mm thick
- Rs: 10E10 to 10E11 ohms, T1000: < 2 sec at 50% rH, 22°C</li>
- <u>Click HERE</u> to see how to determine the correct size bag for your application
- Made in Britain

Part No. Internal Dimensions (W x L) 100mm x 150mm (4" x 6") 150mm x 255mm (6" x 10") <u>204020</u> 204040 150mm x 200mm (6" x 8") 200mm x 255mm (8" x 10") <u>204035</u> <u>204055</u> 255mm x 305mm (10" x 12") 204070 255mm x 355mm (10" x 14") 204075 204095 305mm x 405mm (12" x 16") 305mm x 455mm (12" x 18") <u>204100</u> 610mm x 915mm (24" x 36") <u>204155</u>

20300075mm x 125mm (3" x 5") with write-on panels, with zipper203005100mm x 150mm (4" x 6") with write-on panels, with zipper203010125mm x 200mm (5" x 8") with write-on panels, with zipper203015150mm x 200mm (6" x 8") with write-on panels, with zipper203020150mm x 255mm (6" x 10") with write-on panels, with zipper203025200mm x 255mm (8" x 10") with write-on panels, with zipper203030255mm x 355mm (10" x 14") with write-on panels, with zipper

203040 100mm x 150mm (4" x 6"), with zipper

- 203045 125mm x 200mm (5" x 8"), with zipper
- 203055
   150mm x 255mm (6" x 10"), with zipper

   203065
   255mm x 355mm (10" x 14"), with zipper

Download Technical Drawings 204020 and 203000

# Not sure what bag you need? Check out our bag selection chart

## **ANTISTATIC PINK BUBBLE BAGS**

- · Suitable for use in an EPA
- Provide mechanical protection
- Made of pink-tinted, amine-free, antistatic polyethylene
- Rs: 10E10 to 10E12 ohm, T1000: < 2 sec at 50% rH</li>
- <u>Click HERE</u> to see how to determine the
- correct size bag for your applicationMade in Britain

 Part No.
 Internal Dimensions (W x L)

 202505
 90mm x 110mm, no flap

 202515
 130mm x 185mm

 202520
 180mm x 235mm

 202530
 280mm x 360mm

Download Technical Drawing 202505



204055



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# CONDUCTIVE BLACK TUBING AND BAGS

Unit 100

100 100

100 100

100 100

100

500m 500m

500m

500m

- Tough, puncture resistant, often re-used
- Made of linear polyethylene with carbon added, 0.07mm thick
- Rs: 10E3 to 5 x 10E5 ohms, independent of humidity
- Heat sealable, recyclable
- **<u>Click HERE</u>** to see how to determine the correct size bag for your application
- Made in Britain

Part No. 203530 203535 203540	Internal Dimensions (W x L) 100mm x 100mm (4" x 4"), Bag 100mm x 150mm (4" x 6"), Bag 100mm x 305mm (4" x 12"), Bag
<u>203555</u>	125mm x 200mm (5" x 8"), Bag
<u>203575</u>	150mm x 200mm (6" x 8"), Bag
<u>203580</u>	150mm x 255mm (6" x 10"), Bag
<u>203600</u>	200mm x 255mm (8" x 10"), Bag
<u>203605</u>	200mm x 305mm (8" x 12"), Bag
<u>203620</u>	255mm x 305mm (10" x 12"), Bag
<u>203645</u>	305mm x 405mm (12" x 16"), Bag
<u>203675</u>	405mm x 455mm (16" x 18"), Bag
<u>203700</u>	455mm x 610mm (18" x 24"), Bag
<u>203510</u>	75mm (3"), Conductive Tubing
<u>203560</u>	150mm (6"), Conductive Tubing
<u>203590</u>	200mm (8"), Conductive Tubing
203630	305mm (12"), Conductive Tubing



OTEKTIVE PAR

37003

OTEKTIVE PAI

37050

Download Technical Drawing 203530

# 203600 **PROTEKTIVE PAK** DISSIPATIVE CORRUGATED SMALL COMPONENT SHIPPER

- · Efficient means of shipping or storing small ESD sensitive items
- Static dissipative surface of 10E6- 10E8 ohms
- Made in America

Part No. Description

37003 Small Component Shipper, 87mm x 54mm x 25mm

Download Technical Drawing 37000.E

# **PROTEKTIVE PAK** DISSIPATIVE CORRUGATED CIRCUIT BOARD SHIPPER

- Economical, efficient method of storing static sensitive electronic devices
- Constructed from a unique buried conductive layer of impregnated corrugated fiberboard with a static dissipative surface
- Made from 100% recycled material and is 100% recyclable
- Made in America

