

# CHARLESWATER

2009



Made in America

## ESD Control Products



Made in Britain



## Charleswater ESD Control Products Designed for Europe

Charleswater Limited is a limited-liability company, registered in England. It is a wholly owned subsidiary of Desco Industries Inc. (DII), an American corporation based in California.

### Use Charleswater to Optimise your ESD Control Programme

Use Charleswater 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. This figure could in theory be reduced to zero by adapting the precautions described in EN 61340-5-1 in all areas."



Charleswater sells through a distribution network and holds substantial stocks in the UK. A shipment is received from the USA every week. Charleswater has a strong commitment to providing the best possible service to all our distribution partners and the employees work closely with them to ensure availability of product when required.

Charleswater and DII have over twenty-five years of experience and expertise in the theory and practice of controlling electrostatic energy in the production electronics context. The organisation is happy to pass this knowledge on to its distributors and customers.

The company maintains an extensive library of technical standards and literature and all the products are supported by technical bulletins and drawings where appropriate.

The Charleswater range of products are approved and supplied to most of the leading electronics manufacturers in Europe and the rest of the world. Charleswater Limited is an ISO 9001 registered company.

As the European operation of the USA based manufacturer, we see our strength as the products 'we' make. Corporate policy for Charleswater is to replicate the means used in the USA, using distributors as the most effective way to provide products to customers.

We make and market the best ESD control products; a number of which are made specifically for the European market. Please take the time to visit our web site at [Charleswater.co.uk](http://Charleswater.co.uk) where you will find further information on our company including our on-line catalogue which details our entire product range, including new products.

### LIMITED WARRANTY

WE GUARANTEE YOU WILL BE SATISFIED WITH OUR PRODUCTS. We have always had a policy of replacement or refund if you are not satisfied. Charleswater wants you to be satisfied with every product it produces. We make every effort to see that our products are of the highest quality and meet all appropriate recognised 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 legal advisors 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: Charleswater's only obligation shall be to replace such quantity of the product proved to be defective. Charleswater 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 authorised officers of Desco Industries, Inc.*

#### Products shown in this catalog are covered by one or more of the following patents:

2,763,834; 4,150,418; 4,231,901; 4,301,040; 4,551,783; 4,577,256; 4,596,053; 4,596,668; 4,639,825; 4,649,374; 4,662,514; 4,662,695; 4,745,519; 4,755,144; 4,782,425; 4,813,459; 4,834,297; 4,859,992; 4,974,115; 5,036,423; 5,083,117; 5,191,505; 5,568,351; 5,677,822; 5,786,977; 5,951,337; 6,052,053; 6,078,875; 6,137,670; 6,205,408



## NEW Items

### Burgundy Smocks



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SINGLE-WIRE WRISTBANDS

## Per EN 61340-5-1 clause 5.5 EPA working practices

"The primary means of grounding personnel shall normally be by a wrist strap connected to an EBP." Paragraph 5.2.7, "The wrist strap shall consist of a band that fits snugly around the wrist and a cord to connect the band to an EBP. The wrist strap shall incorporate a quick release connection. The cord shall have a termination compatible with the EBP and shall incorporate at least one insulated current-limiting resistor. The total resistance from hand to EBP shall be in accordance with table 1 (Rg 7.5 x 10E5 to 3.5 x 10E7 ohms)."

### Jewel® MagSnap® Wristbands and Coiled Cords

ITEM	DESCRIPTION
60653	Wristband Only, Elastic
60654	Wrist Strap, Elastic, 1.8m
60655	Wrist Strap, Elastic, 3.65m
60656	Wristband Only, Metal
60657	Wrist Strap, Metal, 1.8m
60658	Wrist Strap, Metal, 3.65m
60650	Coiled Cord, 1.8m
60651	Coiled Cord, 3.65m
60652	Coiled Cord, 6.1m

#### Revolutionary Magnetic Interconnect Technology



Meets EN 61340-5-1 including safety release force of between 5 and 25 Newtons



60657



Listing #90P1

- Longer lasting, prevents wear
- Patented revolutionary magnetic interconnect technology (U.S. Patent 5,004,425); creates magnetic connection between wristband and coiled cord
- Cords feature superior strain relief with lifetime guarantee; tests in excess of 1,000,000 cycles vs. the 16,000 requirement - eliminates intermittent failures
- Adjustable, durable lightweight fabric or premium metal expansion wrist strap
- Cords are to be used with MagSnap® wristbands only
- RoHS compliant; manufactured using lead free solder
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Single-Wire MagSnap® Wrist Straps and Coil Cords include 4mm steel capped parking station adapter - adapter allows users to snap MagSnap® cord to constant monitors' 4mm parking station snap stud.

Drawings **60650.E**, **60653.E** and **60656.E**

### Jewel® Adjustable Elastic Wristbands

ITEM	DESCRIPTION
60000	Wristband, 4mm, Sapphire
60001	Wristband, 10mm, Sapphire
60002	Wristband, 4mm, Ruby
60003	Wristband, 10mm, Ruby
60004	Wristband, 4mm, Amethyst
60020	Wristband, 10mm, Amethyst
60006	Wristband, 4mm, Topaz
60007	Wristband, 10mm, Topaz
60008	Wristband, 4mm, Emerald
60009	Wristband, 10mm, Emerald
60005	Elastic Replacement Strip



Listing #90P1

60000

- High visibility - bright colour allows supervisor to see that worker is wearing wrist strap
- Silver impregnated polypropylene knitted on inside for superior conductivity; reliably removes generated static charges
- Solid stainless steel wrist band stud machined to exacting tolerances and precise profile; ensures reliable path-to-ground connection to spring loaded 4mm stainless steel constant contact coiled cord snap
- Adjustable; may be fitted to almost all people
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **60000.E**

Technical Bulletin **PPE-5001.E**

All Bands on this Page Designed to Satisfy Wrist Strap requirements of EN 61340-5



Cords for these bands, [Page 7](#)



## Premium Adjustable and Fixed Metal Expansion Wristbands

ITEM	DESCRIPTION
<b>60148</b>	Wristband, Adjustable, 4mm Stud
<b>60106</b>	Wristband, Adjustable, 10mm Stud
<b>60150</b>	Wristband, Adjustable, X-Large, 4mm Stud
<b>60108</b>	Wristband, Adjustable, X-Large, 10mm Stud
<b>60024</b>	Wristband, Expansion, Small, 4mm Stud
<b>60021</b>	Wristband, Expansion, Small, 10mm Stud
<b>60025</b>	Wristband, Expansion, Medium, 4mm Stud
<b>60022</b>	Wristband, Expansion, Medium, 10mm Stud
<b>60026</b>	Wristband, Expansion, Large, 4mm Stud
<b>60023</b>	Wristband, Expansion, Large, 10mm Stud

- Premium metal expansion wristband with more reliable path-to-ground
- Comfortable, designed not to pinch or pull hair
- Durable metal band is long wearing, easy to clean
- Superior contact with skin for reliable removal of generated static charges
- Patented adjustment bands change quickly and easily to any size; one size fits all, only one item number to purchase and stock; no "extra" links to lose
- Fixed sized bands available in three sizes; easy to use - no adjustment necessary
- Medical grade stainless steel interior expansion band will not cause allergic skin reactions for most people
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings **60106.E** and **60024.E**  
Technical Bulletin **PPE-5001.E**

Continuously verify that your  
Wrist Straps are properly  
grounded with Charleswater's  
Continuous Monitors.



See Page 38



Listing #90P1



60106



60026



60025



60024

Cords for  
these bands,  
Page 7

## Adjustable Elastic Wristband with White Clasp

ITEM	DESCRIPTION
<b>60030</b>	Wristband, Adjustable, Light Blue, 4mm Stud
<b>60060</b>	Wristband, Adjustable, Light Blue, 10mm Stud
<b>60032</b>	Wristband, Adjustable, Dark Blue, 4mm Stud

- Extra wide, soft elastic fabric; comfortable and flexible
- Solid stainless steel machined stud on all 4mm units; durable, providing long life and reliable circuit connections
- Silver impregnated nylon fabric interior surface provides superior conductivity
- Made with pure silver irreversibly bound to fibers providing both antimicrobial and anti-odor performance
- Adjustable; only one item to stock; snug fit
- Non-shedding, non-sloughing band material; safe for microelectronics
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings **60030.E** and **60032.E**  
Technical Bulletin **PPE-5001.E**

All Bands on this Page Designed to Satisfy  
Wrist Strap requirements of EN 61340-5



60060



60032

Cords for  
these bands,  
Page 7



Listing #90P1

SINGLE-WIRE WRISTBANDS



SINGLE-WIRE WRISTBANDS

## Adjustable Elastic Wristband

### ITEM DESCRIPTION

**60089** Wristband, Adjustable, Burgundy, 4mm Stud

- Comfortable, elasticated woven fabric
- Adjustable
- Only one item to stock; snug fit
- Designed to satisfy Wrist Strap requirements of EN 61340-5
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **60089.E**

Technical Bulletin **PPE-5001.E**

Designed to Satisfy Wrist Strap requirements of EN 61340-5



60089

## Adjustable Elastic Wristband with Cam-Lock

### ITEM DESCRIPTION

**60062** Wristband, Adjustable, Cam-Lock, 4mm Stud

**60061** Wristband, Adjustable, Cam-Lock, 10mm Stud

**60063** Wristband, Adjustable, Cam-Lock, Non-Allergenic, 4mm Stud

**60064** Wristband, Adjustable, Cam-Lock, Non-Allergenic, 10mm Stud

- Designed to satisfy Wrist Strap requirements of EN 61340-5
- Elasticated woven fabric
- Cam-lock adjustment
- Only one item to stock; snug fit
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **60062.E**

Technical Bulletin **PPE-5001.E**

Designed to Satisfy Wrist Strap requirements of EN 61340-5



60061

## Vinyl Disposable Wrist Strap

### ITEM DESCRIPTION

**60084** Vinyl Disposable Wrist Strap, 90cm

- Designed for one time use; perfect for visitors, field service calls, or to be shipped with ESD susceptible products
- Dissipative vinyl ribbon is 90cm long, with mini alligator clip included; versatile, providing an effective solution when clipped to ESD ground.
- Packaged individually in a printed bag with instructions; ready to pack with your ESD susceptible products, ensuring that when opened, the information and means are provided to continue protecting your susceptible product
- Designed to satisfy Wrist Strap requirements of EN 61340-5
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **60084.E**

Technical Bulletin **PPE-5001.E**



60084

## ESD Hand Lotion

### ITEM DESCRIPTION

**70950** Reztore Hand Lotion, 235ML

**70951** Reztore Hand Lotion, 1L

**70952** Reztore Hand Lotion, 3.8L Pump

**35663** Wall Mount Lotion Dispenser, for 1L Lotion Bottle

**35664** Wall Mount Lotion Dispenser, with 1L Lotion Bottle

- Improves reliability of path-to-ground when using wrist straps, ESD gloves, or ESD footwear
- Special ESD formulation for the electronic manufacturing environment
- Helps provide reliable path-to-ground, protecting ESD susceptible product
- Non-contaminating and solder-safe
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **PPE-5082.E**



70950



35664



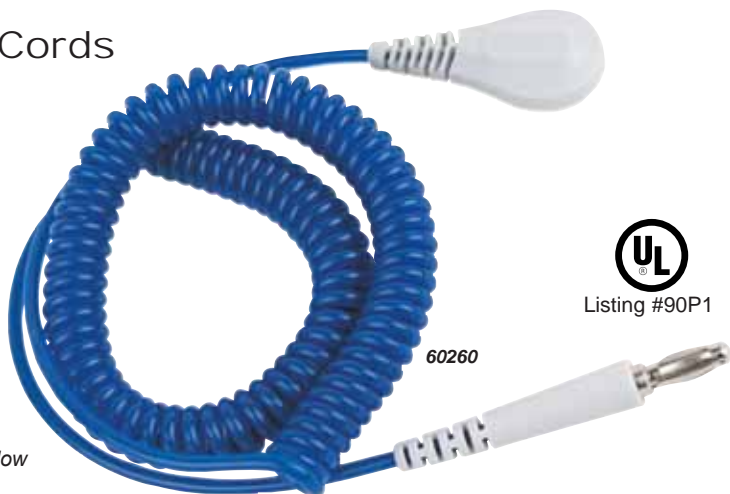
## Jewel® Rapid Retraction Coiled Cords

ITEM	DESCRIPTION
60260	Coiled Cord, 1.8m, Sapphire, 4mm Socket
60261	Coiled Cord, 1.8m, Sapphire, 10mm Socket
60262	Coiled Cord, 1.8m, Ruby, 4mm Socket
60263	Coiled Cord, 1.8m, Ruby, 10mm Socket
60264	Coiled Cord, 1.8m, Topaz, 4mm Socket
60265	Coiled Cord, 1.8m, Topaz, 10mm Socket
60266	Coiled Cord, 1.8m, Emerald, 4mm Socket
60267	Coiled Cord, 1.8m, Emerald, 10mm Socket
60268	Coiled Cord, 1.8m, Amethyst, 4mm Socket
60269	Coiled Cord, 1.8m, Amethyst, 10mm Socket

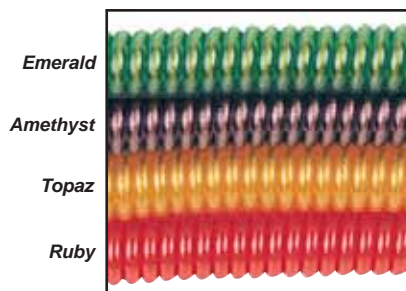
- High visibility; bright blue, red, amber, green, and purple colours allow supervisor to see that worker is wearing wrist strap
- Rapid retraction strength polyurethane; high memory, less dragging on work surface, reduces tangling
- Superior strain relief tests in excess of 50,000,000 cycles, per Bending Life Test (exceeds by over 3,000 times the minimum requirement); eliminates intermittent failures
- Superior banana plugs with patented supported spring contour; fits into all standard jacks >= 0.398cm ID; greater retention force; cords won't fall out and put your parts at risk
- 4mm solid stainless steel stud with lifetime guarantee provides constant electrical contact
- One megohm series resistor at wrist end; to protect operator from accidental contact with equipment line voltage; fulfills Clause 5.1.1 of EN 61340-5-2
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing 60260.E

Designed to Satisfy Coiled Cord requirements of EN 61340-5



Listing #90P1



## Relaxed Retraction Coiled Cords

ITEM	DESCRIPTION
60341	Coiled Cord, Banana to 4mm, 1.8m
60332	Coiled Cord, Banana to 4mm, 3.65m
60339	Coiled Cord, Shrouded Banana to 4mm, 1.8m
60334	Coiled Cord, 10mm Socket to 4mm, 1.8m
60308	Coiled Cord, Banana to 10mm, 1.8m
60316	Coiled Cord, Banana to 10mm, 3.65m
60317	Coiled Cord, Shrouded Banana to 10mm, 1.8m
60318	Coiled Cord, 10mm Socket to 10mm, 1.8m

- Relaxed retraction strength black PVC; more comfortable for some
- Superior strain relief tests in excess of 1,000,000 cycles, per Bending Life Test (exceeds by over 62 times the minimum requirement); eliminates intermittent failures that can occur with less durable single and dual wire cords; superior reliability; greatly exceeds ANSI/ESD S1.1 Bending Life Test
- Superior banana plugs with patented supported spring contour; fits into all standard banana jacks >= 0.398cm ID; greater retention force; cords won't fall out and put your parts at risk; provides long life
- One megohm series resistor at wrist end; to protect operator from accidental contact with equipment line voltage; fulfills Clause 5.1.1 of EN 61340-5-2.
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing 60308.E

Designed to Satisfy Coiled Cord requirements of EN 61340-5

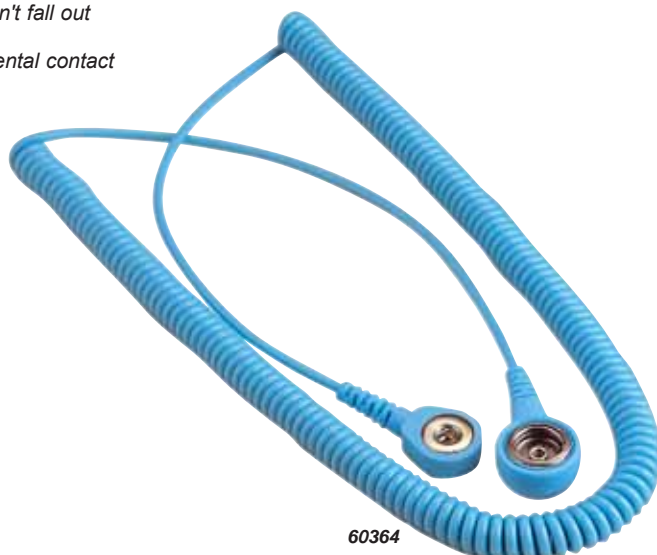


Listing #90P1

## Budget Coiled Cords

ITEM	DESCRIPTION
60366	Coiled Cord, Black, Banana to 4mm, 1.8m
60365	Coiled Cord, Black, Banana to 10mm, 1.8m
60364	Coiled Cord, Blue, 4mm to 10mm, 2.4m
60363	Coiled Cord, Blue, 10mm to 10mm, 2.4m