#### Part No. Description

	2 00000 0000
<u>37051</u>	Box with Foam, 102mm x 102mm x 54 mm
<u>37081</u>	Box with Foam, 157mm x 152mm x 38 mm
<u>37053</u>	Box with Foam, 178mm x 127mm x 38 mm
<u>37055</u>	Box with Foam, 178mm x 127mm x 64 mm
<u>37057</u>	Box with Foam, 229mm x 191mm x 64 mm
<u>37085</u>	Box with Foam, 229mm x 229mm x 38 mm
<u>37061</u>	Box with Foam, 267mm x 216mm x 64 mm
<u>37065</u>	Box with Foam, 318mm x 267mm x 64 mm
<u>37067</u>	Box with Foam, 378mm x 168mm x 51 mm
<u>37071</u>	Box with Foam, 394mm x 318mm x 64 mm
<u>37073</u>	Box with Foam, 406mm x 311mm x 89 mm
<u>37087</u>	Box with Foam, 406mm x 381mm x 76 mm
<u>37079</u>	Box with Foam, 521mm x 394mm x 64 mm

Box Only, 102mm x 102mm x 54 mm 37050

Download Technical Drawing 37050.E

**Superior protection** with impregnated corrugated material

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62





# **CONDUCTIVE CUSHIONING FOAM**

- Carbon impregnated open-cell flexible polyurethane foam, density 24kg/m<sup>3</sup> minimum
- Ideal for cushioning purposes, non-corrosive
- Rs: <2 x 10E4 ohms; Rv <10E3 ohms
- · Supplied in sheets 1m or cut to order
- Made in Britain

Part No.	Thickness, Size
<u>241500</u>	6mm x 1m x 1m, Sheet
<u>241505</u>	6mm x 305mm x 305mm, Pack of 9
<u>241510</u>	10mm x 1m x 1m, Sheet
<u>241515</u>	25mm x 1m x 1m, Sheet
<u>241520</u>	30mm x 1m x 1m, Sheet

Download Technical Drawing 241500



241500 - 241520

# CONDUCTIVE PIN-INSERTION FOAM

- Carbon impregnated high density open-cell polyurethane foam, density 35 to 55kg/m<sup>3</sup>
- Provides mechanical and ESD protection, retains devices by their pins, non-corrosive
- · Brings inserted terminals and pins to equipotential
- Rs: <10E4 ohms; Rv: <10E3 ohms</li>
- Made in Britain

Part No	Thickness	Size	

- **241530** 6mm x 1m x 1m, Sheet
- 241540 6mm x 305mm x 305mm, Pack of 9
- 241545 6mm x 305mm x 305mm, Pack of 10
- 241550 10mm x 1m x 1m, Sheet
- 241555 10mm x 305mm x 305mm, Pack of 9

Download Technical Drawing 241530

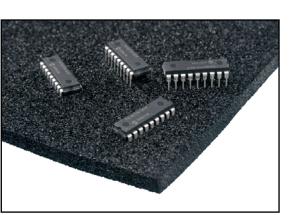
# CONDUCTIVE CLOSED-CELL PIN-INSERTION FOAM

- · Cross-linked, closed-cell polyethylene foam
- Excellent chemical and physical stability; good for long term storage
- · Ideal pin-insertion and pin-retention characteristics
- Rs: 10E3 to 10E5 ohms; Rv: <10E3 ohms density 32kg/m<sup>3</sup>
- Brings inserted terminals and pins to equipotential

Part No.	Thickness, Size
<u>241560</u>	6mm x 1m x 2m, Sheet
<u>241565</u>	6mm x 0.5m x 1m, Sheet
<u>241570</u>	6mm x 0.25m x 0.25m, Sheet
<u>241575</u>	6mm x 0.33m x 0.5m, Sheet







241560

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# **RIGID CONDUCTIVE BOXES**

- · Provide good ESD and mechanical protection
- Made of conductive polypropylene; Rs, Rv: <10E5 ohms
- · Strong box with integrally hinged lid
- · Available empty or with foam lining
- Made in Britain

Packaging

#### Part No. Internal Dimensions (L x W x H)

<u>241060</u>	35mm x 35mm x 11mm, Empty	
<u>241065</u>	35mm x 35mm x 11mm, 6mm HD in Base Only	
<u>241045</u>	75mm x 51mm x 14mm, Empty	
<u>241050</u>	75mm x 51mm x 14mm, 6mm HD in Base/FX in Lid	
<u>241025</u>	90mm x 64mm x 16mm, Empty	(
<u>241030</u>	90mm x 64mm x 16mm, 6mm HD in Base/FX in Lid	
<u>241010</u>	108mm x 83mm x 13mm, Empty	
<u>241015</u>	108mm x 83mm x 13mm, 6mm HD in Base/FX in Lid	
<u>241105</u>	138mm x 97mm x 33mm, Empty	
<u>241000</u>	230mm x 128mm x 20mm, Empty	
<u>241005</u>	230mm x 128mm x 20mm, 6mm HD in Base/FX in Lid	
<u>241085</u>	230mm x 128mm x 30mm, Empty	
<u>241090</u>	230mm x 128mm x 30mm, 6mm HD in Base/FX in Lid	
<u>241095</u>	230mm x 128mm x 40mm, Empty	
<u>241100</u>	230mm x 128mm x 40mm, 6mm HD in Base/FX in Ld	

HD = High density pin insertion foam - 35kg to 55kg per cubic meter FX = Flexible open cell cushioning foam - minimum 24kg per cubic meter

#### Download Technical Drawing 241000



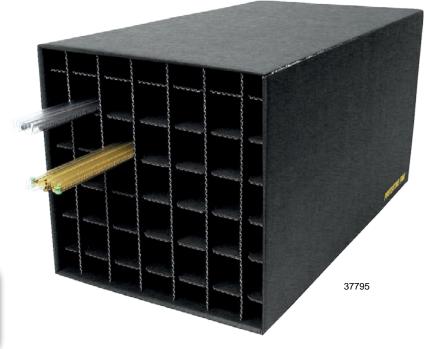
# NEW

# **PROTEKTIVE PAK** TUBE HANDLERS

- Economical and efficient way to store and transport DIP Tubes and Rails
- Static dissipative surface of 10E6 10E8 ohms
- · Made from 100% recycled material,
- and is 100% recyclable
- Reusable, ensuring best value
- Lead-free RoHS compliant
- Made in America
- Part No. Description
- 37795
   Tube Handler, 610mm x 305mm x 610mm, Cell Size 48mm x 48mm x 610mm

   37793
   Tube Handler, 305mm x 305mm x 610mm, Cell Size 48mm x 48mm x 610mm
- Download Technical Drawing 37790.E

Superior protection with impregnated corrugated material











# TACK EXTRACTOR

- Tack extractor is the convenient and safe way to remove tacks from IC tubes
- Made in America

Part No. Description 243220 Extractor



# CONDUCTIVE HOOK-AND-LOOP STRAP

- Safe to use in an ESD protected area (EPA)
- Used to bundle IC tubes, boxes and other items
- Made of loop with conductive thread in backing tape and conventional black loop
- Rs: 10E3 to 10E5 ohms; T1000: <2 sec
- Made in Britain

Part No.	Description
<u>243315</u>	40cm
<u>243320</u>	45cm
<u>243340</u>	50cm
<u>243325</u>	60cm
<u>243330</u>	70cm
243331	90cm



# ANTISTATIC ELASTIC RUBBER BANDS Used to bundle IC tubes, IC trays, etc Suitable for use in ESD protected area (EPA), made of dust-free rubber Colour: pink Shelf life approximately one year Part No. Description 242250 Elastic band 60mm x 2mm, approximately 1650 per bag Download Technical Document 242250



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SELF ADHESIVE LABELS · Supplied on release paper in rolls of 1000 · Printed black on yellow 80gsm gloss paper · Individually wrapped in antistatic bag

Made in Britain

242145

242100

242105

Packaging

45mm x 13mm

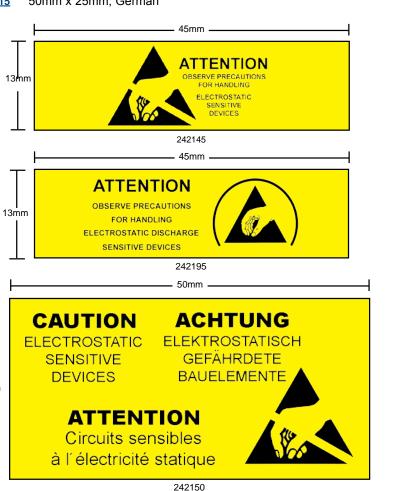
25mm x 10mm

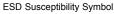
40mm x 16mm

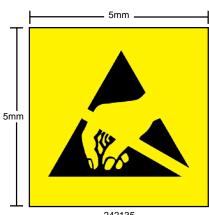




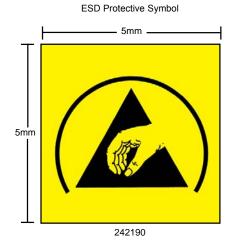
50mm x 25mm 242110 150mm x 50mm 242155 <u>242125</u> 76mm x 38mm Label Size (W x H) with ESD Susceptibility Symbol Part No. <u>242135</u> 5mm Square 242130 12.5mm Square 50mm Square <u>242140</u> Part No. Label Size (W x H) with ESD Protective Symbol and Text <u>242195</u> 45mm x 13mm 20mm x 10mm <u>242160</u> 45mm x 25mm 242165 76mm x 38mm <u>242170</u> 127mm x 50mm 242200 Part No. Label Size (W x H) with ESD Protective Symbol 5mm Square <u>242190</u> 12.5mm Square 242175 25mm Square <u>242180</u> 50mm Square 242185 Label Size (W x H) Part No. 50mm x 25mm English / French / German <u>242150</u> 50mm x 25mm, German <u>242115</u> 45mm







242135



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. 25mm



# **CLEAR ANTISTATIC TAPE**

- Generates low electrostatic charge even at 20% rH, can be used in an ESD protected Area (EPA)
- · Used to seal shielding bags or boxes, or to attach labels
- Rs: 10E9 to 10E11 ohms, T1000: <2 sec at 25% rH</li>
- Made in Britain