- Meets industry standards
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



60364



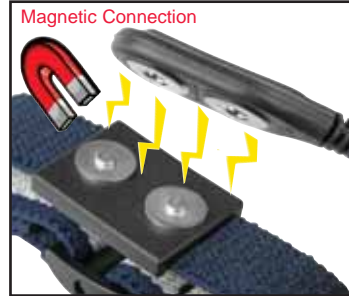
DUAL-WIRE WRISTBANDS AND COILED CORDS

## Jewel® MagSnap Dual-Wire Wrist Strap with Elastic Wristbands and Coiled Cords

ITEM	DESCRIPTION
60673	Wristband Only, Adjustable Elastic
60674	Wrist Strap, Adjustable Elastic, 1.8m
60675	Wrist Strap, Adjustable Elastic, 3.65m
60670	Coiled Cord, Angle, 1.8m, Angle
60671	Coiled Cord, Angle, 3.65m, Angle
60672	Coiled Cord, Angle, 6.1m, Angle

- Longer lasting, prevents wear
- Patented revolutionary magnetic interconnect technology (U.S. Patent 5,004,425); creates magnetic connection between wristband and coiled cord; meets wrist strap requirements of EN 61340-5-1 including safety release force
- 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
- Compatible with 3M and other brand Continuous Monitors
- Adjustable; only one item to stock; may be fitted to almost all people
- Superior resistor connection strain relief - superior reliability; greatly exceeds ANSI/ESD S1.1 Bending Life Test. Tested at over 1,000,000+ flex cycles
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

### Revolutionary Magnetic Interconnect Technology



Meets EN 61340-5-1 including safety release force of between 5 and 25 Newtons



Listing #90P1

Drawings **60670.E** and **60673.E**

## Jewel® MagSnap Dual-Wire Wrist Straps with Metal Wristband and Coiled Cords

ITEM	DESCRIPTION
60676	Wristband Only, Metal, Large
60677	Wristband Only, Metal, Medium
60678	Wristband Only, Metal, Small
60679	Wrist Strap, Metal, Large, 1.8m, Angle
60680	Wrist Strap, Metal, Medium, 1.8m, Angle
60681	Wrist Strap, Metal, Small, 1.8m, Angle
60682	Wrist Strap, Metal, Large, 3.65m, Angle
60683	Wrist Strap, Metal, Medium, 3.65m, Angle
60684	Wrist Strap, Metal, Small, 3.65m, Angle
60670	Coiled Cord, Angle, 1.8m, Angle
60671	Coiled Cord, Angle, 3.65m, Angle
60672	Coiled Cord, Angle, 6.1m, Angle

- Longer lasting, prevents wear
- Patented revolutionary magnetic interconnect technology (U.S. Patent 5,004,425); creates magnetic connection between wristband and coil cord
- Magnetic snap connection; creates magnetic connection between wristband and coil cord; meets wrist strap requirements of EN 61340-5-1 including safety release force
- 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
- Compatible with 3M and other brand Continuous Monitors
- Premium metal expansion wrist strap with more reliable path-to-ground
- Comfortable, designed not to pinch or pull hair
- Superior resistor connection strain relief - superior reliability; greatly exceeds ANSI/ESD S1.1 Bending Life Test. Tested at over 1,000,000+ flex cycles
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



Listing #90P1

Drawings **60670.E** and **60676.E**

Items on this Page Designed to Satisfy Wrist Strap and Wrist Cord requirements of EN 61340-5



## Jewel® Dual-Wire Wrist Strap with Adjustable Elastic Wristband and Coiled Cords

ITEM	DESCRIPTION
60711	Wristband Only, Adjustable Elastic, 4mm
60703	Wrist Strap, Adjustable Elastic, 1.8m, Angle, 4mm
60704	Wrist Strap, Adjustable Elastic, 3.65m, Angle, 4mm
60700	Coiled Cord, Dual-Wire, 1.8m, Angle
60701	Coiled Cord, Dual-Wire, 3.65m, Angle
60702	Coiled Cord, Dual-Wire, 6.1m, Angle

- Patented (US patents 6,052,053 and 6,205,408) Dual-Wire Wrist Strap provides redundancy; even if one dual-wire wrist strap conductor is severed, operator has reliable path-to-ground with other wire
- Use with resistive loop technology continuous monitor; continuously verifies the proper resistance to ground of the operator (see page 39)
- Compatible with 3M brand and other monitors which use 3.5mm mono plugs
- Durable, lightweight fabric has silver impregnated nylon knitted on inside for superior conductivity; reliably removes generated static charges
- Lifetime limited warranty on our wrist band stud
- Superior resistor connection strain relief - superior reliability; greatly exceeds ANSI/ESD S1.1 Bending Life Test. Tested at over 11,700,000 cycles vs. the 16,000 requirement
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin [PPE-5001.E](#) and Drawing [60700.E](#)



Listing #90P1



60704

Continuously verify that your Dual-Wire Wrist Straps are properly grounded with Charleswater's Dual-Wire Continuous Monitors.



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## Jewel® Dual-Wire Wrist Strap with Metal Wristband

ITEM	DESCRIPTION
60714	Wristband Only, Metal, Large, 4mm
60713	Wristband Only, Metal, Medium, 4mm
60712	Wristband Only, Metal, Small, 4mm
60707	Wrist Strap, Metal, Large, 1.8m, Angle, 4mm
60706	Wrist Strap, Metal, Medium, 1.8m, Angle, 4mm
60705	Wrist Strap, Metal, Small, 1.8m, Angle, 4mm
60710	Wrist Strap, Metal, Large, 3.65m, Angle, 4mm
60709	Wrist Strap, Metal, Medium, 3.65m, Angle, 4mm
60708	Wrist Strap, Metal, Small, 3.65m, Angle, 4mm
60700	Coiled Cord, Dual-Wire, 1.8m, Angle
60701	Coiled Cord, Dual-Wire, 3.65m, Angle
60702	Coiled Cord, Dual-Wire, 6.1m, Angle

- Patented (US patents 6,052,053 and 6,205,408) Dual-Wire Wrist Strap provides redundancy; even if one dual wire wrist strap conductor is severed, operator has reliable path-to-ground with other wire
- Use with resistive loop technology continuous monitor; continuously verifies the proper resistance to ground of the operator (see page 39)
- Compatible with 3M brand and other monitors which use 3.5mm mono plugs
- Fixed sized bands available in three sizes; easy to use - no adjustment necessary; three sizes provide an excellent fit for most people
- Premium metal expansion wrist strap with more reliable path-to-ground
- Comfortable, designed not to pinch or pull hair
- Lifetime limited warranty on our wrist band stud
- Superior resistor connection strain relief - superior reliability; greatly exceeds ANSI/ESD S1.1 Bending Life Test. Tested at over 11,700,000 cycles vs. the 16,000 requirement
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin [PPE-5001.E](#) and Drawing [60700.E](#)



60706



Listing #90P1

Items on this Page Designed to Satisfy Wrist Strap and Coiled Cord requirements of EN 61340-5



## Per EN 61340-5-1

"When the use of a wrist strap system is impractical, the [ESD] floor and [ESD] footwear shall be the primary means of ESD control. As most people do not stand on both feet, it is important that paths to ground are made in the heel and toe area of both feet. Where toe and heel straps are used as ESD footwear, once these are worn outside the EPA, particularly on carpets, they are likely to accumulate fluff and become ineffective; this requires that they be checked or replaced on every visit to the EPA. ...When ESD footwear is used, it should be noted that ESD footwear alone cannot achieve protection, but needs to be used in conjunction with a suitable ESD floor." (Per EN 61340-5-2 Clause 5.2.8 Footwear)

### Standard Heel and Toe Grounder

ITEM	DESCRIPTION
<b>70004</b>	Heel Grounder, 1 Megohm Resistor
<b>70008</b>	Toe Grounder, 1 Megohm Resistor

- Designed to satisfy Footwear requirements of EN 61340-5
- Top-of-the-line, extra wide bands of rubber
- Most reliable, provides greatest contact area to floor
- Exceptionally tear resistant dual layer rubber with inner scrim
- Non-marking dissipative interior will not mark shoes
- Hook and loop fastening assembly
- Genuine "non-selvedge" Velcro material - adjustable and comfortable
- 8 strand nylon polyester grounding tab does not particulate; superior body to ground contact
- Rg: 10E6 - 10E7 Ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings **70004.E** and **70008.E**  
Technical Bulletin **PPE-5006.E**



Listing #90P1

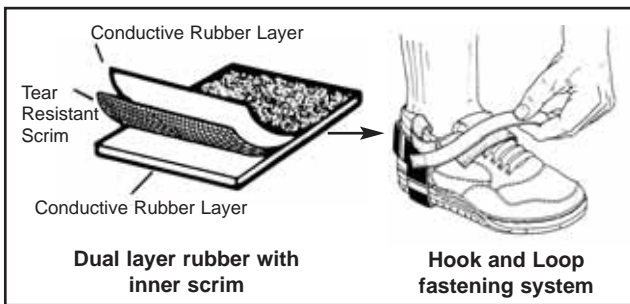


70004



70008

Toe cup for use with high heeled shoes.



### Lead-Free Area Heel Grounder

ITEM	DESCRIPTION
<b>70040</b>	Heel Grounder, Green, 1 Megohm Resistor

- Green hook and loop fastening system - unit can be used in lead-free areas where RoHS compliant items are exclusively worked on
- Interior green rubber layer is non marring on footwear and indicates that it is RoHS compliant
- Wide bands of rubber - provide greater contact area to floor
- Premium tear resistant rubber
- One megohm resistor - complies with UL standards
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings **70040.E**  
Technical Bulletin **PPE-5006.E**



Listing #90P1



70040



## Three Layer Non-Marking Foot Grounder

**ITEM DESCRIPTION**  
**70007** Heel Grounder, Non-Marring, 1 Megohm Resistor

- Designed to satisfy Footwear requirements of EN 61340-5
- No exposed carbon; ideal for cleanrooms
- Non-marking interior and exterior dissipative rubber will not mark shoes or floors - reduces maintenance costs of touching up floors
- Hook and loop fastening assembly; genuine "non-selvedge" Velcro material - adjustable and comfortable
- 76 cm long, 8 strand nylon polyester grounding tab does not particulate; superior body to ground contact
- Bright yellow rubber cup; high visibility to ensure programme compliance
- Rg: 10E6 - 10E7 Ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **70007.E**  
Technical Bulletin **PPE-5006.E**



Listing #90P1

High  
visibility!



FOOT GROUNTERS



If you have ESD susceptible products, ESD Foot grounders will not provide ESD protection without being used on an ESD floor.



Using Statguard® Static Dissipative Floor Finish converts a non-ESD floor into an ESD floor.

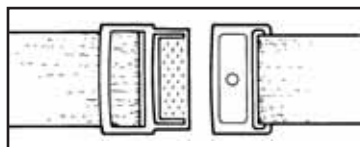
Try Statguard® Floor Finish.  
See page 24

## Snap-Loc Foot Grounder

**ITEM DESCRIPTION**  
**70050** Heel Grounder, Snap-Loc, 1 Megohm Resistor

- Designed to satisfy Footwear requirements of EN 61340-5
- Patented\* dual layer rubber cup will not mark shoes, improved continuity
- Cross-linked rubber; excellent durability and appearance
- Snap-loc fastener is easy to fasten and adjust
- 46cm long, 8 strand nylon polyester grounding tab does not particulate; superior body to ground contact
- Rg: 10E6 - 10E7 Ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **70050.E**  
Technical Bulletin **PPE-5006.E**



Snap-loc fastening system

\*(US Patent 4,551,783)



Listing #90P1



## Wescorp Heel and Toe Grounders

ITEM	DESCRIPTION
<b>70030</b>	Heel Grounder, 1 Megohm Resistor
<b>70031</b>	Toe Grounder, 1 Megohm Resistor

- Designed to satisfy Footwear requirements of EN 61340-5
- Wear resistant rubber provides contact area to floor
- Non-marking interior will not mark shoes
- Hook and loop fastening assembly; genuine non-fraying Velcro material - adjustable and comfortable
- 8 strand nylon polyester grounding tab does not particulate; superior body to ground contact
- Rg: 10E6 - 10E7 Ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings **70030.E** and **70031.E**

Technical Bulletin **PPE-5006.E**



70030



Listing #90P1

## Disposable Heel Grounder

ITEM	DESCRIPTION
<b>70001</b>	Disposable Heel Grounder, 30cm

- Self-adhesive section for reliable adhering to underside of heel
- Easy to use
- Yellow with black conductive strip; provides excellent visibility
- Ideal for visitor or single use applications
- Rg: 10E5 to 10E7 ohms as worn
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **70001.E**

Technical Bulletin **PPE-5006.E**

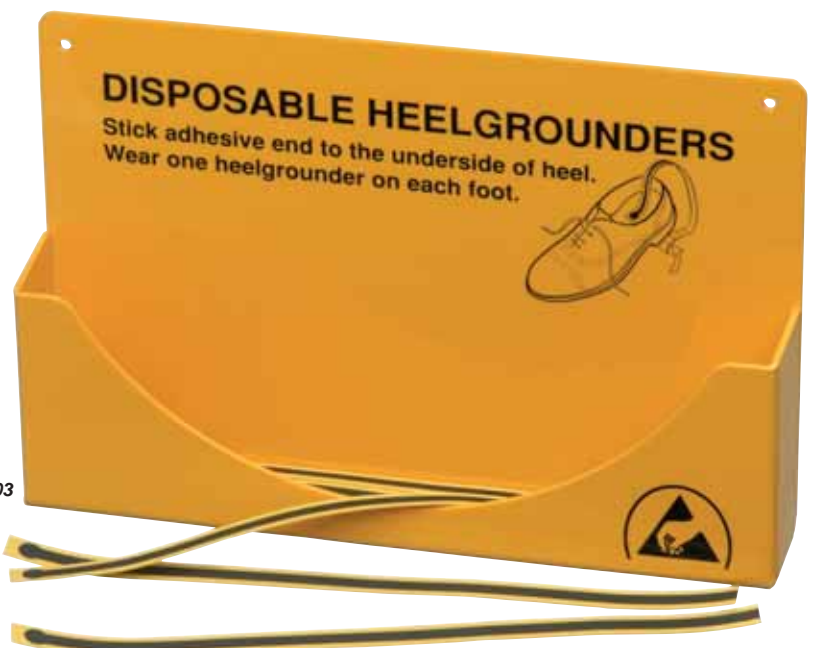


70001

## Disposable Heel Grounder Dispenser

ITEM	DESCRIPTION
<b>70003</b>	Disposable Heel Ground Dispenser

- Designed to be mounted on a wall
- Printed with instructions for use of grounder
- Treated with antistatic coating
- Size: 315 x 200 x 55mm, tray is 105mm deep
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



70003



## Per EN 61340-5-2 clause 5.2.5

"Garments on which high levels of static electricity can be generated are one of the causes of ESD damage. It is important that such charged garments do not come into contact with [ESD sensitive items]. The covering garments need to be grounded, either through direct contact with the wearer's skin, or by alternative means such as being electrically connected to a wrist strap. It is important that the ESD protective garment sleeves cover the end of the inner garment sleeves."

## Statshield® Premium Smocks

ITEM	DESCRIPTION
72100	Smock Jacket, with Cuffs, Blue, Small
72101	Smock Jacket, with Cuffs, Blue, Medium
72102	Smock Jacket, with Cuffs, Blue, Large
72103	Smock Jacket, with Cuffs, Blue, X-Large
72104	Smock Jacket, with Cuffs, Blue, 2X-Large
72110	Smock Jacket, with Cuffs, Burgundy, Small
72111	Smock Jacket, with Cuffs, Burgundy, Medium
72112	Smock Jacket, with Cuffs, Burgundy, Large
72113	Smock Jacket, with Cuffs, Burgundy, X-Large
72114	Smock Jacket, with Cuffs, Burgundy, 2X-Large

- Patented (U.S. Patent #4,596,053) hip-to-cuff grounding - allows your coil cord to snap to the hip of the smock for hands-free grounding, increasing productivity
- Creates Faraday Cage effect; charges on worker clothing are shielded, protecting ESDS devices
- Minimum 9% carbon conductive nylon fibres woven in chain-link design provides continuous and consistent charge dissipation
- Panel to panel conductivity prevents isolated charged conductor in ESD protected area
- Designed to satisfy ESD Garment requirements of EN 61340-5
- Superior 2-year/100 launderings limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

### Technical Bulletin PPE-5052.E

<b>Design:</b>	3 pockets, collar, and conductive cuff
<b>Color:</b>	Blue, Burgundy
<b>Fabric:</b>	Polyester with 9% minimum carbon suffused fibers
<b>Fabric Weight:</b>	2.25 ounces/sq yard
<b>Durability:</b>	100 minimum launderings; see 2 year limited warranty at: <a href="http://Charleswater.co.uk">Charleswater.co.uk</a>



72101

72112



Premium Statshield® Smocks feature our patented\* Hip-to-Cuff grounding feature for hands-free grounding. This removes charges from the worker and smock while allowing hands to be free, allowing for increased productivity. Can be tested while worn using a wrist strap tester.