 Part No.
 Width, Length

 242220
 12mm, 66m Roll

 242225
 25mm, 66m Roll

Download Technical Drawing 242220

# **CONDUCTIVE GRID TAPE**

- Polypropylene self-adhesive tape with static dissipative surface
- · Silicone-free, low residue
- Rs: <10E10 ohms, T1000: <2 sec
- Used to seal primary and intimate packaging

Part No.	Width, Length
<u>242230</u>	12mm, 33m Roll
<u>242235</u>	18mm, 33m Roll
<u>242240</u>	24mm, 33m Roll
<u>242245</u>	48mm, 33m Roll

Download Technical Drawing <u>242230</u> and Material Safety Datasheet <u>TB-7307</u>

# **ESD TAPE DISPENSER**

- Use with Wescorp and other brand antistatic tapes; can be used with standard 76mm core tapes
- · Groundable housing and hardware
- Stainless steel construction; minimizes foreign objects debris, corrosion, and other contamination when used in clean or sensitive areas. Simplifies cleaning.
- Two separate spools turn independently
- Made in America

Part No. Description 242256 ESD Tape Dispenser, 50mm

Download Technical Drawings 242256



Packaging





# **PACKAGING TAPE**

- · Suitable for sealing secondary packaging such as cartons
- Conventional PVC self adhesive yellow tape, not for use near unprotected ESD susceptible items
- Printed black with logo and text to EN 61340-5
- Made in Britain

Part No. Width, Length 242210 50mm, 66m Roll

Download Technical Drawing 242210

Tape dispenser only shown for modeling purposes 242210



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## WESCORP™ ANTISTATIC CELLULOSE TAPE ON PLASTIC CORES



- · Ideal in packaging for container sealing, static shielding bag closure, and holding DIP tubes
- Ideal for conformal coating or holding and sealing supplies in manufacturing
- Lead-free RoHS compliant
- Made in America •

#### Part No. Description <u>24</u>

Packaging

<u>242277</u>	With Symbols and Yellow Stripe
<u>242276</u>	With Symbols and Yellow Stripe
<u>242275</u>	With Symbols and Yellow Stripe
<u>242274</u>	With Symbols and Yellow Stripe
<u>242273</u>	With Symbols
<u>242272</u>	With Symbols
<u>242271</u>	With Symbols
<u>242270</u>	With Symbols
<u>242290</u>	Without Symbols
<u>242291</u>	Without Symbols
<u>242292</u>	Without Symbols
<u>242293</u>	Without Symbols
<u>242294</u>	Without Symbols
<u>242295</u>	Without Symbols
<u>242296</u>	Without Symbols

Width, Length, Core 48mm, 65.8m, 75.6mm 24mm, 65.8m, 75.6mm 18mm, 65.8m, 75.6mm 12mm, 65.8m, 75.6mm 48mm, 65.8m, 75.6mm 24mm, 65.8m, 75.6mm 18mm, 65.8m, 75.6mm 12mm, 65.8m, 75.6mm 12mm x 32.9m, 25.4mm 18mm x 32.9m, 25.4mm 24mm x 32.9m, 25.4mm 12mm x 65.8m, 75.6mm 18mm x 65.8m, 75.6mm 24mm x 65.8m, 75.6mm 48mm x 65.8m, 75.6mm



Download Technical Drawing 242270 and 242290

# WESCORP™ ANTISTATIC HIGH TEMP POLYIMIDE TAPE

- Designed for applications masking PCB gold features
- · Removal leaves little or no residue
- Adhesive surface resistivity 10E3 to 10E4 ohms
- For best results apply to board using a rubber roller
- Lead-Free RoHS Compliant
- Made in America

Part No. Width, Length 24mm, 32.9m 242285 18mm, 32.9m 242284 12mm, 32.9m 242283 242282 6mm, 32.9m

Download Technical Drawing 242282



# WESCORP™ ANTISTATIC HIGH TEMP MASKING TAPE

- · Economical crepe paper (7.0 mils thick) with high-tack
- Temperature resistance to a maximum of 135°C (275°F) for 45 minutes •
- Surface resistance 10E8 10E11 ohms
- Lead-Free RoHS Compliant
- Made in America

Part No. Width, Length 48mm, 54.8m 242281 242280 24mm, 54.8m 18mm, 54.8m <u>242279</u> 242278 12mm, 54.8m

Download Technical Drawing 242278







# ANGLED PCB RACK

- Made of conductive polypropylene
- Two sizes
- Capacity: 25 boards
- 2mm (small rack) or 3mm (large rack) between two slots
- Rv: 10E3 to 10E5 ohms
- Made in America

Part No. Description Angled PCB Rack, 208mm x 272mm x 93mm <u>237195</u> Angled PCB Rack, 355mm x 268mm x 128mm 237200

Download Technical Drawing 237195

Check out our shelf liner on Page 20

# ANGLED PCB RACK, LARGE

- · Can be hung on louvre panel or placed on bench
- · Moulded of conductive polypropylene
- Optical snap-in dividers, 2mm thick conductive plastic
- Rv: 10E3 to 10E5 ohms
- Made in Britain
- Part No. Description Large Angled PCB Rack, <u>237205</u> 145mm x 286mm x 388mm Divider for Large Angled PCB Rack, Single 237210