**Charleswater Statshield® Smocks are specifically engineered and designed to be part of the Operator Grounding System for "Hands-Free" operator grounding while seated or standing.**



## Static Dissipative Gloves

ITEM	DESCRIPTION
<b>72602</b>	Dissipative Glove, Woman's, Small, Pair
<b>72601</b>	Dissipative Glove, Woman's, Medium, Pair
<b>72600</b>	Dissipative Glove, Woman's, Large, Pair
<b>72605</b>	Dissipative Glove, Man's, Small, Pair
<b>72604</b>	Dissipative Glove, Man's, Medium, Pair
<b>72603</b>	Dissipative Glove, Man's, Large, Pair
<b>72606</b>	Dissipative Glove, Man's, X-Large, Pair

- Non-allergenic polyester construction; comfortable, antistatic, low tribocharging; dissipative material will conduct charges to ground
- Installed 4mm snap stud attaches to coil cord
- Colour coded cuffs; male and female gloves uniquely colour coded for identification
- Rg of  $< 1 \times 10E7$ ; can be tested with standard wrist strap testers; helps prevent Charged Device Model failures where without gloves an ESD event may occur if charged component is touched even by a properly grounded worker
- Designed to satisfy ESD Glove requirements of EN 61340-5-1 paragraph 5.2.6
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **72600.E**



72601

Request a Sample!



## Charleswater Now Provides Custom Embroidery for Your Smocks:

### Make smocks special with:

- **Company Names and Logos**
- **Individual Names**
- **Custom Logos**

Call us at 00 44 (0) 1892-665313 or visit us online for pricing and complete details: [Charleswater.co.uk](http://Charleswater.co.uk)

Smocks with many custom options can be special ordered. Ask us for details.

Your Name Here

Company Name and Logo



Individual Names



Custom Logos - call for a quote

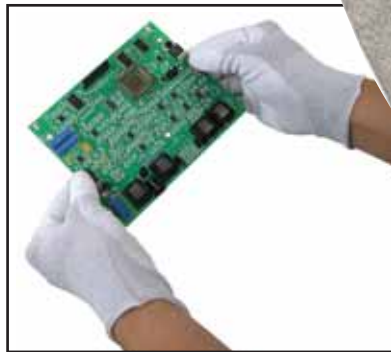




## MENDA Polyurethane Coated Nylon Dissipative Gloves

ITEM	DESCRIPTION
<b>35669</b>	Form Fitting Glove, X-Small, Pair
<b>35670</b>	Form Fitting Glove, Small, Pair
<b>35671</b>	Form Fitting Glove, Medium, Pair
<b>35672</b>	Form Fitting Glove, Large, Pair
<b>35673</b>	Form Fitting Glove, X-Large, Pair

- Low dust and lint sloughing - choice for photo handling and other applications
- Nylon knitted glove is form fitting
- Non-slip polyurethane coated palm and fingers
- Good elasticity and ventilation, minimizing sweat build-up
- Resistance 10E5-10E8 ohms, tested per ANSI/ESD 5P15.1 Standard Practice for In-Use Resistance Testing of Gloves and Finger Cots
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



Drawing **35670**



[Request a Sample!](#)

GLOVES

## Anti-Static Vinyl Gloves

ITEM	DESCRIPTION
<b>72500</b>	Anti-Static Vinyl Glove, Small, 50/Pack
<b>72505</b>	Anti-Static Vinyl Glove, Medium, 50/Pack
<b>72510</b>	Anti-Static Vinyl Glove, Large, 50/Pack

- Antistatic, low charging; minimal charge generation
- Vinyl material; flexible - protects users hands, as well as preventing ESD damage to ESD susceptible electronic components
- Powder free; good in critical environments; no powder contaminants from gloves
- Designed to satisfy ESD Glove requirements of EN 61340-5-1 paragraph 5.2.6
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **72500.E**



72505

## Static Dissipative Finger Cots

ITEM	DESCRIPTION
<b>72700</b>	Dissipative Finger Cot, Black, Small, 720/Pack
<b>72705</b>	Dissipative Finger Cot, Black, Medium, 720/Pack
<b>72710</b>	Dissipative Finger Cot, Black, Large, 720/Pack
<b>72715</b>	Dissipative Finger Cot, Black, X-Large, 720/Pack

- Natural Latex rubber construction; excellent ESD properties, tactile sensitivity and user comfort
- Dissipative; helps prevent Charged Device Model failures where without finger cots an ESD event may occur if charged component is touched even by a properly grounded worker
- Powder free; no powder contaminants from cots
- Independent dissipative properties built in; not a topically treated material; not affected by humidity
- Designed to satisfy ESD Glove requirements of EN 61340-5-1 clause 5.2.6.
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **72700.E**



72705



WORKSURFACE MATTING

## Per EN 61340-5-1 clause 5.2.2 Working Surfaces and Storage Racks

"All working surfaces and storage racks on which unprotected ESDS [ESD sensitive items] may be placed shall be capable of being connected to EPA [ESD protected area] ground and shall have a point-to-point resistance and resistance to EPA ground in accordance with table 1 [Rp greater or equal to 1 x 10E4, less than or equal to 1 x 10E9 ohms, and Rg greater or equal to 7.5 x 10E5 to less than or equal to 1 x 109 ohms]."

### Statfree Euro T2™ - Dissipative Dual Layer Rubber

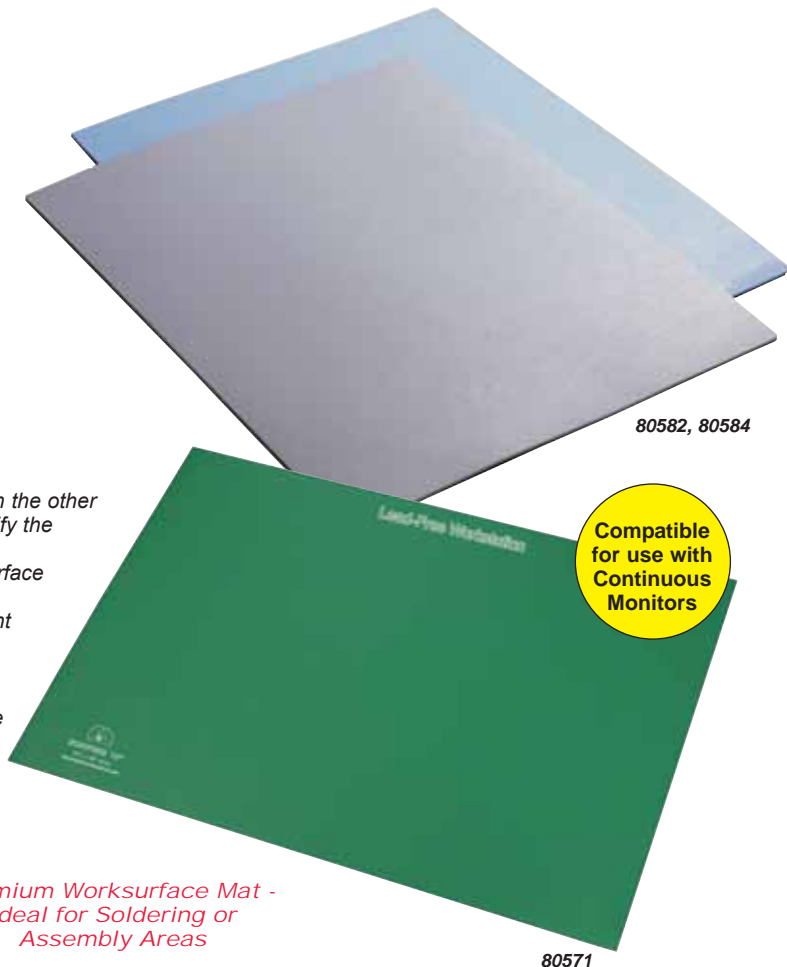
MAT TOP KITS	BLUE	GREY	GREEN
1.8mm x 0.6m x 0.9m	<b>80582</b>	<b>80584</b>	
1.8mm x 0.6m x 0.9m			<b>80570</b>
1.8mm x 0.6m x 1.2m	<b>80583</b>	<b>80585</b>	
1.8mm x 0.6m x 1.2m			<b>80571</b>
ROLLS	BLUE	GREY	GREEN
1.8mm x 0.6m x 12.2m	<b>80657</b>	<b>80660</b>	
1.8mm x 0.76m x 12.2m	<b>80658</b>	<b>80661</b>	
1.8mm x 1.26m x 12.2m	<b>80659</b>	<b>80662</b>	
1.8mm x 0.6m x 7.3m			<b>80575</b>

Grounding hardware not included. See pages 22-23 for hardware.

- Durable rubber material, dissipative on one side and conductive on the other
- The green mat is laser engraved "Lead-Free Workstation" to identify the workstation as a Lead-Free work area
- Slows charge removal; meets the minimum recommended worksurface requirement of EN 61340-5-1
- Lightly embossed surface; easier to clean than vinyl mats; excellent coefficient friction for handling electronic products
- Superior heat, chemical and wear resistance; excellent choice in soldering and other challenging manufacturing environments
- Superior limited lifetime warranty; electricals guaranteed for the life of the mat
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Dissipative Side Rp-p: 10E6 - 10E8 Ohms  
Conductive Side Rp-p: 10E3 - 10E4 Ohms  
Thickness: 1.8mm

Drawings **PME-EuroT2** and **PME-EuroT2Green**  
Technical Bulletin **PPE-5025.E**



Compatible for use with Continuous Monitors

Premium Worksurface Mat -  
Ideal for Soldering or  
Assembly Areas

### Statfree UC™ - Dissipative Dual Layer Ultra Clean

ROLLS	BLUE
2mm x 0.76m x 12.2m	<b>80105</b>

Grounding hardware not included.  
See pages 22-23 for hardware.

- Developed for cleanrooms; minimal outgassing; this product was tested by a hi-tech manufacturer who approved it for Class 100 Clean Room use; the FTIR testing produced no detectable levels of Silicone or DOP
- Slows charge removal; meets the minimum recommended worksurface requirement of EN 61340-5-1
- Proprietary product
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Blue Top Layer Rp-p: 10E6 - 10E8 Ohms  
Black Bottom Layer Rp-p: <10E6  
Thickness: 2mm

Drawings **PME-UC**  
Technical Bulletin **PPE-5025.E**



Compatible for use with Continuous Monitors

For Use in Class 100  
Clean Rooms

Clean Your Mats  
with Reztore™  
Antistatic  
Surface & Mat  
Cleaner



See Page 25



## Statfree Z2™ - Dissipative 3 Layer Vinyl

**ROLLS**                      **BLUE**      **GREY**  
3.2mm x 1.2m x 15.2m    **80480**    **80484**

Grounding hardware not included. See pages 22-23 for hardware.

- Heat fused vinyl composite with top and bottom dissipative vinyl layers and conductive grid mesh inner layer; resists delamination; reduces unintended alternative ground paths
- Conductive grid mesh inner layer provides consistent, reliable, and defined grounding path
- Dissipative cushioned vinyl bottom layer provides energy absorption for components susceptible to physical shock like disk drives
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** 10E6 - 10E8 Ohms  
**Thickness:** 3.2mm

**Drawing** PME-Z2  
**Technical Bulletin** PPE-5025.E



Compatible for use with Continuous Monitors

80480, 80484

Superior Dedicated Path-to-Ground Workbench Mat

WORKSURFACE MATTING

## Statfree O™ - Dissipative 3 Layer Vinyl

**ROLLS**                      **BLUE**  
9.5mm x 0.6m x 18.3m    **80530**  
9.5mm x 0.9m x 18.3m    **80532**

Grounding hardware not included. See pages 22-23 for hardware.

- Thick, energy absorbing; excellent cushioning mat for trays, carts, and benches; as worksurface or shelf mat, protects parts susceptible to physical shock
- Soft, pliable, material; can be easily die cut or razor cut
- Dissipative - safely removes charges to ground
- Meets working surfaces Rp-p and Rg requirements of EN 61340-5-1 clause 5.2
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** 10E6 - 10E8 Ohms  
**Thickness:** 9.5mm

**Drawing** PME-O  
**Technical Bulletin** PPE-5025.E



Compatible for use with Continuous Monitors

80530

ESD Cushion Protects Fragile Parts

## Statfree B™ - Dissipative Homogeneous Vinyl

**MAT**                              **BLUE**  
2.5mm x 0.6m x 1.2m      **80185**

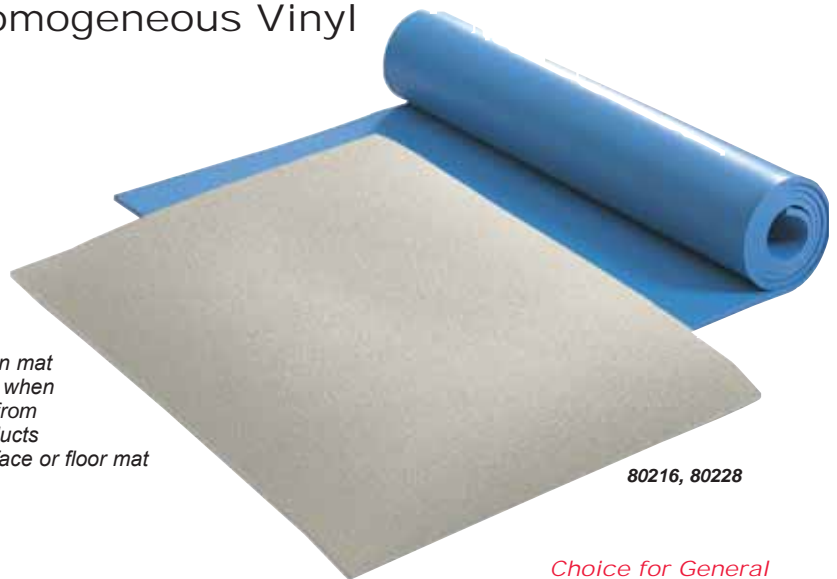
**ROLLS**                      **BLUE**      **BEIGE**  
2.5mm x 0.6m x 12.2m    **80228**    **80216**  
2.5mm x 0.9m x 12.2m    **80231**  
2.5mm x 1.2m x 12.2m    **80233**

Grounding hardware not included. See pages 22-23 for hardware.

- <10E9 ohm resistance; meets worksurface limit of EN 61340-5-1
- Antistatic, low tribocharging; minimal charge generation on mat
- High quality material with dissipative electrical properties; when properly grounded, safely removes electrostatic charges from equipment and people to protect your ESD sensitive products
- Reversible extruded homogeneous vinyl; use as worksurface or floor mat
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** 10E9 Ohms  
**Thickness:** 2.5mm

**Drawing** PME-B  
**Technical Bulletin** PPE-5025.E



80216, 80228

Choice for General Assembly, Shelving or Cafeteria-Style Trays



WORKSURFACE MATTING

## STATFREE B2™ - DISSIPATIVE 2-LAYER VINYL

<b>ROLLS</b>	<b>BLUE</b>
1.5mm x 0.61m x 15.2m	<b>80160</b>
1.5mm x 1.22m x 15.2m	<b>80163</b>

Grounding hardware not included.  
See pages 22-23 for hardware.

- Economical choice for use with continuous monitors
- Dissipative surface for consistent charge removal
- Slightly embossed conductive base for reliable path-to-ground
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p (front side):** 10E6-10E8 Ohms  
**Rp-p (back, stipple side):** <10E5 ohms  
**Thickness:** 1.5mm

Drawing **PME-B2**  
Technical Bulletin **PPE-5025.E**

Compatible for use with Continuous Monitors

**NEW!**



80160



## Micostat® Dissipative Laminate

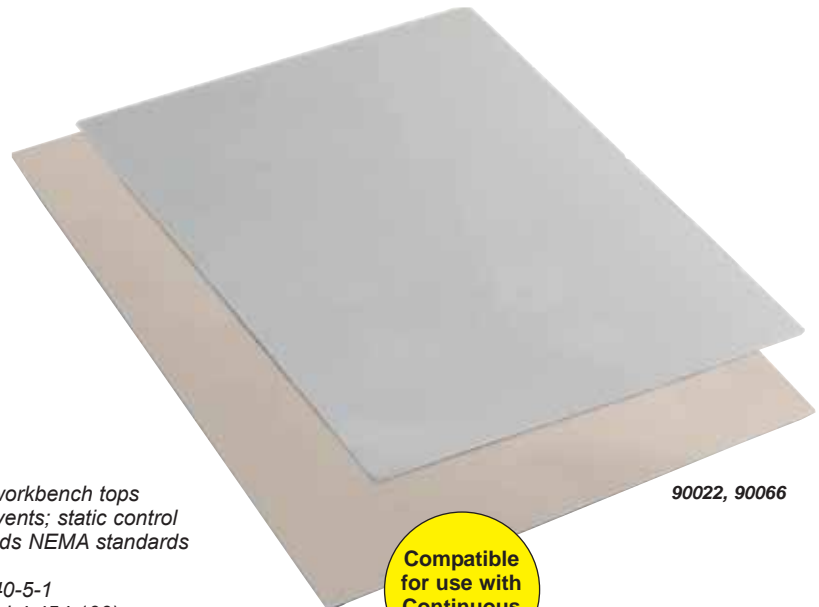
Sheet Size	Beige	Grey
0.97mm x 0.76m x 2.4m	<b>90022</b>	<b>90066</b>
0.97mm x 0.76m x 3.0m	<b>90024</b>	<b>90068</b>
0.97mm x 0.76m x 3.6m	<b>90026</b>	<b>90070</b>
0.97mm x 0.91m x 2.4m	<b>90028</b>	<b>90072</b>
0.97mm x 0.91m x 3.0m	<b>90030</b>	<b>90074</b>
0.97mm x 0.91m x 3.6m	<b>90032</b>	<b>90076</b>
0.97mm x 1.2m x 2.4m	<b>90034</b>	<b>90078</b>
0.97mm x 1.2m x 3.0m	<b>90035</b>	<b>90079</b>
0.97mm x 1.2m x 3.6m	<b>90036</b>	<b>90080</b>
0.97mm x 1.5m x 2.4m	<b>90038</b>	<b>90082</b>
0.97mm x 1.5m x 3.0m	<b>90040</b>	<b>90084</b>
0.97mm x 1.5m x 3.65m	<b>90042</b>	<b>90086</b>

Grounding hardware not included. See pages 22-23 for hardware.

- Hard, rigid laminate designed for new or replacement ESD workbench tops
- High pressure laminate; resistant to hot solder and most solvents; static control properties will continue for the lifetime of the material; exceeds NEMA standards for wear resistance
- Low tribocharging; well under the 100V required by EN 61340-5-1
- Patented (U.S. Patents 4,455,350, 4,589,954, 4,645,717, and 4,454,199) conductive layer; superior charge dissipation and zero voltage suppression
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** 10E6 - 10E9 Ohms  
**Rg:** 10E6 - 10E8 Ohms  
**Thickness:** 0.97mm

Drawing **PME-90006.E**  
Technical Bulletin **PPE-5035.E**



90022, 90066

Compatible for use with Continuous Monitors

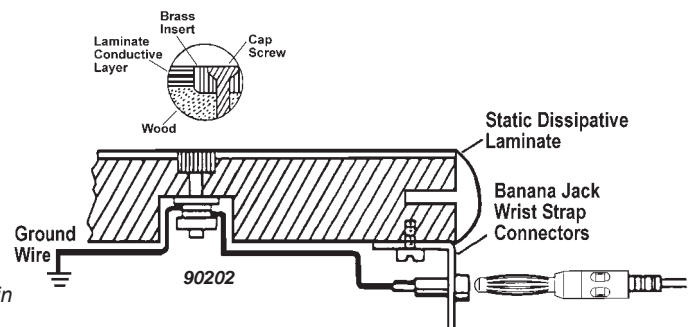
### Micostat® has Lifetime Electricals

Micostat® has a physical, patented, carbon inner sheet layer that provides its electrical performance. This carbon layer and electrical properties will exist until it is physically removed or destroyed.

## Micostat® Grounding

ITEM	DESCRIPTION
<b>90200</b>	Micostat Installation Tool
<b>90202</b>	Flush Mount Micostat Ground Insert
<b>90204</b>	Flush Mount Micostat Ground Insert, with 90202 & 60354

- Use installation tool to install the 90202 and 90204
- 90202 flush mount insert provides an excellent ground path for grounding static dissipative laminate such as Micostat
- 90204 Flush Mount Insert with Dual Bench Mount includes all components in 90202 and all items to ground two banana plugs





## PROTEKTIVE PAK Pro-Mat™ Shelf, Cart, and Worksurface Mats

**ITEM DESCRIPTION**  
**37670** 298mm x 902mm x 2mm, Male Snaps

- Solid fiberboard construction with a buried conductive layer
- Includes two installed 10mm (3/8") socket snaps - stud snaps available
- Resists damage by hot soldering irons, solder, or flux
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Rp-p of top and bottom layers: 10E6 - 10E8 ohms  
Thickness: 1.5mm

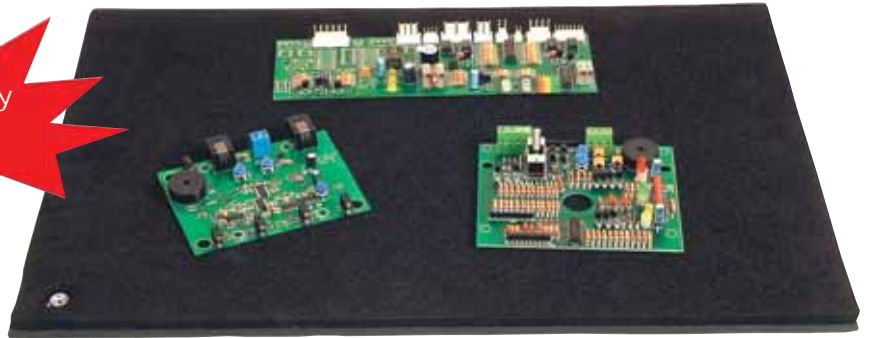
Drawing **37670.E**



## PROTEKTIVE PAK Tek-Mate™

**ITEM DESCRIPTION**  
**37800** 305mm x 457mm

- Portable ESD worksurface that can also be used to transport populated but unsoldered circuit boards
- Static dissipative foam (Rp-p 10E6 - 10E7 ohms) laminated to Protektive Pak® corrugate
- Foam is shuntable so board leads can be kept at equipotential
- Includes 10mm (3/8") male grounding snap
- Lightweight, thin, yet durable
- Fits most transportation carts
- Static dissipative material 10E6 - 10E8 ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



37800

Drawing **37800.E**

## Field Service Kit with Pouch

**ITEM DESCRIPTION**  
**80720** 450mm x 560mm, Field Service Kit with Wrist Strap

- 0.46mm (0.018 in.) mil red laminated dissipative vinyl worksurface; antistatic, low tribocharging, portable, protective worksurface with two ground snaps
- 4.6m (15 feet) long common point ground cord provided with 1 megohm resistance between mat and ground and banana jacks for two wrist straps
- Large threaded grounding clip; adjustable wrist strap included with integral coil cord
- Canvas carrying pouch; easy to store and transport service kit
- Surface Resistance 10E6 - 10E8 ohms per EN 61340-5-1 Test method A.1
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **80720.E**

Technical Bulletin **PPE-5002.E**



80720





## Statfree CV™ Conductive Homogeneous Vinyl

**MAT**  
1.5mm x 1.2m x 2.4m  
**BLACK**  
**80496**

**ROLL**  
3.2mm x 1.2m x 12.2m  
**BLACK**  
**80495**

Grounding hardware not included. See pages 22-23 for hardware.

- Durable homogeneous vinyl material; excellent value; provides long life; ideal for high traffic areas
- Chemical resistant; use when acids and alkali solutions are present
- Sturdy, non-curling material; good choice for heavy chairs and carts, lays flat
- 10E3 - 10E5 ohm resistance meets EN 61340-5-1 Floors limit of <10E9 ohm for ESD protective flooring
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** 10E3 - 10E5 Ohms  
**Thickness:** 3.2mm

**Drawing** **PME-CV**  
**Technical Bulletin** **PPE-5025.E**



80495

*Excellent Floor Mat on Hard Surface and Carpeted Areas Where Rolling Chairs and Carts are Used*

## Statfree F Plus™ - Conductive Corrugated Vinyl

**ROLL**  
3.2mm x 1.2m x 12.2m  
**BLACK**  
**80146**

Grounding hardware not included. See pages 22-23 for hardware.

- Floor mat suitable for flooring/footwear system
- Economical vinyl for floor mats and runners
- Rp-p 10E3 – 10E5 ohms meets EN 61340-5-1 Table 1 limit for ESD floor when grounded
- Corrugated slip resistant surface; provides excellent traction in wet environments
- Easy to cut; configure to your requirements
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** <10E3 - 10E5 Ohms  
**Thickness:** 3.2mm

**Drawing** **PME-F Plus**  
**Technical Bulletin** **PPE-5025.E**



**NEW!**

80146

*Economical Vinyl for Floor Mats and Runners*

## Statfree S Plus™ - Dissipative Anti-Fatigue Rubber

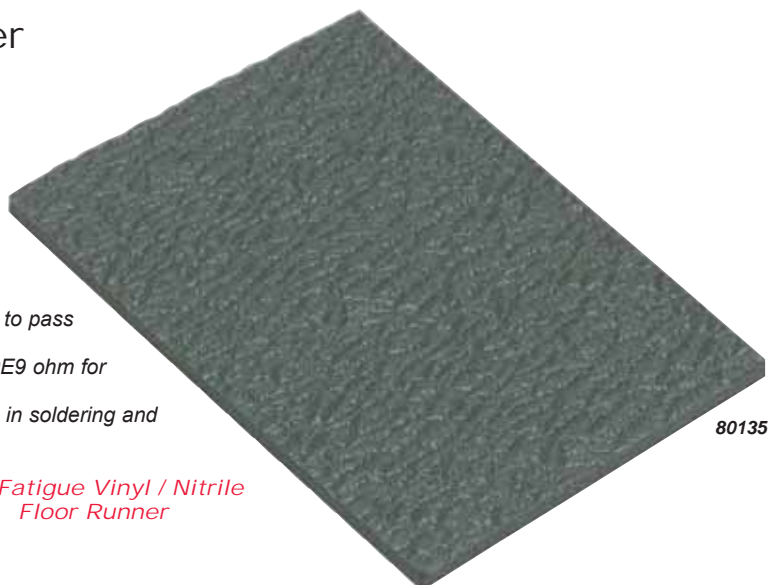
**ROLL**  
9.5mm x 0.9m x 18.3m  
**BLACK**  
**80135**  
9.5mm x 1.2m x 18.3m  
**BLACK**  
**80136**

Grounding hardware not included. See pages 23-24 for hardware.

- Cross-link vinyl/nitrile rubber construction; more resilient than ordinary vinyl sponge matting
- Slip resistant and soil resistant heavy embossed texture; safe surface for workers; mat stays clean
- Beveled edges for added safety; allows people and equipment to pass safely and easily
- <10E9 ohm resistance meets EN 61340-5-1 Floors limit of <10E9 ohm for ESD protective flooring
- Superior heat, chemical, and wear resistance; excellent choice in soldering and other challenging manufacturing environments.
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** <10E9 Ohms  
**Thickness:** 9.5mm

**Drawing** **PME-S Plus**  
**Technical Bulletin** **PPE-5025.E**



*Anti-Fatigue Vinyl / Nitrile Floor Runner*

80135



## Statfree i™ - Conductive Ergonomic Interlocking Rubber

**MATS**                      **BLACK**  
12.7mm x 0.6m x 0.9m    **80650**

- Anti-fatigue ergonomic design dome/support cell structure
- Durable homogeneous rubber; long life, will never delaminate
- Patented interlocking strip easily configures to fit your requirements; no need to order special lengths
- Interlocks are easily trimmed; attractive beveled edge end finish; can easily make stand alone mat
- Superior heat, chemical, and wear resistance; excellent choice in soldering and other challenging manufacturing environments
- 10E3 - 10E5 ohm resistance meets ESD floor limit and person/footwear/flooring system of EN 61340-5-1
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** 10E3 - 10E5 Ohms  
**Thickness:** 12.7mm

**Drawing** **PME-i**  
**Technical Bulletin** **PPE-5025.E**



*Superior Ergonomic  
Anti-Fatigue Properties*

FLOOR MATTING

**Double Sided Adhesive Tape**

ITEM	DESCRIPTION
<b>80300</b>	Tape, 51mm x 228m

- Pressure sensitive adhesive with release liner; use on mats that slide around or curl and create a tripping hazard; great choice for securing mats to metal carts and working station surfaces
- Multiple uses - can be applied to concrete or sealed floors, metal carts, work benches, and just about any other hard surface
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Drawing** **80300.E**




## Statfree G2™ - Conductive Smooth Rubber

**MAT**                      **BLACK**  
1.5mm x 1.2m x 2.4m    **80109**

**ROLL**                    **BLACK**  
1.5mm x 1.2m x 12.2m   **80113**

- Heat, chemical, and abrasion resistant; excellent floor mat for around wave solder machines and other challenging manufacturing environments
- Easy to cut and configure to fit your requirements
- 10E3 - 10E5 ohm resistance meets ESD floor limit and person/footwear/flooring system of EN 61340-5-1
- Durable industrial grade rubber; excellent value providing long-lasting, good-looking life; consistent electrical properties; will never delaminate
- Not suitable for use with chairs, carts, or wheels
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Rp-p:** 10E3 - 10E5 Ohms  
**Thickness:** 12.7mm

**Drawing** **PME-G2**  
**Technical Bulletin** **PPE-5025.E**



*Durable for High  
Traffic Areas*

Measure the Rp and Rg of floors with our 99105 Surface Resistance Test Kit



**Page 42**



## Mat Ground Cord with 10mm Socket

### ITEM DESCRIPTION

**60358** 10mm Socket, 1 Meg Resistor, 3.0m

- 10mm (.0395") female snap socket; easily snaps to mat stud
- Extra ring terminal included; provided for customising cord length
- Cord terminated with ring terminal; allows easy attachment to ESD ground
- Ground cord 3m long
- Includes 1 Megohm resistor
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **60358.E**



## EPA Bond Grounding Point for Bench Mat and Two Wrist Straps

### ITEM DESCRIPTION

**60348** 10mm Stud, 1 Meg Resistor, Standard Banana Jacks, Ring Terminal Termination, 4.5m

**60349** 10mm Stud, 1 Meg Resistor, Standard Banana Jacks, 10mm Socket Termination, 4.5m

**60361** 10mm Stud, 1 Meg Resistor, Shrouded Banana Jacks, Ring Terminal Termination, 4.5m

- Two banana jacks; provides common ground point (that is EBP) for two wrist straps or carts
- Shrouded banana jack at end of cord provides ground connection to banana plug
- Low profile reduces snagging of clothes and work instruments
- Ground cord 4.5m long
- Includes 1 Megohm resistor
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **60348.E**



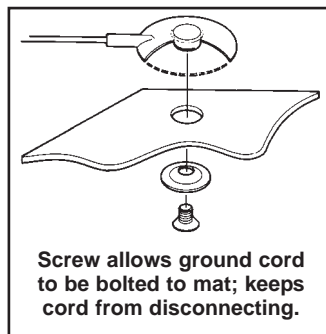
## Floor & Table Mat Ground Cord with 10mm Stud

### ITEM DESCRIPTION

**60474** 1 Meg Resistor to Ring Terminal Termination, 4.5m

**60488** 1 Meg Resistor to 10mm Socket, 4.5mm

- Low profile helps keep employees from tripping on cord connection
- 10mm snap stud easily snaps to mat socket, flush to mat surface
- 10mm socket at end of cord allows easy attachment to building ground
- Stud has threaded hole; 6-32 x 6.35mm flat head screw and countersunk washer are provided; allows ground cord to be bolted to mat; keeps cord from disconnecting; ensures proper grounding
- Ground cord 4.5m long
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



Drawing **60474.E**





## Ground Bonding Point

ITEM	DESCRIPTION
<b>52000</b>	Ground Bonding Point, UK Version
<b>52010</b>	Ground Bonding Point, Continental Version

- Provides common ground point, earth bonding point
- Convenient connection to power socket; enables grounding through mains earth
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



52000



52010

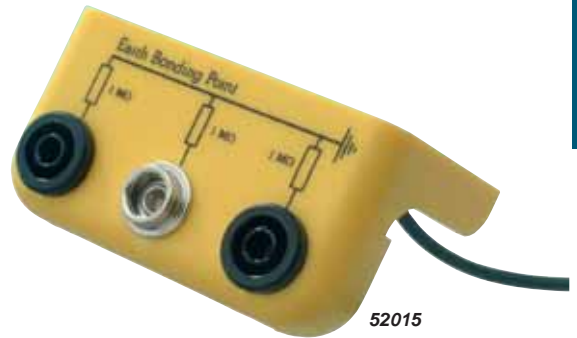


52000

## Euro Grounding Block

ITEM	DESCRIPTION
<b>52015</b>	Euro Grounding Block

- Provides common ground point, earth bonding point
- Designed to be mounted on under-side of benchtop or shelf
- Supplied with screws and spare ring terminal
- Black cord 3m long, exits via strain relief on left
- Ultrasonically welded back cover prevents tampering
- Fitted with three 1Meg 1Watt resistors
- 10mm, banana and shrouded banana connectors (contact Charleswater for custom connectors)
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



52015

## Universal Snap Kit and Push and Clinch Snap

ITEM	DESCRIPTION
<b>80014</b>	Universal Snap Kit, 10mm
<b>80008</b>	Push and Clinch Snap Socket, 10mm

- 80014**
- Recommended for homogeneous and multi-layer mats
  - Snap is user installable; allows installation of snap exactly where needed
  - Kit includes a 10mm stud, 10mm socket, long screw, short screw, and common ground EPA bonding point label; allows for user preference and can be used for a range of mat thicknesses

Drawing **80014.E**

- 80008**
- Recommended for multi-layer mats with a conductive inner layer
  - Pronged 10 mm socket snap; ideal for multi-layer mats with a conductive inner layer
  - Push and clinch installation is easy to use; secure installation
  - Made in America
  - For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



80014

80008

Per EN 61340-5-1 paragraph 4.4 Marking of EPA bonding points (EBP) "All EBP shall be marked or labeled."