Download Technical Drawing 237195

# PCB RACKS

- Moulded from a carbon black-filled polypropylene compound
- Designed to protect CMOS loaded boards in storage
- Recommended maximum operating temperature is 85°C
- Recyclable
- Made in America

#### Part No. Description

<u>237215</u>	PCB Rack, 175mm x 500mm
<u>237220</u>	PCB Rack, 215mm x 582mm
<u>237225</u>	PCB Rack, 140mm x 465mm, High Temperature
<u>237230</u>	PCB Rack, 140mm x 465mm, Surface Mount

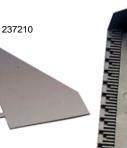
Download Technical Drawing 237215, 237220, 237225 and 237230

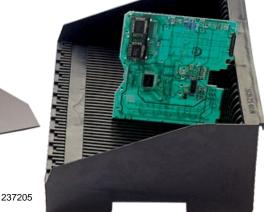
# PCB HOLDER, FLAT, STACKABLE

- Made of conductive polypropylene
- Rv: 10E3 to 10E5 ohms
- Can be stacked 75mm apart using set of four spacers; two spacers can be joined to handle boards up to 150mm tall
- Size: 355mm x 255mm x 14mm
- · Made in Britain

Part No. Description PCB Holder, Flat <u>237185</u> PCB Holder, Set of Two with Four Spacers <u>237190</u>













See our products being Made in Britain on our web site: Click Here





# **PCB CONTAINERS**

- · Injection moulded conductive polypropylene
- Flat base, stackable
- Rv: 10E3 to 10E5 ohms
- Internal dimensions: 555mm x 355mm or 355mm x 255mm, foam liner available

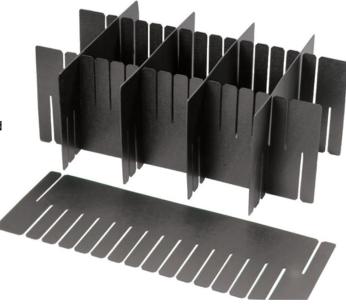
Part No. External Dimensions (L x W x H) 239305 400mm x 300mm x 120mm 400mm x 300mm x 220mm <u>239320</u> 400mm x 300mm x 320mm 239325 600mm x 400mm x 75mm <u>239330</u> 600mm x 400mm x 120mm <u>239335</u> 600mm x 400mm x 150mm <u>239340</u> 600mm x 400mm x 236mm 239345 600mm x 400mm x 280mm 239350 600mm x 400mm x 346mm <u>239355</u> 239360 **Closure** Clip Foam Liner, Conductive 239310 6mm x 555mm x 355mm 239300 Conductive Lid 400mm x 300mm Conductive Lid 600mm x 400mm <u>239315</u>

Check out our shelf liner on Page 20



- Machined from approximately 2mm thick conductive plastic or Cortronic® B-flute static dissipative cardboard
- Many shapes and sizes possible
- Process is suited for small and medium quantities
- Send drawing or .dxf file





# LOW-CHARGING DRAWER INSERTS

- Sized to fit standard 61cm (24") and 91cm (36") tool cabinet
- Made of ABS using durAstatic® technology
- Permanently static dissipative, Rs: 10E9 to 10E10 ohms, T1000 <6 seconds</li>
- · Use in standard EPAs and in clean rooms to hold ESDS
- Part No. External Dimensions (L x W x H)
- 239870 75mm x 75mm x 26mm, One Cavity
- 239880 150mm x 75mm x 26mm, One Cavity



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Handling and Storage

e, Rs: 1 nds clean r W x H) One Ca One C

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# PARTS BINS FOR LOUVRED PANELS

- Made of conductive polypropylene
- Six sizes, two largest have top
- bar to allow heavy loads
- · Can be stacked or hung from louvered panel
- Rv:10E3 to 10E5 ohms

 Part No.
 External Dimensions (L x W x H)

 237120
 95mm x 100mm x 50mm

 237125
 175mm x 100mm x 75mm

 237130
 235mm x 145mm x 125mm

 237135
 350mm x 200mm x 145mm

 237140
 350mm x 200mm x 200mm

 237145
 500mm x 300mm x 200mm

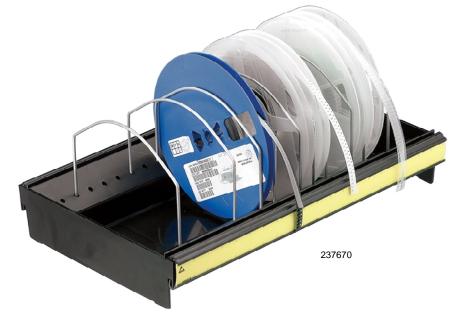


# SMD REEL RACK

- · Made of conductive polypropylene
- · Divider made of stainless steel
- · Rack supplied with ten dividing hoops
- · Holds up to 19 reels up to 15mm wide
- Rv: 10E3 to 10E6 ohms