## Convertors, Stacking Snap Banana Jack, Alligator clip

ITEM	DESCRIPTION
<b>80010</b>	Adapter, Mat Snap, Converts 10MM Stud to 10MM Socket
<b>80012</b>	Adapter, Mat Snap, Converts 10MM Socket to 10MM Stud
<b>80020</b>	Adapter, Tester, 10MM Banana Plug
<b>60212</b>	Alligator Clip, Banana Jack
<b>60208</b>	Stacking Banana Jack Snap, 10mm

- Convertors allow for many styles of cords to be used on mat snap
- Stacking Snap Banana Jack provides a banana jack anywhere that has either a 10mm snap stud (male) or a 10mm snap socket (female). It also allows multiple attachments to the same grounding point.
- Alligator clip will slip onto a banana plug, allowing you to ground a cord when common ground point not available
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



80010



80012



80020



60212



60208



## Per EN 61340-5-2 clause 5.5 EPA working practices

*If people cannot be grounded via a wrist strap, "then the floor and suitable footwear should be used as an alternative."*

Using Statguard® static dissipative floor finish converts a non-ESD floor into an ESD floor. It can also protect existing ESD flooring from stains and scratches while keeping it looking beautiful. Charleswater manufactures high quality products at a state-of-the-art manufacturing facility in Canton, Massachusetts, USA. We maintain the advantage of controlling the production and quality assurance of our chemical products.

FLOOR MAINTENANCE

### Statguard® Dissipative Floor Finish

**ITEM DESCRIPTION**

**71046** Statguard® Dissipative Floor Finish, 10L

- Low-tribocharging; less than 50V charge generation when walking, fulfilling requirements of EN 61340-5-1 person/footwear/flooring system
- Static dissipative (Rp 10E6 - 10E9 ohms); with proper footwear, removes the charge off your body and provides grounding, converting a non-ESD floor to an ESD 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
- 18% solids; easy to apply; improves productivity
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin [PPE-5023.E](#)



71046

### Statguard® Floor Cleaner

**ITEM DESCRIPTION**

**71045** Statguard® Floor Cleaner, 10L

- Formulated with dissipative agents that rejuvenate and improve the properties of floor finish; cleans floors coated with Statguard® Floor Finish
- Cleans dissipative and conductive floors
- Cleans effectively; does not leave behind insulative residue
- 15% solids; easy to apply, improving productivity
- Listed with the number UBA 50550001 by the German Umweltbundesamt
- Static Dissipative: Rp 10E6 - 10E9 ohms
- Listed by the Swiss Federal Office of Public Health as BAG T Nr. 60108
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



Technical Bulletin [PPE-5050.E](#)



71045

### Statguard® Floor Stripper

**ITEM DESCRIPTION**


**71047** Statguard® Floor Stripper, 10L

- Non-ammoniated and phosphate-free; environmentally safe, biodegradable
- Low pH formulation (pH 10.5); breaks up and lifts multiple layers of Statguard® Floor Finish.
- Strips floor finish from vinyl, VCT, concrete, rubber, terrazzo, quarry tile, brick, slate, and unglazed ceramic; multiple uses
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin [TB-7026](#)

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

For Foot Grounders, see page 10




71047



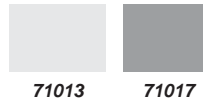
## Statguard® Conductive Acrylic Latex Paint

### ITEM DESCRIPTION

- 71016** Statguard® Conductive Paint, Grey, 3.8L
- 71017** Statguard® Conductive Paint, Grey, 19L
- 71013** Statguard® Conductive Paint, Light Grey, 19L

- Easy to repair, touch up, and maintain; excellent for heavy traffic factory and contract building applications
- Coverage: 27.87-37.16 sq. metres/litre
- Adheres to floor, walls, or wood furniture; provides static control on concrete and epoxy floors and in places which are difficult to protect
- Rp-p: 10E5 - 10E6 - conductive in accordance with EN 61340-5-1
- Replaces static control floor mats in electronics, manufacturing, assembly, and test areas
- Lead-free RoHS compliant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-7001**



## Statguard® Carpet Protector

### ITEM DESCRIPTION

- 70995** Statguard® Carpet Protector, 1L
- 70996** Statguard® Carpet Protector, 3.8L

- Makes non-ESD chair fabrics and carpet ESD protective; reduces charge generation; controls against ESD while protecting fabric colour and life
- Protects ESD protective chair fabrics and carpet from soil and stains
- Water based; easy to apply
- Rp-p 10E5 - 10E9
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **PPE-5067.E**



70995

## Rezto™ Topical Antistat

### ITEM DESCRIPTION

- 71029** Rezto™ Topical Antistat, 1L Spray
- 71030** Rezto™ Topical Antistat, 1L Spray, Carton of 12
- 71033** Rezto™ Topical Antistat, 10L Refill

- 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
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-7005**



71029

## Rezto™ Antistatic Surface & Mat Cleaner

### ITEM DESCRIPTION

- 71019** Rezto™ Surface and Mat Cleaner, 500ML, Carton of 12
- 71021** Rezto™ Surface and Mat Cleaner, 1L Spray
- 71025** Rezto™ Surface and Mat Cleaner, 1L Spray, Carton of 12
- 71028** Rezto™ Surface and Mat Cleaner, 10L Refill
- 71050** Rezto™ Static Wipes, Canister of 160
- 71051** Rezto™ Static Wipes, Dispenser of 60

- Cleans and restores ESD mats
- Does not contain silicone; cleaners with silicone leave an insulative layer preventing conductive or dissipative mats from functioning properly
- Leaves no insulative residue; will not degrade surface
- Does not contain alcohol; will not dry out mats
- Static dissipative solution: Rp-p 10E8 ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-7000** and **TB-7020**



71021

71050

71051

71019

FLOOR AND WORKSURFACE MAINTENANCE



SHIELDING BAGS

## ESD Bags Meet EN 61340-5-1 Requirements

*"Low charging packaging exhibiting properties which minimise 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."  
(clause 3.18.2) "Identified with ESD packaging symbol, manufacturer, and batch identification number" (clause 4.1.2)*

### Statshield® Transparent Metal In Standard ESD Shielding Bags

WITHOUT ZIPPER	PRICE	WITH ZIPPER
<b>90500</b> 75mm x 125mm	£3.80	<b>90600</b> 75mm x 125mm
<b>90504</b> 100mm x 760mm	£17.82	<b>90604</b> 100mm x 735mm
<b>90507</b> 150mm x 200mm	£8.65	<b>90606</b> 125mm x 200mm
<b>90510</b> 150mm x 760mm	£25.14	<b>90608</b> 150mm x 255mm
<b>90514</b> 200mm x 305mm	£13.23	<b>90612</b> 200mm x 255mm
<b>90516</b> 225mm x 305mm	£16.26	<b>90620</b> 255mm x 610mm
<b>90520</b> 255mm x 610mm	£36.62	<b>90622</b> 280mm x 380mm
<b>90523</b> 305mm x 355mm	£23.90	<b>90626</b> 305mm x 455mm
<b>90527</b> 355mm x 455mm	£30.72	<b>90627</b> 355mm x 455mm
<b>90528</b> 380mm x 455mm	£34.35	<b>90628</b> 380mm x 455mm
<b>90534</b> 405mm x 610mm	£46.20	<b>90630</b> 455mm x 455mm
<b>90530</b> 455mm x 455mm	£40.58	<b>90632</b> 455mm x 610mm
<b>90533</b> 610mm x 760mm	£99.75	<b>90633</b> 505mm x 505mm

**More Bag Sizes Available Online**



- General use ESD shielding bag; excellent value
- Choice for shipping outside ESD protected area
- Most commonly used shielding bag; high volume manufacturing provides value for the customer
- 40% light transmission; allows for easy identification of bag contents
- Testable to industry standards; meets or exceeds one or more of the following standards: electrical and physical requirements of EN 61340-5-1, ANSI/ESD S20.20, Mil-PRF-81705D, EIA 541, EIA-625, MIL-HDBK-263, MIL-STD-1686, and EIA-583
- Sold in packs of 100
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Thickness: Nominal .003" (.0076mm) ±10%

Drawing **90500.E** and **90600.E**



### Statshield® Transparent Metal Out ESD Shielding Bags

WITHOUT ZIPPER	PRICE	With Zipper
<b>90300</b> 75mm x 125mm	£5.15	<b>90400</b> 75mm x 125mm
<b>90304</b> 100mm x 760mm	£27.30	<b>90402</b> 100mm x 150mm
<b>90306</b> 125mm x 200mm	£9.84	<b>90406</b> 125mm x 200mm
<b>90310</b> 150mm x 760mm	£37.22	<b>90408</b> 150mm x 255mm
<b>90314</b> 200mm x 305mm	£19.59	<b>90412</b> 200mm x 255mm
<b>90318</b> 255mm x 355mm	£27.21	<b>90416</b> 255mm x 305mm
<b>90320</b> 255mm x 610mm	£46.58	<b>90420</b> 255mm x 610mm
<b>90322</b> 280mm x 380mm	£31.40	<b>90422</b> 280mm x 380mm
<b>90326</b> 305mm x 455mm	£41.75	<b>90424</b> 305mm x 405mm
<b>90328</b> 380mm x 455mm	£ 51.14	<b>90428</b> 380mm x 455mm
<b>90532</b> 455mm x 610mm	£51.98	<b>90430</b> 455mm x 455mm

**More Bag Sizes Available Online**



- General use ESD shielding bag; excellent value
- Choice for shipping outside ESD protected area
- Aluminum metal outer layer of laminated film; metal out required by many end users
- 40% light transmission; allows for easy identification of bag contents
- Testable to industry standards; meets or exceeds one or more of the following standards: electrical and physical requirements of EN 61340-5-1, ANSI/ESD S20.20, Mil-PRF-81705D, EIA 541, EIA-625, MIL-HDBK-263, MIL-STD-1686, and EIA-583
- Sold in packs of 100
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Thickness: Nominal .003" (.0076mm) ±10%

Drawing **90300.E** and **90400.E**



## Statshield® EMI/RFI ESD Moisture Barrier Bags

ITEM	DESCRIPTION
90700	125 x 200mm
90702	150 x 255mm
90704	200 x 255mm
90706	255 x 305mm
90709	255 x 660mm
90708	255 x 610mm
90712	305 x 405mm
90714	380 x 455mm
90715	405 x 455mm
90716	455 x 455mm
90718	455 x 610mm

- Protects contents from ESD, moisture, and EMI/RFI interference; meets requirements of MIL-PRF-81705D, Type I
- Integral antistatic, low tribocharging properties; bag contents will not electrostatically charge during movement
- Integral static dissipative properties; not topically treated, not humidity dependent
- Testable to industry standards; meets or exceeds one or more of the following standards: electrical and physical requirements of EN 61340-5-1, ANSI/ESD S20.20, Mil-PRF-81705D, EIA 541, EIA-625, MIL-HDBK-263, MIL-STD-1686, and EIA-583.
- Lead-free RoHS compliant
- Sold in packs of 100
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



90700

Thickness: Nominal .0035" (.0089mm) ±10%

Technical Bulletin [PPE-5026.E](#) and Drawing [90700.E](#)

SHIELDING BAGS

## Desiccant Packs and Humidity Indicator Cards

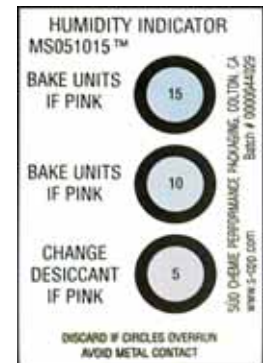
ITEM	DESCRIPTION
90664	Humidity Indicator, 5% 10% 15% RH, Can/125 J-STD-033A
90665	Humidity Indicator, 5% 10% 15% RH, Can/125 J-STD-033B
90666	Desiccant Pack 1/2 Unit, Box of 700
90667	Desiccant Pack, 1 Unit, Box of 500

- Use Desiccant Packs in Moisture Barrier Bags to absorb moisture
- Desiccant Packs are reusable - can be reactivated by oven drying
- Humidity indicator cards measures the relative humidity (RH) inside a sealed package to allow immediate visual inspection of whether it has sustained unsafe humidity levels
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings [90660.E](#) and [90664.E](#)



90666



90664

### ESD, Moisture Sensitive and Lead-Free Labels Available

ESD labels identify equipment that are to observe ESD Control handling procedures.

Lead-Free label provides identification for products and equipment that are lead-free.

See Page 49



91308



91309



91302



47102



ANTISTATIC TAPE

## Wescorp Antistatic Low Charging Tape



- Antistatic Cellulose Tape for general purpose applications; available as clear and with ESD symbols
- Antistatic Conductive Shielding Grid Tape for applications requiring EMI shielding
- Antistatic High Temp Masking Tape for applications masking PCB gold features for wave soldering
- Antistatic High Temp Polyimide Tape for higher temperature applications masking PCB gold features for wave soldering and IR reflow ovens
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**Note:** Tapes store best when laid flat in a dry, well ventilated room with a reasonably consistent temperature of 20° C (68° F) and are protected from exposure to direct sunlight.

\*Tape widths are nominal metric ±0.8mm(±.030")

**Drawings 71120.E, 71124.E, 71130.E, 71136E, 72400.E**  
**Technical Bulletin PPE-5074.E**



Tape*	6mm	12mm	18mm	24mm	36mm	48mm	Core	Length
Antistatic Clear Cellulose, Paper Core		<b>71150</b>	<b>71151</b>	<b>71152</b>			25.4mm	32.9m
		<b>71153</b>	<b>71154</b>	<b>71155</b>		<b>71156</b>	76.2mm	65.8m
Antistatic Clear Cellulose, Plastic Core		<b>72400</b>	<b>72401</b>	<b>72402</b>			25.4mm	32.9m
		<b>72403</b>	<b>72404</b>	<b>72405</b>		<b>72406</b>	76.2mm	65.8m
Antistatic Clear Cellulose, with Symbols, Paper Core		<b>71157</b>	<b>71158</b>	<b>71159</b>		<b>71160</b>	76.2mm	65.8m
Antistatic Clear Cellulose, with Symbols, Plastic Core		<b>72409</b>	<b>72410</b>	<b>72411</b>		<b>72412</b>	76.2mm	65.8m
Antistatic Clear Cellulose, with Symbols and Yellow Stripe, Plastic Core		<b>72413</b>	<b>72414</b>	<b>72415</b>		<b>72416</b>	76.2mm	65.8m
Antistatic Conductive Shielding Grid, Paper Core		<b>71120</b>	<b>71121</b>	<b>71122</b>		<b>71123</b>	76.2mm	36m
Antistatic High Temp Masking, Paper Core		<b>71124</b>	<b>71125</b>	<b>71126</b>	<b>71127</b>	<b>71128</b>	76.2mm	54.8m
Antistatic High Temp Polyimide, Plastic Core	<b>71130</b>	<b>71131</b>	<b>71132</b>	<b>71133</b>			76.2mm	32.9m
Tape Dispenser						<b>71136</b>	76.2mm	



## Features of Protektive Pak® Impregnated Corrugated Material

- Static dissipative surface of 10E6 - 10E8 ohms - minimizing the potential of rapid discharge or sparking
- Buried shielding layer protects ESDs items and minimizes the potential of sloughing and rub-off contamination
- Made from 100% recycled material, and is 100% recyclable
- No tooling costs
- Reusable, ensuring low cost

## PROTEKTIVE PAK In-Plant Handlers



**18 Sizes Available Online**

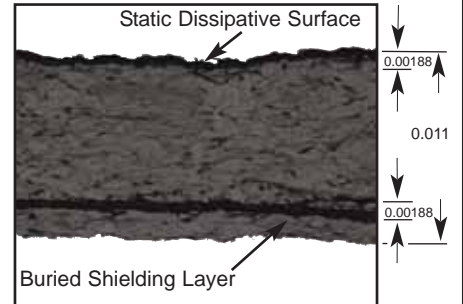
- Provides ESD and physical protection for ESD sensitive circuit boards and components; with lid in place, shielding creates "Faraday Cage" restricting electrostatic charges to exterior
- Used to ship or store ESD sensitive items outside an ESD protected area
- Impregnated corrugated material; greater durability than coated or printed material
- Constructed with double sides, double (boxes under 152mm deep) or triple (boxes over 152mm deep) ends, and single (boxes under 152mm deep) or double (boxes over 152mm deep) thickness bottom for greater durability
- Great container for Kanban
- All Protektive Pak corrugated features as shown above
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing 37150.E

Visit [Charleswater.co.uk](http://Charleswater.co.uk) for In-Plant Handler and Storage Container Accessories

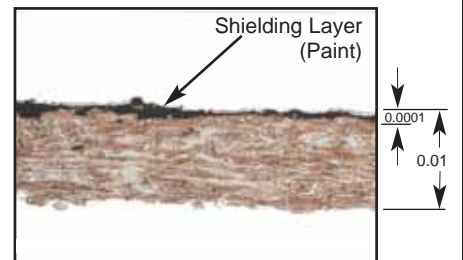
## Impregnated Vs. Coated Material

### Protektive Pak

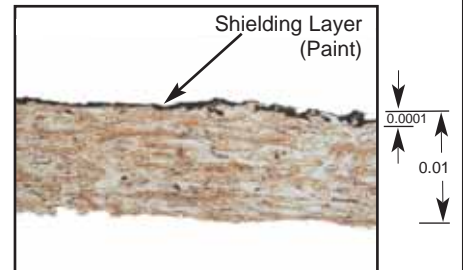


Microscopic cross section of Protektive Pak's linerboard

### Other Coated Material



Microscopic cross section of carbon coated linerboard



Microscopic cross section of graphite printed linerboard

All microscopic photos are approximately the same scale.

## PROTEKTIVE PAK Storage Containers

ITEM	BOX SIZE
37508	429mm x 254mm x 89mm
37526	473mm x 381mm x 356mm
37516	581mm x 327mm x 152mm
37504	584mm x 327mm x 321mm
37526	454mm x 346mm x 54mm, Lid

**Quantity Break Online!**

- Protektive Pak® shipping, handling, and storage containers
- Constructed of impregnated corrugated material for greater durability
- Static dissipative surface resistivity of 10E6 - 10E8 ohms
- Buried shielding layer minimizes the potential of sloughing and rub-off contamination
- All Protektive Pak corrugated features as shown above
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing 37500.E



37504





## PROTEKTIVE PAK Small Component Shippers

ITEM	INSIDE DIMENSIONS
37001	89mm x 32mm x 25mm
37003	87mm x 54mm x 25mm
37004	95mm x 95mm x 25mm
37006	105mm x 78mm x 25mm
37009	111mm x 111mm x 25mm
37010	115mm x 95mm x 25mm
37005	178mm x 89mm x 25mm

- Economic, protective method of shipping static sensitive electronic devices; provides ESD shielding when closed
- Constructed from a unique buried conductive layer of impregnated corrugated fiberboard with a static dissipative surface
- Pink static dissipative foam (13mm thick) laminated to top, and conductive crosslink black polyethylene foam (6mm thick) in bottom
- All Protektive Pak corrugated features on page 29
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing 37000.E



## PROTEKTIVE PAK Circuit Board Shippers

ITEM	INSIDE DIMENSION
37050	102mm x 102mm x 54mm, Box Only
37051	102mm x 102mm x 54mm, With Foam
37081	157mm x 152mm x 38mm, With Foam
37055	178mm x 127mm x 64mm, With Foam
37057	229mm x 191mm x 64mm, With Foam
37085	229mm x 229mm x 38mm, With Foam
37061	267mm x 216mm x 64mm, With Foam
37065	318mm x 267mm x 64mm, With Foam
37067	378mm x 168mm x 51mm, With Foam
37073	406mm x 311mm x 89mm, With Foam
37087	406mm x 381mm x 76mm, With Foam

- Economical, protective method of shipping static sensitive electronic devices; provides ESD shielding when closed
- Constructed from a unique buried conductive layer of impregnated corrugated fiberboard with a static dissipative surface
- Convolved static dissipative <math><10E11</math> ohms polyurethane pink foam laminated to top and fitted in bottom
- All Protektive Pak corrugated features on page 29
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing 37050.E



Custom Sizes Available!

## PROTEKTIVE PAK Tek Trays

ITEM	INSIDE DIMENSION
37750	457mm x 289mm x 44mm
37751	578mm x 441mm x 70mm

- Trays stack and nest together, improving productivity and saving valuable space
- Used to transport or store ESD sensitive items in ESD protected areas
- Static dissipative foam (Rp-p 10E6 - 10E7 ohms) laminated to bottom
- Foam bottom is shunttable so board leads can be kept at equipotential
- No assembly required
- Great container for Kanban
- All Protektive Pak corrugated features on page 29
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing 37750.E





## PROTEKTIVE PAK ESD Nesting Totes

ITEM	TOP OUTER DIMENSIONS
<b>37620</b>	305mm x 228mm x 101mm
<b>37621</b>	457mm x 305mm x 152mm

- Used to transport or store ESD sensitive items inside ESD protected area
- When totes are carried, conductive handles provide path to ground
- No assembly required on most sizes
- All Protektive Pak corrugated features on [page 29](#)
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **37620.E**



37621



## PROTEKTIVE PAK Stackable ESD Nesting Totes

ITEM	TOP OUTER DIMENSIONS
<b>37630</b>	457mm x 305mm x 152mm
<b>37632</b>	692mm x 457mm x 152mm

- Used to transport or store ESD sensitive items inside ESD protected area
- When operators carry the totes, conductive handles provide path to ground
- Easy-to-rotate steel arms for stacking
- Added durability and strength provided by steel perimeter frame
- No assembly required
- All Protektive Pak corrugated features on [page 29](#)
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **37630.E**



37630



## PROTEKTIVE PAK Open Bin Boxes

ITEM	OUTSIDE DIMENSIONS
<b>37102</b>	305mm x 48mm x 114mm
<b>37103</b>	305mm x 102mm x 114mm
<b>37104</b>	305mm x 152mm x 114mm
<b>37107</b>	457mm x 102mm x 114mm
<b>37116</b>	629mm x 57mm x 114mm
<b>37111</b>	629mm x 108mm x 114mm
<b>37113</b>	629mm x 210mm x 114mm
<b>37114</b>	629mm x 305mm x 114mm

- Economical, efficient method of storing static sensitive electronic devices
- Used to transport or store ESD sensitive items inside ESD protected area
- Constructed from a unique buried conductive layer of impregnated corrugated fiberboard with a static dissipative surface
- All Protektive Pak corrugated features on [page 29](#)
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **37100.E**

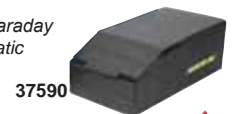


37107



### Available Online: Closed Bin Boxes

- When reclosable cover is closed, the "Faraday Cage" shielding effect restricts electrostatic charges to exterior of box
- Complete details online



37590

ITEM	OUTSIDE DIMENSIONS
<b>37590</b>	305mm x 102mm x 114mm
<b>37598</b>	629mm x 51mm x 114mm
<b>37595</b>	629mm x 102mm x 114mm





## PROTEKTIVE PAK

### Reel Storage Containers

ITEM	OUTSIDE DIMENSIONS
<b>37561</b>	305mm x 184mm x 184mm, 178mm Reel, includes lid and handles
<b>37562</b>	508mm x 184mm x 184mm, 178mm Reel, includes lid and handles
<b>37563</b>	445mm x 203mm x 178mm, 178mm Reel, 15 Slots
<b>37564</b>	445mm x 203mm x 330mm, 330mm Reel, 15 Slots

£31.13

- Economical method of storing reels inside ESD protected areas
- Containers include conductive plastic handles and removable lids (37560/37561/37562)
- Each reel storage box has 15 cells for efficient storage (37563/37564)
- All Protektive Pak corrugated features on page 29
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings **37561.E** and **37563.E**



37563



37561



## PROTEKTIVE PAK

### Reel/DIP Tube Bin Boxes

ITEM	OUTSIDE DIMENSIONS
<b>37131</b>	610mm x 51mm x 229mm
<b>37133</b>	610mm x 102mm x 229mm

- Designed to safely store both reels and Rail/DIP tubes in the same bin box
- Open style with better loading from above
- Available in closed style with better loading from side
- May be used for storing, kitting, or transporting during work-in-process operations
- cell identification labels included
- Shipped knocked-down; easy to assemble
- All Protektive Pak corrugated features on page 29
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings **37130.E**



37131

37133



## PROTEKTIVE PAK

### Tek-Cabinets

ITEM	OUTSIDE DIMENSIONS
<b>37770</b>	335mm x 152mm x 254mm, 30 Drawers: all small

- Economical and efficient method of storing, kitting, or transporting small static sensitive devices
- Can be used at the workstation
- Individual drawers are designed for segregating unique components and are easily identifiable
- Labels for drawers are included
- All Protektive Pak corrugated features on page 29
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **37770.E**



37770

#### Drawer Sizes

Small - 5-3/8" x 2-1/4" x 1-1/4"



## PROTEKTIVE PAK Tube Handlers

	OUTSIDE DIMENSIONS	CELLS
<b>37793</b>	305mm x 305mm x 610mm	25
<b>37795</b>	610mm x 305mm x 610mm	50

- Economical and efficient way to store and transport DIP Tubes and Rails inside ESD protected area
- Each cell has an extender tab which may be labeled to identify the contents
- Tube Handler may be rotated on shelves to view the extender tab either vertically or horizontally
- Inside Cell Dimensions: 48mm x 48mm x 610mm
- Cell identification labels included
- All Protektive Pak corrugated features as shown on [page 29](#)
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **37790.E**



37793

ESD PACKAGING

## PROTEKTIVE PAK Trash Receptacles

ITEM	OUTSIDE DIMENSIONS
<b>37811</b>	34.2cm x 30.5cm x 33.7cm, 34.8L

- Economical ESD protective product to replace high charging plastic trash cans
- Antistatic, low charging dissipative surface
- Constructed with double sides, triple ends, and double thickness bottom for greater durability
- Identified with ESD Protective Symbol (Ref: EN 61340-5-2)
- Easy assembly without the need for tape, glue, or staples
- All Protektive Pak corrugated features on [page 29](#)
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **37810.E**



37811

## PROTEKTIVE PAK

### Conductive Hinged Boxes with Foam

ITEM	INSIDE DIMENSIONS
<b>57000</b>	33mm x 33mm x 12mm molded ESD symbol
<b>57002</b>	73mm x 51mm x 16mm molded ESD symbol
<b>57004</b>	90mm x 64mm x 16mm molded ESD symbol
<b>57006</b>	107mm x 82mm x 13mm molded ESD symbol
<b>57010</b>	229mm x 126mm x 21mm molded ESD symbol
<b>57008</b>	229mm x 126mm x 30mm molded ESD symbol
<b>57012</b>	229mm x 126mm x 40mm molded ESD symbol

- Provides ESD protective storage and handling of ESD sensitive items
- $R_p < 1 \times 10^5$  ohms - electrostatic charges able to be removed when grounded
- Secure snap closure keeps boxes from accidentally opening
- Conductive foam inserts provide protection from vibration and shock
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **57000.E**



57004

## PROTEKTIVE PAK Conductive Lead Chip Carriers

	Outside Dimensions	Cell Size	Cells
<b>37780</b>	320mm x 102mm x 11mm	30mm x 23mm x 7mm	27
<b>37781</b>	320mm x 102mm x 11mm	40mm x 35mm x 7mm	14

- For handling, storing, or shipping small components
- Thermo-formed conductive plastic
- Stackable
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **37785**



37781



## Features of PLASTEK® Extruded, High Impact Polypropylene Material

- 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
- For use where corrugated and/or paper products cannot be used
- Economical alternative to injection molded products
- Reusable, ensuring best value

### PROTEKTIVE PAK

## Plastek® Inplant Handlers

ITEM	CELL SIZE
<b>39003</b>	203mm x 254mm x 25mm
<b>39006</b>	203mm x 121mm x 25mm

- Provides physical protection
- Foam bottom, providing ESD and shock protection
- Includes steel wire frame for extra strength
- Conductive plastic hand holes for ease of handling, while providing reliable path-to-ground
- Static Dissipative double thickness partitions made from Protektive Pak® impregnated corrugated material
- All Plastek® features listed above
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **38920.E**



38922

### PROTEKTIVE PAK

## Plastek® Storage Containers

ITEM	BOX SIZE
<b>39100</b>	432mm x 330mm x 321mm
<b>39104</b>	581mm x 327mm x 464mm
<b>39130</b>	454mm x 346mm x 51mm, Lid
<b>39131</b>	597mm x 340mm x 51mm, Lid

- Provides physical protection with conductive material providing reliable path-to-ground
- Rolled over side construction (double thickness) for greater strength
- Includes steel wire frame for extra strength
- All Plastek® features listed above
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **39106.E**



Lid sold separately

39130

39104

### PROTEKTIVE PAK

## Plastek® Nesting Totes

ITEM	TOP OUTER DIMENSIONS
<b>39141</b>	692mm x 305mm x 152mm

- Provides physical protection, with conductive material providing reliable path-to-ground
- Efficient means of transporting items to the assembly area, and empty totes back to the store room for refilling
- Rolled over side construction (double thickness) for greater strength
- All Plastek® features listed above
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **39140.E**



39140

### PROTEKTIVE PAK

## Plastek® Open Bin Boxes

ITEM	TOP OUTER DIMENSIONS
<b>38902</b>	305mm x 152mm x 102mm
<b>38904</b>	457mm x 102mm x 102mm

- Provides physical protection, with conductive material providing reliable path-to-ground
- All Plastek® features listed above
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **38900.E**



38902



## Charleswater Ionisers

EN 61340-5-2 clause 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."

IONISATION

### EMIT Zero Volt Overhead Ioniser

**ITEM DESCRIPTION**

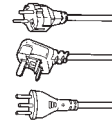
- 50671** Zero Volt Overhead Ioniser, 2 Fan, 220VAC
- 50672** Zero Volt Overhead Ioniser, 3 Fan, 220VAC
- 50669** Hand Held Programmer

- Best Overhead Ionizer Now Available from Charleswater
- Low Balance (Offset Voltage)
- Balance  $\pm 3$  volt, typically;  $\pm 5$  volts maximum controlled via EMIT patented Auto-Balancing Sense Feedback
- Fast Discharge Time; tested at 3.1 seconds Neutralization Discharge Time under fan 1,000 volts to 100 volts per ANSI/ESD S3.1 (18" under fans)
- Data acquisition via RS485 to computer recording levels of performance at all times with optional software
- 5 Year Limited Warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-6534**



For cord selection,  
See page 37



50672



### Critical Environment Ioniser

**ITEM DESCRIPTION**

- 92260** CE Overhead Ioniser, 61cm, 220VAC, No Cord
- 92261** CE Overhead Ioniser, 122cm, 220VAC, No Cord

- Minimal contamination ioniser; rapid static discharge neutralisation of insulators; designed for use in clean rooms
- Emitter cassettes (U.S. Patent 6,137,670) slide out easily for cleaning and replacement; faster and better emitter cleaning can be done away from the workstation and away from your product; eliminates workstation down time
- Multiple high output fans provide more consistent and wider coverage
- Overhead mounting; no waste of valuable work surface space
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **PPE-5060.E**



92260

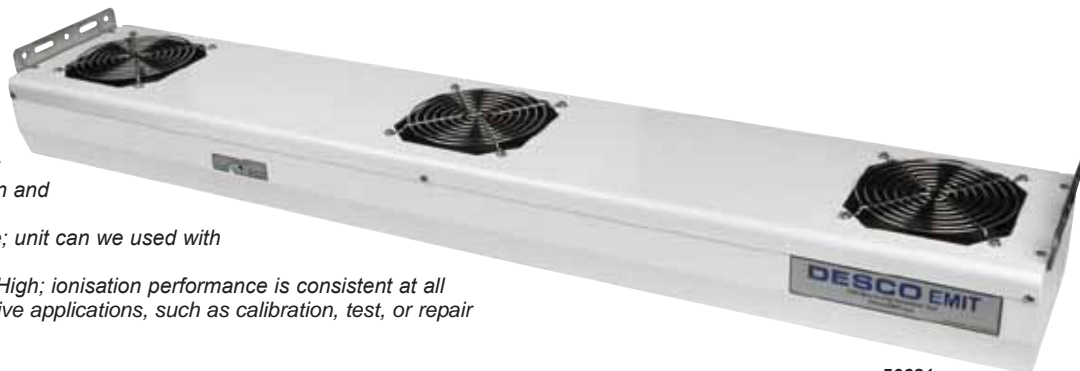
### EMIT Chargebuster Overhead Ioniser

**ITEM DESCRIPTION**

- 50681** Chargebuster Overhead Ioniser, 220VAC, No Cord

- Shrouded 3 Blade Fan Design with Steady State DC Ionisation; allows for better coverage (0.61m x 1.52m), consistent balance  $\pm 10$  Volts, and superior discharge time (<3 seconds)
- Auto-Feedback System (Audible And Visual Alarm Through Single Tri-Color LED); unit will automatically shut down and alarm if/when supply voltage drops
- 120/220 VAC Input Voltage Selectable; unit can be used with 110V or 220V power sources
- 3 Position Fan Speed: Low, Medium, High; ionisation performance is consistent at all speeds and allows for use with sensitive applications, such as calibration, test, or repair procedures
- 5-year limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-6545**



50681

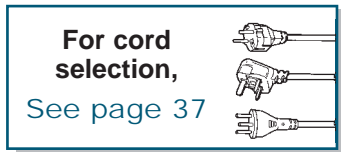


## Benchtop Ioniser

**ITEM DESCRIPTION**  
**92290** Benchtop Ioniser, 220VAC, No Cord

- Features steady state DC ionization and patented Sense Feedback balancing; achieves offset voltage (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
- Provides automatic balancing of the ionization system; essential for maximizing uptime and optimizing output; provides continuous coverage over worksurfaces that have little or no airflow; ideal for situations where high air velocity is detrimental to the process, such as gold wire bonding
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin [PPE-5081.E](#)



92290

## EMIT Zero Volt Mini Ioniser

**ITEM DESCRIPTION**  
**50640** Mini Zero Volt Ioniser, 220VAC, No Adapter  
**50675** Power Supply, 220V, Euro  
**50676** Power Supply, 220V, UK/Asia

- Ultra compact size - 13.3cm H x 8.9cm W x 4.3cm D
- Low offset voltage balance with feedback alarms
- Two fan speeds, high and low
- Powered by 24 volts DC, AC adapter must be ordered separately
- Rapid Access Maintenance
- Utilizes steady state DC ionization with Desco Emit's patented (US Patent# 4,974,115) Sense Feedback Control
- Visual and audible power and alarm indicators
- 5 Year limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin [TB-6532](#)



50640



## EMIT Zero Volt Ioniser

**ITEM DESCRIPTION**  
**50670** Zero Volt Ioniser, 220VAC, No Cord  
**50667** Alarm Threshold Programmer for Zero Volt Ioniser

- The best balancing ioniser available
- Voltage offset controlled to  $\pm 3$  Volts typical
- Features steady state DC ionization and EMIT's patented (US Patent #4,974,115) Sense Feedback balancing
- Rapid Access Maintenance
- Provides automatic balancing of the ionisation system
- Sealed "Thru-Tunnel" air flow design
- 5-year limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin [TB-6533](#)



50670





## EMIT Ion Python System

ITEM	DESCRIPTION
<b>50623</b>	Hand Gun Controller with Hose, 220 VAC, No Cord
<b>50621</b>	Ion Python Controller, Foot Switch, 220 VAC, No Cord

- Rugged construction for long life
- Balance adjustable  $\pm 20$  offset voltage offers flexibility in uses
- Replaceable air filter keeps air free of contaminants
- Requires filtered dry compressed air
- Stationary hose can be activated with foot pedal
- Adjustable 30 PSI to 100 PSI air pressure adjustable to meet requirements of the application
- < 1 sec discharge time at 15cm
- Detachable 2.1m ESD protective hose; ergonomically designed flexible hose with thumb-button (50623)
- Nitrogen compatible
- 5-year limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-6530**



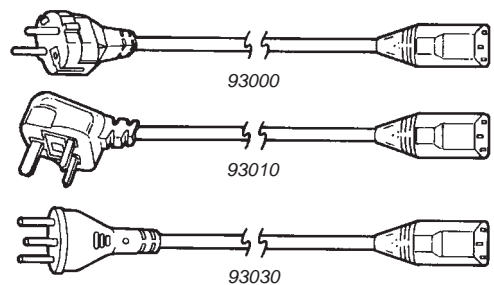
IONISATION

## International Electrical Cord Sets

Enables Charleswater ionisation and test equipment to be used in the countries listed below. Each cord terminates with IEC appliance connector.