Part No.Description237670Reel Rack with 10 Dividers237675Dividing Metal Hoop

Download Technical Drawing 237670



# SMD REEL HOLDER

- · Made of conductive cardboard
- Holds up to 16 reels up to 15mm wide
- Reel diameter: up to 330mm (13")
- Rv: 10E3 to 10E6 ohms
- 400mm x 250mm x 110mm overall
- Made in Britain

Part No. Description 237680 SMD Reel Holder





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# SMD REEL CONTAINER

- · Holds reels during storage, transit and in-plant
- · Empty containers are stackable
- · Made of 3mm thick conductive polystyrene, strong and rigid
- Rv: 10E4 to 10E6 ohms

#### Part No. L x W x H

<u>237685</u>	362mm x 188mm x
	110mm, Reel Size: 180mm
<u>237695</u>	560mm x 365mm x
	178mm, Reel Size: 330mm
<u>237690</u>	Divider for 180mm Container
<u>237700</u>	Divider for 330mm Container



# SMD STORAGE UNIT WITH ROUND BOXES

Internal

- · Moulded of conductive polypropylene
- Rg: 10E3 to 10E5 ohms
- · Six drawers; each can hold up to 42 round 27mm boxes of item 237630
- External dimensions: 258mm x 273mm x 187mm

#### Part No. Description

<u>237650</u>	Unit of 6 Drawers with 252 Boxes
<u>237645</u>	Drawer with 42 Boxes 238mm
	x 261mm x 20mm, Internal
<u>237635</u>	Insert with Cavities for 42 Boxes
<u>237640</u>	Drawer Empty 238mm x 261mm x 20mm,

# **SMD ROUND BOX**

- · Made of conductive polypropylene
- Rv: 10E3 to 10E5 ohm
- · Twist-off lids
- Box internal: 27mm diameter, 13mm high

Part No. Description SMD Round Box 237630







237650

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Desco.com/Factory



# **PROTEKTIVE PAK** DISSIPATIVE **CORRUGATED OPEN BIN BOXES**

- · Economical method of storing static sensitive electronic devices
- Shipped knocked-down; easy to assemble
- · Impregnated corrugated material; greater durability than coated or printed material
- · Static dissipative surface of 10E6 10E8 ohms
- Buried shielding layer minimizes sloughing and rub-off contamination
- Made from 100% recycled material, and is 100% recyclable
- · Lead-free RoHS compliant
- Made in America

#### Part No. Description Open Bin Box, 629mm x 210mm x 114mm 37113

#### Download Technical Drawing 37100.E

# **ENDA** WORKSTATION ORGANIZERS

- · Ideal for improving the appearance of the workstation and standardizing the placement of tools at any workstation
- A perfect workstation solution for companies in compliance with 5S
- Can be used for various items which are used on the workstation, such as MENDA dispensing bottles, lotion, flux bottles, solder spools, cutters, tweezers, wash bottles and various other workbench accessories
- · Made from an Extruded Conductive polypropylene Plastek<sup>™</sup> material, making it ideal to properly set up and standardize any ESD workstation
- Conductive 10E2 10E4 ohm material provides reliable path-to-ground
- Superior strength and durability; made from extruded, high impact polypropylene materials
- Chemical and moisture resistant
- Made in America

#### Part No. Size

Workstation Organizer, Box Only, 6 Cells <u>35874</u> Assembly Worksation Organizer Only 35873

#### Download Technical Drawing 35874

# A BLUE DISSIPATIVE ESD PROTECTIVE BOTTLES

- · Dissipative bottles are made to protect your valuable static sensitive printed circuitry
- · Low Tribo-Charging will reduce a charge of + or - 5000 volts in less than 2 seconds

#### Part No. Description

	2000.000
<u>35293</u>	Flux Dispenser, 60ml, 16ga Needle
<u>35292</u>	Flux Dispenser, 60ml, 20ga Needle
<u>35291</u>	Flux Dispenser, 60ml, 26ga Needle
<u>35280</u>	One Touch, 120ml
<u>35281</u>	One Touch, 240ml
<u>35337</u>	One Touch, 180ml

Download Technical Drawing 35291 and 35337



37113







35280

Handling and Storage









# LOW-CHARGING SOLVENT DISPENSERS

- · Designed for use at grounded ESD worksurface and handled by grounded operators
- · HDPE durAstatic® Bottles by Vermason contain a permanent
- additive to protect ESD sensitive items
- Rs: < 10E11 ohms
- No migratory additives reduces the chance for contamination from the bottle
- Highly visible with ESD markings, allowing people to immediately know the bottle is static protective
- · "Flask" style shape provides stability
- Made in America and Britain

Part No.	Size
<u>239885</u>	120ml
<u>239890</u>	175ml
<u>239895</u>	235ml
<u>239896</u>	120ml, Stem only
<u>239897</u>	175ml, Stem only
<u>239898</u>	235ml, Stem only