ITEM	DESCRIPTION
<b>93000</b>	Continental Europe
<b>93010</b>	United Kingdom/Ireland
<b>93030</b>	Switzerland

For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)





## Continuous Monitors per EN 61340-5-2: clause 5.2.7

"It is a good idea to check the wrist strap every time it is applied. Constant on-line monitors can be used so that any breaks will be immediately found." Per EN 61340-5-2 Annex A.5.2 "Where continuous monitoring is used, no additional (wrist strap) testing is required."

CONTINUOUS WORKSTATION MONITORS

### Jewel® Workstation Continuous Mini Monitor

ITEM	DESCRIPTION
99130	Workstation Mini Continuous Monitor, 220VAC
50438	Adapter, 24VAC 220V

- Monitors one operator and one ESD worksurface
- Small size - 70mm x 53mm takes up minimal worksurface area
- Stand-by parking snap; keeps unit from going into alarm when user disconnects cord
- Can use with any brand single-wire wrist strap
- Wave Distortion Independence Technology provides real-time monitoring; pays for itself - ensures ESD protected workstation, reducing catastrophic failures and latent defects
- Provided with calibration to European standards
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



99130



Technical Bulletin [PPE-5070.E](#)

**99011 220V AC Adapter**  
needs to be purchased separately for use with  
Jewel® Workstation Continuous Monitors

### EMIT Dual Operator Continuous Monitor with Two Satellite Modules

ITEM	DESCRIPTION
50517	Dual Operator Monitor, 220VAC, No Adapter

- Control Unit LEDs indicate proper grounding of two mats and two operators; allows mounting Control Unit at eye level, not using any work surface area; illuminated LEDs continuously display grounding status
- Two Satellite Remote Monitors include monitored wrist strap ground, parking stud, and unmonitored ground for guest or equipment; versatile design allowing placement where desired up to 7 feet from control unit. Red LED will illuminate, but audio alarm will not sound when wrist strap coil cord is snapped on parking stud
- Can be used with any brand single-wire wrist strap
- Wave Distortion Independence Technology provides real-time monitoring; pays for itself - ensures ESD protected workstation, reducing catastrophic failures and latent defects
- Superior 5 year warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



50517



Technical Bulletin [TB-6549](#)

### EMIT Continuous Workstation Monitor Calibration Unit

ITEM	DESCRIPTION
50512	Calibration Unit, Continuous Workstation Monitor

- Use to calibrate Jewel® Workstation Continuous Mini Monitor and Dual Operator Continuous Monitor
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



50512



## EMIT Zero Volt Monitor

ITEM	DESCRIPTION
50537	Zero Volt Monitor, with 2 Wrist Straps, No Adapter
50524	Limit Comparator for Dual Wire Monitors
50535	Operator Resistance Programmer, 220V, for Zero VoltMonitor

- 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
- Adjustable audible alarm level
- For use with dual-wire wrist straps only
- 50524 tests the Zero Volt Monitor for proper calibration
- 50535 programs the upper and lower resistance levels of each operator of the Zero Volt Monitor
- Superior 5 year warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



50537

Technical Bulletin **TB-6515** and **TB-6558**



50524

50535



Two Wrist Straps Included



Remote Satellites



## EMIT Ultra Low Voltage Monitor

ITEM	DESCRIPTION
50580	Ultra Low Voltage Monitor

- Programmable monitoring at 200 mV, 100 mV and 50 mV
- One of the lowest test voltages in the industry 50 mV; exceeds most dual-wire monitoring technology
- Designed for the most critical applications such as disk drive manufacturing and semiconductor fabrication
- Provides continuous ground monitoring of two operators, two supervisors, two workstations and two tool grounded stations
- Operating Voltage: 100-240 VAC
- Superior 5 year warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-6556**

**NEW!**



50580





## Select Charleswater Test Equipment to Fulfill the Requirements of EN 61340-5-1 Clause 5.3.6

"Once the [ESD protected area] is constructed or modified, the ESD coordinator shall audit the facility to confirm that the requirements are met. A list and location of all EPA equipment shall be prepared and maintained." Test equipment shall be selected to make measurements of appropriate properties of the technical requirements that are incorporated into the ESD programme plan. Charleswater Testers and Monitors verify the proper functioning of items that provide ESD protection.

TESTERS

### EMIT SmartLog X<sup>3</sup>

ITEM	DESCRIPTION
50734	Smartlog X <sup>3</sup> , Solid State, Euro
50735	Smartlog X <sup>3</sup> , Solid State, Euro, No Software
50434	Smartlog X <sup>3</sup> , Euro
50435	Smartlog X <sup>3</sup> , Euro, No Software
50490	Team, Basic Software License. Ver. 4.97.15
50486	Team Enterprise Software License, Add 1 license
50485	Team Enterprise Software License, Initial
50461	Adapter, Ethernet 10/100 Input 120VAC
50401	Limit Comparator

- By depressing the electrode button once, the SmartLog X<sup>3</sup> tests the resistance path limits of the worn wrist strap and both worn ESD footwear independently within one second
- Versatile - can be used as Footwear only or Wrist Strap only tester
- Dual Independent Footwear and Wrist Strap Tester with latest automated logging
- Paperless data can enhance operator accountability immediately, identifying problems while reducing logging and auditing costs
- No need to dedicate a computer
- All required components included in system
- Tests either single-wire or dual-wire wrist straps
- Operator can use keypad or swipe barcode reader
- TEAM Basic Software Included on select models
- 5-year limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-6561, TB-6561A, TB-6561B, TB-6564, TB-6565**

### EMIT Dual Independent Footwear Tester and Dual Independent Footwear and Wrist Strap Tester

ITEM	DESCRIPTION
50412	Dual Independent Footwear Tester, No Adapter
50413	Dual Independent Footwear and Wrist Strap Tester, No Adapter
50406	Foot Plate Replacement
50401	Limit Comparator

#### Dual Independent Footwear Tester

- Allows for individual footwear testing all in one test
- Saves operator time by testing once and having all tests and results with one touch of a button within three seconds
- Independent alarming conditions
- Audio and visual alarms if the total resistance is below, within, or exceeds the user limits

#### Dual Independent Footwear and Wrist Strap Tester

- Wrist strap and ESD footwear testing
- Three tests at same time; depress contact once to test footwear independently and wrist strap within three seconds
- Tests either single or dual-wire wrist strap

#### Both models:

- Split footplate design
- Independent alarming conditions
- Relay for door locking systems
- 5-year limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-6502, TB-6503, TB-6540**



50734



50413



50406 Split Footplate



## Combo Tester

ITEM	DESCRIPTION
<b>99000</b>	Combo Tester
<b>99004</b>	Combo Tester, with Stand
<b>99013</b>	Footplate

- Dual test circuits; versatile, tests footwear and wrist straps
- Positive rocker switch actuation; reliably changes test mode
- Redesigned test button; rugged and reliable operation
- LED's display test results; simple operation with clear test results
- Red light and audible alarm; indicates that circuit resistance is too high or too low
- Battery powered with low battery indicator; provides early warning to replace battery
- Optional AC adapter; versatile - can use line AC if preferred
- Upgraded footplate; molded bottom insulates and isolates. Wider, sturdier surface test area
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Wrist strap range: 750 Kiloohm - 35 Megohm  
 foot ground range: 750 Kiloohm - 35 Megohm

Technical Bulletin **PPE-5011.E**



99000



99065 220V AC Adapter  
 available for use with 99000  
 Combo Tester



99013



99004

## Tester Calibration Unit

ITEM	DESCRIPTION
<b>99090</b>	Calibration Unit

- Calibrates Item 99000 tester; simple operation
- Designed for both wristband and foot ground tester calibration; passive unit
- Requires no power source
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **PPE-5034.E**



99090





## Surface Resistance Test Kit

ITEM	DESCRIPTION
<b>99105</b>	Surface Resistance Test Kit
<b>99106</b>	Surface Resistance Test Kit, No Electrodes
<b>99107</b>	Resistivity Test Attachment

- Accurately measures  $R_p-p$  or  $R_g$  (requires Item 99107) 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
- Metre measures ambient temperature and relative humidity
- Colour coded LED and digital LCD read-out
- Automatic test range voltage selection
- Test Kit includes set of 2.2kg Electrodes and Leads
- 10 volt hold button feature
- Flashing LED warns when battery is low
- 1\_ on the LCD display indicates over-range
- Portable, operating on just two alkaline AA batteries
- LED identifies function and type of measurement displayed by LCD
- 5-year limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



99105

Technical Bulletin [PPE-5075.E](#)

## Concentric Ring Probe

ITEM	DESCRIPTION
<b>99120</b>	Concentric Ring Probe

- Use for testing surface resistance to EN 61340-5-1 and ANSI/ESD S11.11
- Available with carbon loaded pads
- Probe resistance with carbon loaded pads: <500 ohms
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



99120

Technical Bulletin [PPE-5076.E](#)

## Charged Plate Analyser

ITEM	DESCRIPTION
<b>99096</b>	Charge Plate Analyser, 220V

- 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
- Tests both room and localised ionisation systems
- Charging voltage is adjustable to  $\pm 6,000$  volts
- Charged Plate Analyser is in accordance with EN 61340-5-1 test method A.6
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



99096

Technical Bulletin [PPE-5066.E](#)



## MENDA Workstation Organizer

**ITEM DESCRIPTION**  
**35874** Workstation Organizer

- 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
- Contains six cells that can be used for various items which are used on the workstation, such as MENDA dispensing bottles, lotion, flux bottles, solder spoons, cutters, tweezers, wash bottles and various other workbench accessories.
- Dimensions: 9 1/4"W x 5 5/8" x 7"H
- Made from an Extruded Conductive polypropylene Plastek™ material, making it ideal to properly set up and standardize any ESD workstation.
- Conductive 10E2 - 10E4 ohm material provides reliable path-to-ground
- Chemical and moisture resistant
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



SPECIALTY TOOLS

Drawing **35874**



Before



After

## MENDA Thermal Insulative Drinking Cup

**ITEM DESCRIPTION**  
**35890** Thermal Insulative Drinking Cup, 473ml

- Replacement for static generating foam and plastic cups or bottles on the workstation
- ESD protective - Does not generate a charge; completely grounded when picked up by a grounded operator or set on grounded worksurface
- Reusable
- Thermal Insulated Drinking Cup - Perfect for hot or cold drinks
- Double wall Stainless Steel
- Stainless Steel push-on lid with slide opening
- Custom imprinting available - minimum 100 quantity
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

NEW!



Before



After



35890



SPECIALTY TOOLS

## MENDA durAstatic Tool Box

ITEM	DESCRIPTION
<b>35870</b>	Yellow Dissipative Tool Box

- Made of polypropylene using durAstatic technology
- Permanently static dissipative, low charging
- Clean, no surface coating to rub off, washable
- Size: 36.8cm x 19cm x 12.7cm
- Rp-p: 10E11 ohm
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35870

## MENDA Wooden and Nylon Probes

ITEM	DESCRIPTION
<b>35616</b>	Wood Orange Stick, 17.8cm long (100/pk)
<b>35517</b>	Birchwood Spudger, 17.8cm long (ea)
<b>35618</b>	Nylon Lead Forming Tool, 18cm long (ea)
<b>35619</b>	Nylon Orange Stick, 17.1 long
<b>35621</b>	Nylon Heavy Duty Spudger, 14cm long
<b>35622</b>	Nylon Soldering Tool, 15.2cm long

- Wood/Nylon finish will not mar delicate surfaces
- Ideal material for use in ESD protected areas
- Temperature resistant - material will not melt
- Items 35618 - 35622 are ideal for opening plastic cases and popping out batteries
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



Drawings **35616**, **35517**, **35618**, **35619**, **35621**, and **35622**

## MENDA Stainless Steel Prober Tools

ITEM	DESCRIPTION
<b>35122</b>	Stainless Steel Prober, Straight, 13.3cm long
<b>35123</b>	Stainless Steel Prober, Hook, 13.3cm long
<b>35617</b>	Stainless Steel Prober, Angle, 14cm long
<b>35623</b>	Stainless Steel Prober, Curved, 13.3cm long
<b>35630</b>	Kit of all Four Tools with Blue Pouch

- Ergonomic hex handle allows operator to better grip probe
- Ideal for use when moving components with solder; solder will not stick or melt to stainless steel
- Non-magnetic, conductive, 300 series stainless steel
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawings **35623**, **35617**, **35123**, **35122**, and **35630**



35630  
(Complete Kit)

## MENDA Small Nut Starter

ITEM	DESCRIPTION
<b>35120</b>	Small Nut Starter

- Helps to hold and install small mounting hardware
- Holds nut sizes Regular No. 2 through Small No. 6
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35120

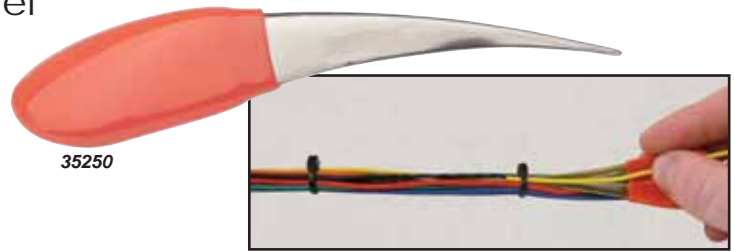


## MENDA Harnessing Wire Threader

ITEM	DESCRIPTION
<b>35250</b>	Wire Threader

- Designed for threading wires into an already tied harness
- Helpful for dealing with retro-fits and ECOs
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

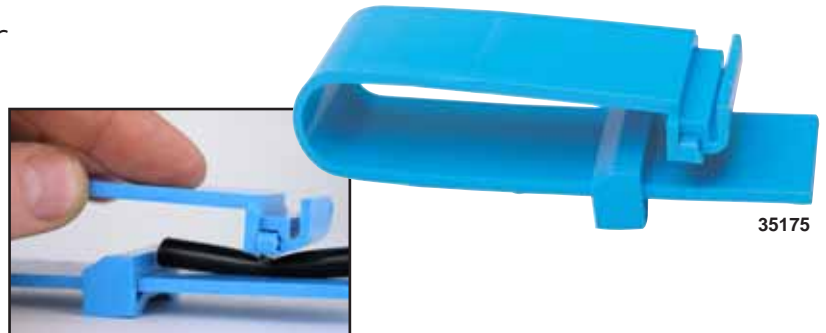
Drawing **35250**



## MENDA Hand Sleeving Cutter

ITEM	DESCRIPTION
<b>35175</b>	Hand Sleeving Cutter
<b>35177</b>	Replacement Blades (100/pk)

- Adjustable stop allows cutting of sleeving to specified lengths
- Ideal for small heat shrink tubing
- Ruler on side of tool helps to gauge cut length
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



## MENDA Dissipative Nylon Brushes

ITEM	DESCRIPTION
<b>35685</b>	Dissipative Nylon Brush, Round, 6.35mm
<b>35686</b>	Dissipative Nylon Brush, Flat, 25.4mm
<b>35687</b>	Dissipative Nylon Brush, Flat, 50.8mm
<b>35688</b>	Dissipative Nylon Brush, Long Handle, 30mm
<b>35689</b>	Dissipative Nylon Brush, Curved Handle, 76.2mm x 38.1mm

- Brushes minimize static charge generation and dissipate ESD charges to ground when held by grounded personnel
- Conductive carbon loaded polypropylene handle
- Permanent static dissipative bristles, made of Nylon 6.12, superior grade, high quality Nylon filament
- Highly resilient, durable and abrasion resistant
- For cleaning ESD sensitive assemblies
- Hot stamped ESD symbol
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **35685**