Handling and Storage

74

Download Technical Drawing 239885

# LOW-CHARGING WASH BOTTLES

- Designed for use at grounded ESD worksurface and handled by grounded operators
- HDPE durAstatic<sup>®</sup> Bottles by Vermason contain a permanent additive to protect ESD sensitive items
- Highly visible with ESD markings, allowing people to immediately know the bottle is static protective
- Rs: < 10E11 ohms
- · Simply squeeze bottle to dispense contents
- · Provides controlled delivery of solvents, cleaners, water, and oils
- · Angled non-drip spout delivers single drop or fine stream
- No Migratory Additives Reduces the chance for contamination from the bottle

Made in America and Britain

 Part No.
 Size

 239900
 250ml, Pack of 5

 239915
 500ml, Pack of 5

Download Technical Drawing 239900

# **CONDUCTIVE PLASTIC BRUSHES**

- Use hard brush to scrub PCBs, particularly in SMD assembly
- Soft brush is for cleaning optics, disc drives, etc
- Strong handle made of conductive polypropylene
- Rg: 10E4 to 5 x 10E6 ohms

Part No. Description <u>238140</u> Hard, Round, 3mm Diameter Hard, Round, 6mm Diameter <u>238100</u> Soft, Round, 6mm Diameter 238105 Hard, Flat, 12mm Wide <u>238110</u> Hard, Flat, 25mm Wide Hard, Flat, 38mm Wide 238115 238120 Hard, Flat, 50mm Wide 238125 Soft, Flat, 100mm Wide 238150 Soft, Flat, 150mm Wide, 260mm Long Overall 238155 <u>238145</u> Hard, Block, 35mm x 75mm Hard, Block, 12mm x 30mm 238130 238135 Hard, Block, 12mm x 60mm

#### Download Technical Drawing 238100



Made in America

on our web site:

Desco.com/Factory



durAstatio



# MENDA NATURAL HDPE BOTTLES

- · Pump easily brings liquid to dish-top
- High density polyethylene suitable for many solvents
- · Wide opening that is easy to fill
- · Custom imprinting available bottles can be printed from artwork
- Dispenses approximately 2cc of liquid with each pump
- Ideal for use with hand sanitizer
- · Genuine Made in America Menda pump accept no substitutes

Part No.	Description
<u>35304</u>	One Touch, 60ml
<u>35305</u>	One Touch, 120ml
<u>35309</u>	One Touch, 175ml
<u>35312</u>	One Touch, 235ml
<u>35701</u>	Take-Along, 60ml
<u>35702</u>	Take-Along, 120ml
35703	Take-Along, 175ml





· Ideal for opening plastic cases such as MP3 players, cell phones, laptops and more

**MENDA** PROBES

- · Also a great tool for popping out batteries
- Nylon finish (35619, 35621, and 35622)
- will not mar delicate surfaces Stainless steel won't corrode (35630 and 35617)
- no problem in working with magnetized parts
- · Can be used in ESD protected areas
- Temperature resistant
- Made in America

#### Part No. Description

<u>35619</u>	Nylon Probe, Fork Blade 178mm
<u>35621</u>	Nylon Probe, Spudger 140mm
<u>35622</u>	Nylon Probe, Point Blade 150mm

- Stainless Steel Probes, Kit of 4 with pouch 35630
- <u>35617</u> Stainless Steel Probes, Angle 140mm

Download Technical Drawing 35622

# ENDA esd safe cup

- · Replacement for static generating foam and plastic cups or bottles on the workstation
- · ESD Protective
  - Low charging
  - Electrostatic charges removed to ground when picked up by a grounded operator
- Reusable
- Thermal Insulated Drinking Cup is perfect for hot or cold drinks
- Double wall stainless steel
- Stainless steel push-on lid with slide opening
- Custom imprinting available
- 100 pieces minimum order, £120 set-up fee applies
- Customer to provide logo and Pantone ink colour (one colour only)
- Made in America

Part No. Description Stainless Steel Drinking Cup, 470ml <u>35890</u>

#### Download Technical Drawing 35890



MendaPump.com

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35622





#### ANTISTATIC CLIPBOARDS Calendered antistatic blue PVC covering, 0.35mm thick • Rs 10E11 ohms, T1000: < 2 sec · ESD caution text in black Sprung metal clip holds A4 paper · Made in Britain Part No. Description Clipboard A4 Portrait 238816 Clipboard A4 with Cover 238821 Download Technical Drawing 238816 238816 238821 **Improved Material!** ANTISTATIC RING BINDERS · Calendered antistatic blue PVC covering Rs 10E11 ohms, T1000: < 4 sec • 238741 · Colour: light blue • A5, A4 portrait formats, 2 or 4 ring; A3 only landscape format Made in Britain Part No. Format Rings Size Spine Width 35mm <u>238726</u> Four 15mm Α4 238701 A4 Two 25mm 40mm Four 25mm 40mm 238706 Α4 <u>238721</u> A4 Four 38mm 55mm 238716 A4 Two 50mm 70mm A4 Four 50mm 70mm 238711 Download Technical Drawing 238700 **Improved Material!** 238711 238741 ANTISTATIC DOCUMENT WALLETS · Permanently static dissipative yet dry to the touch On-stick, suitable for photo-copies and facsimilies Open at top in a (E Rs: < 10E10 ohms, T1000: <2 sec</li> Part No. Format Unit Spine Portrait 11-hole 100 238755 A4 Download Technical Drawing 238755 Tan Inc. 110 238755

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# ANTISTATIC DOCUMENT WALLET

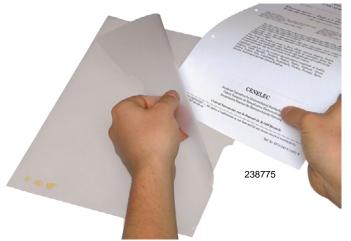
- Permanently static dissipative, yet dry to the touch
- · Non-stick, suitable for photo-copies and facsimilies
- · Open at top
- Rs: 10E9 to 10E10 ohms
- A4 portrait format

Part No.FormatUnit238775A4 Landscape100

Download Technical Drawing 238775



**Handling and Storage** 



# **RIGID ANTISTATIC DOCUMENT WALLET**

- Rs: < 10E10 ohms, T1000: < 2 sec
- With or without 4-hole spine
- · Wallets without spine have thumbhole at top
- · Not washable
- · Made in Britain

Part No.	Format	Spine	Holes	Unit
<u>238790</u>	A5	Portrait	None	10
<u>238795</u>	A4	Portrait	None	10
<u>238780</u>	A4	Portrait	Four-hole	10
238785	A3	Landscape	Four-hole	10

Download Technical Drawing 238790



238780

# **SELF-ADHESIVE DOCUMENT POUCH**

- Made of rigid 0.2mm PVC ideal for holding documents on bins, boxes, shelves, trolleys, etc.
- · Adhesive is stable and will not leave residue on most surfaces
- Front layer is clear, static dissipative PVC
   Rs: <10E10 ohms, T1000: <2 sec</li>
- · Mounted on easy-release white paper
- · Made in Britain

Part No.	Format	External Size	Unit
<u>238800</u>	A7 Landscape	82mm x 117mm	4
<u>238805</u>	A6 Portrait	158mm x 115mm	10
<u>238810</u>	A4 Portrait	300mm x 220mm	each

#### Download Technical Drawing 238800





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For a selection of our PCB containers see Page 68

238805





## LETTER TRAY

- · Stackable
- Size: 340mm x 245mm x 50mm internal
- · Holds A4 paper
- Black is made of conductive polypropylene; Rv: 10E3 to 10E5 ohms

Part No. Colour 238760 Black

Download Technical Drawing 238760



<u>Check out the set-up</u> of a typical EPA

# **CONDUCTIVE WASTE BIN, ROUND**

- · Made of black conductive polypropylene
- Marked with ESD symbol
- Washable

Handling and Storage

- Rg: <10E6 ohms</li>
- Diameter 265mm max, height 320mm, volume 14I

Part No. Description 239260 Conductive Round Bin

Download Technical Drawing 239260



# **CONDUCTIVE WASTE BIN**

- · Made of conductive fibreboard 2mm thick
- Rg: < 10E6 ohms
- · Reinforced with metal hoop at top
- Bottom corners are reinforced and fitted with round-headed metal studs as feet

· Made in Britain

 Part No.
 Overall Dimensions

 239205
 40cm x 40cm x 78cm

 239200
 Drop-on Lid for 239205

 239215
 30cm x 30cm x 60cm

 239210
 25cm x 25 x 40cm

Download Technical Drawing 239200



239210

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# LOW-CHARGING STATIC DISSIPATIVE WASTE BIN

- Made of polypropylene by WEZ using durAstatic® technology
- Permanently static dissipative Rs: 10E9 to 10E10 ohms; T1000: < 2 sec
- · Intrinsically clean, suitable for use in clean rooms
- · No surface coating to rub off, washable

#### Part No. Description

239930 durAstatic Waste Bin 33cm x 33cm x 53cm



# ANTISTATIC WASTE BAG

- · Made of antistatic polyethylene
- Charges to <100V, T1000: < 4 sec
- · Comparable in strength to conventional refuse sacks
- · Printed in black with ESD protective symbol and text
- Made in Britain

#### Part No. Description

239230	30I, to fit 239210 bin, Blue
239220	50l, to fit 239930 bin, Blue
239225	50l, to fit 239930 bin, Red
239235	110l, to fit 239205 bin, Blue
239240	110l, to fit 239205 bin, Green
239245	110l, to fit 239205 bin, Red

Download Technical Drawing 239220



# **ESD - THE INVISIBLE LIGHTNING BOLT, CD**

- Written by ESD experts at Infineon
- Plays for 13 minutes
- Explains the phenomenon of ESD, then demonstrates the precautions needed in an electronics manufacturing plant
- · Excellent for raising awareness of ESD

Part No. Description 248200 Infineon CD English



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248200

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