## MENDA Conductive Brushes

ITEM	DESCRIPTION
<b>35690</b>	Conductive Brush, Round, Firm, 6.35mm
<b>35691</b>	Conductive Brush, Long Handle, Firm, 30mm
<b>35692</b>	Conductive Brush, Long Handle, Firm, 60mm
<b>35693</b>	Conductive Brush, Flat, Firm, 50.8mm
<b>35694</b>	Conductive Brush, Flat, Semi-Fine, 12.7mm
<b>35695</b>	Conductive Brush, Curved Handle, Firm

- Brushes minimize static charge generation and dissipate ESD charges to ground when held by grounded personnel
- Dissipative polypropylene black handles are able to remove charges to ground
- Resistance of conductive fibres: 10E3 - 10E4 ohms
- Resistance of dissipative handle: 10E5 - 10E8 ohms
- Three kinds of bristles - soft, semi fine, hard
- Semi-fine bristles are ideal for chemical and electronics applications
- Firm bristles are mainly for electronics, especially circuit boards
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **35690**





SPECIALTY TOOLS

## MENDA Circuitracer® Voltage and Continuity Tester

**ITEM DESCRIPTION**  
**35100** Circuitracer® Voltage and Continuity Tester

- Illuminated lamp signals electrical circuit continuity
- High voltage lamp tests live circuitry
- Low voltage lamp tests unpowered circuitry
- Range: 0-600 volts or 1-10 ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **35100** and Technical Bulletin **TB-4005**



35100

**The Original  
Circuitracer®**

U.S. Pat. 2,763,834

## MENDA Circuitracer® Voltage and Continuity Tester

**ITEM DESCRIPTION**  
**35130** Circuitracer® Continuity Tester

- Illuminated lamp signals electrical circuit continuity
- Low voltage lamp tests unpowered circuitry
- Range: 0-10 ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-4005**



35100

## MENDA Audible Circuitracer® Continuity Tester

**ITEM DESCRIPTION**  
**35135** Audible Circuitracer® Continuity Tester

- Strong Audible 2khz Tone
- Easy to confirm electrical circuit continuity, even in bright environments
- Superior in bright environments
- Range: 0-50 ohms
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **35135** and Technical Bulletin **TB-4005**



35135



## MENDA Omega Field Vac

ITEM	DESCRIPTION
<b>35848</b>	Omega Field Vac, 220V
<b>35853</b>	Replacement filter
<b>35854</b>	Replacement HEPA filter
<b>35861</b>	3.0m Replacement ESD Protective Hose
<b>35863</b>	81.3cm Flexible Wand Attachment
<b>35864</b>	Shoulder Strap for Omega Field Vac

- For cleaning Pick and Place machines, automated insertion machines, computers, printers, lab equipment, etc.
- ESD protective for minimal charge generation
- HEPA filter cartridge is 99.97% efficient @ .3 micron
- Utensils include: 1.8m ESD protected hose, 40.6cm gooseneck, and brush
- Weighs 5.7kg with attachments
- Lead free RoHS compliant
- Three year limited warranty
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Bulletin **TB-4008**



SPECIALTY TOOLS

## MENDA Cable Ties and ESD Cable Ties

ITEM	DESCRIPTION
<b>35650</b>	15.2cm D-Ring Stretch Cable, Black, 10-Pack
<b>35651</b>	22.9cm D-Ring Stretch Cable, Black, 10-Pack
<b>35652</b>	30.5cm D-Ring Stretch Cable, Black, 10-Pack
<b>35653</b>	ESD Cable Tie, 1.9cm x 45.7cm
<b>35654</b>	ESD Cable Tie, 1.9cm x 50.8cm
<b>35655</b>	ESD Cable Tie, 1.9cm x 61cm
<b>35656</b>	ESD Cable Tie, 1.9cm x 76.2cm

- D-Ring fastening and elastic-stretch material
- Provides a secure, cost effective means of bundling cables
- Adjustable, releasable, and reusable
- ESD Cable Ties - Release generates <50 volts charge
- ESD Cable Ties - Rp-p 10E9 ohms
- Call for custom sizes
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)





SPECIALTY TOOLS

## MENDA One-Touch Pump

ITEM	DESCRIPTION
<b>35300</b>	Pump Only
<b>35303</b>	w/8 oz. stem

- Patented\*\*, One Touch, "one handed" operation
- Pump eliminates spraying and splashing
- Perfect for cleaning with swabs, cotton balls, pads, and brushes
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35300

## MENDA Pure-Touch Pump

ITEM	DESCRIPTION
<b>35500</b>	Pump Only
<b>35502</b>	w/6 oz. stem

- Patented\* purity protector stops fluid from reentering bottle
- Patented\*\*, One Touch, "one handed" operation
- Perfect for cleaning with brushes and swabs
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



Purity Protector



35500

## Take-Along and Pure-Take Pumps

Menda's stainless steel Pumps are also available with locks in the form of our **Take-Along** and **Pure-Take** Pumps. Our locking pumps are:

- Spill and leak resistant when lock is engaged
- Suitable for travel
- Ideal with portable tool kits
- For complete details, click on "Take-Along" and "Pure-Take" links above



**No Spills!  
No Fumes!**

\* U.S. Patent No. Des. 292,675  
\*\* U.S. Patent No. 2,774,517

## MENDA Twist-Lock Pump

ITEM	DESCRIPTION
<b>35206</b>	w/ 8 oz. stem

- Safe, one touch, "one handed" operation
- Can be locked with a simple clockwise twist
- Eliminates direct hand contact with liquids; reduces fumes and waste
- Spill and leak resistant, suitable for travel
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35224

**Spill Proof**

## MENDA Lasting-Touch Pump

ITEM	DESCRIPTION
<b>35600</b>	Pump Only

- Safe, One Touch, "one handed" operation
- Durable, lightweight polypropylene
- Convenient "Swing Lid", reduces odors, maintains purity
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35600

**The Original  
Menda Pump**



## MENDA Yellow and Green durAstatic ESD Protective Bottles

### ITEM DESCRIPTION

- 35360** One-Touch, 4 oz., Yellow
- 35354** One-Touch, 6 oz., Yellow
- 35368** One-Touch, 6 oz., Green
- 35367** One-Touch, 8 oz., Yellow
- 35559** Pure-Touch, 4 oz., Yellow
- 35540** Pure-Touch, 6 oz., Yellow
- 35720** Take-Along, 6 oz., Yellow
- 35815** Pure-Take, 6 oz., Yellow
- 35359** Dissipative Wash Bottle, 8 oz., Yellow
- 35369** Dissipative Wash Bottle, 8 oz., Green
- 35377** Trigger Spray, 8 oz., Yellow
- 35378** Trigger Spray, 8 oz., Green

- Permanently low charging HDPE durAstatic™ by Vermason®
- NO migratory additives - reduces the chance for contamination from the bottle
- Green bottles designed for use in lead-free areas where RoHS compliant items are worked on
- 35359/35369 provide controlled delivery of solvents, cleaners, water, and oils
- 35359/35369 have angled non-drip spout that delivers single drop or fine stream
- 35377/35378 trigger spray nozzle – Spray, Stream and Off settings
- 35377/35378 provides controlled delivery of solvents, cleaners, water, and oils
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Technical Drawings **35359, 35354, 35368, 35377**

NEW!



35377



35368



35359

## MENDA Blue Dissipative ESD Protective Bottles

### ITEM DESCRIPTION

- 35337** One-Touch, 6 oz.
- 35531** Pure-Touch, 6 oz.
- 35808** Pure-Take, 6 oz.
- 35716** Take-Along, 6 oz.

- Dissipative HDPE by R & R Lotion®
- Low tribo charging
- Rp-p = 10E9 - 10E10 ohms
- Square shape for stability
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35337

## MENDA Conductive ESD Protective Bottles

### ITEM DESCRIPTION

- 35336** One-Touch, 6 oz.
- 35530** Pure-Touch, 6 oz.
- 35807** Pure-Take, 6 oz.

- Permanently Black Conductive HDPE
- Low tribo charging
- Low internal contamination
- Rp-p = 10E2 to 10E6 ohms
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35807



## MENDA Natural HDPE Bottles

ITEM	DESCRIPTION
35304	One-Touch, 2 oz.
35305	One-Touch, 4 oz.
35309	One-Touch, 6 oz.
35312	One-Touch, 8 oz.
35504	Pure-Touch, 2 oz.
35505	Pure-Touch, 4 oz.
35508	Pure-Touch, 6 oz.
35510	Pure-Touch, 8 oz.
35803	Pure-Take, 4 oz., Locking
35805	Pure-Take, 6 oz., Locking
35701	Take-Along, 2 oz., Locking
35702	Take-Along, 4 oz., Locking
35703	Take-Along, 6 oz., Locking
35704	Take-Along, 8 oz., Locking

- High Density Polyethylene; suitable for many solvents
- Square Shape provides stability and saves storage space
- Wide Opening makes bottle easy to fill
- Translucent - allows easy viewing of contents
- Custom Imprinting Available
- Dispenses approximately 2cc of liquid with each pump
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35508



35395

## MENDA Amber Glass with Stainless Steel Pump

ITEM	DESCRIPTION
35315	One-Touch, 4 oz.
35112	Pure-Touch, 4 oz.

- Dark Bottle protects light and plastic sensitive fluids
- Constructed of glass - allows storage of fluids not compatible with plastic
- Translucent - allows easy viewing of contents
- Dispenses approximately 2cc of liquid with each pump
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35315

## MENDA Tin Can with Stainless Steel Pump

ITEM	DESCRIPTION
35335	One-Touch, 4 oz.

- DSteel Construction allows storage of fluid not compatible with plastic
- One Handed Operation - perfect for cleaning with swabs and brushes
- Dispenses approximately 2cc of liquid with each pump
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35315



## MENDA

### Round HDPE with Plastic Pump

**ITEM DESCRIPTION**

**35211** Twist-Lock, 4 oz.

- High quality polypropylene - the pump is durable and lightweight
- Round Shape is conveniently suited for travel
- Twist-Lock Pump can be locked with a twist - suitable for leak free travel
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35211

## MENDA

### Euro Style HDPE with Plastic Pump

**ITEM DESCRIPTION**

**35431** Lotion Pump, 8 oz.

**35215** Twist-Lock, 8 oz.

**35216** Twist-Lock, 8 oz., Imprint "Alcohol"

**35431**

- Smooth lotion-style dispensing
- Durable lightweight polyethylene
- Perfect for lotions, gels, creams, high viscosity lubricating fluids, and other hand applied liquids
- Works with any 24-410 threaded neck bottle
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

**35215/35216**

- High quality polypropylene - the pump is durable and lightweight
- Euro-Style Bottle - the oval shaped bottle has a rectangular bottom for stability
- Twist-Lock Pump can be locked with a twist - suitable for leak free travel
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35216



35431

## MENDA HDPE with Plastic Pump

**ITEM DESCRIPTION**

**35601** Lasting-Touch, 8 oz., Brown, Imprinted "Alcohol"

**35603** Lasting-Touch, 8 oz., Natural

- High density polyethylene - suitable for many solvents
- Lasting-touch lid - perfect for alcohol dispensing
- Wide opening is easy to fill
- Convenient swing lid reduces odors and maintains purity
- Opaque brown bottle protects light and plastic sensitive fluids
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



35601



35603

**Also Available:**

Amber Glass with Plastic Pump

**ITEM DESCRIPTION PRICE**

**35608** Lasting-Touch, with Imprint £5.11

- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)





## Contains ESDS Label

### ITEM DESCRIPTION

**91308** Equipment Containing ESDS Label

- Label for equipment that contains ESDS; identifies equipment that when opened has ESD sensitive (ESDS) items exposed
- Size: 51mm x 19mm
- 500 labels per roll
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



91308

## ESD Labels (Sensitivity Label)

### ITEM DESCRIPTION

**91302** Sensitivity Label, RS-471

- Size: 50mm x 50mm
- 500 labels per roll
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



91302

## PROTEKTIVE PAK

## Lead-Free Label, RoHS Compliant

### ITEM DESCRIPTION

**47102** Lead-Free Label, RoHS Compliant

- Provides identification for products and equipment that are lead-free
- Provides tie-in with other lead-free work area products
- Size: 45mm x 45mm
- Adhesive label, 500/roll
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **47102**



47102

## Moisture Sensitive Label

### ITEM DESCRIPTION

**91309** Moisture Sensitive Label, JEDED J-STD-033B

- Meets both J-STD-033B and JEP 113 requirements
- Size: 75mm x 75mm
- 250 labels per roll
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **91309.E**



91309



## PROTEKTIVE PAK

### Lead-Free Zone Aisle Marking Tape

**ITEM DESCRIPTION**

**47103** Lead-Free Zone Aisle Marking Tape

- Provides identification for areas that are lead free
- Colorful green and white aisle marking tape can be easily seen and recognized
- Provides tie-in with other lead-free work area products
- Tough, durable floor tape constructed of scuff resistant vinyl plastic
- Quick-stick adhesive makes it easy to adhere to floor
- 76mm x 16.5m
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **47103**



47103



## PROTEKTIVE PAK Lead-Free Marking Tape

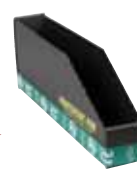
**ITEM DESCRIPTION**

**47105** Lead-Free Marking Tape

- For use on Protektive Pak Boxes, Bins, and Totes
- Can also be used on Metro Carts, work stations, machines, benches - anywhere needed to designate as "Lead-Free"
- Colorful green tape can be easily seen and recognized
- Provides tie-in with other lead-free work area products
- Size: 29mm x 109.7m
- Color and texture may vary between lots and mills
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



47105



## Aisle Marking Tape

**ITEM DESCRIPTION**

**91350** Aisle Marking Tape

- Scuff-resistant vinyl plastic; tough, durable floor tape
- Quick-stick adhesive; easy to adhere to floor
- Bright yellow colour; excellent for aisle marking and area designation
- Size: 76mm x 32.9m
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



91350

## Footwear/Wrist Strap Ground Tester Poster

**ITEM DESCRIPTION**

**91340** Foot/Wrist Ground Tester Poster

- Important communication tool to improve ESD programme compliance
- Size: 432mm x 560mm
- Pack of 5
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



91340



## PROTEKTIVE PAK

### Lead-Free Zone Attention Sign

**ITEM DESCRIPTION**  
**47104** Lead-Free Zone Sign

- Provides identification for areas that are lead-free
- English language on one side, Spanish language on the opposite side
- Provides tie-in with other lead-free work area products
- Size: 102mm x 254mm
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

Drawing **47104**



47104

### 2-Sided Bilingual Sign

**ITEM DESCRIPTION**  
**91316** Attention Sign, RS-471, English-Spanish

- English language on one side, Spanish language opposite side
- Colourful yellow sign can be easily seen and recognized
- Tough, durable plastic sign
- Size: 100mm x 250mm
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



91316

### ESD Awareness Guide

**ITEM DESCRIPTION**  
**91440** ESD Awareness Guide

- ESD training for your employees.
- Gain support and compliance for your ESD program
- Illustrated booklet.
- Supplement for in-plant ESD training programmes
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)

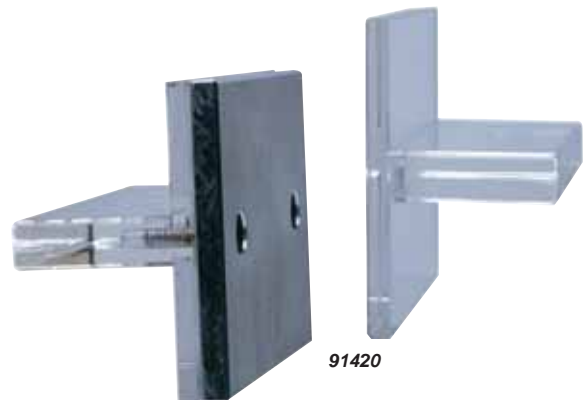


91440

### ESD Training Paddles

**ITEM DESCRIPTION**  
**91420** ESD Training Paddles

- One isolated conductor and one insulator paddle; used to generate high static voltages for ESD training
- To be used in conjunction with a static field meter, ionisation test kit, or charged plate analyser (see page 43)
- Demonstrates that conductors can be grounded, that insulators cannot be grounded, and that without contact insulators can induce a charge to a conductor
- 7.6cm x 10.2cm paddles; convenient size
- Made in America
- For complete details, visit [Charleswater.co.uk](http://Charleswater.co.uk)



91420



Item	Page	Item	Page	Item	Page	Item	Page	Item	Page	Item	Page	Item	Page	Item	Page
35100	46	35694	45	39104	34	60260	7	70995	25	72715	15	90406	26		
35112	50	35695	45	39130	34	60261	7	70996	25	80008	23	90408	26		
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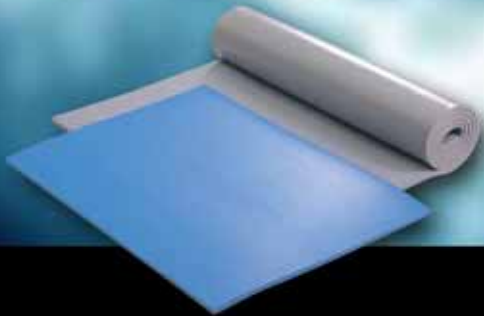
**Personal Grounding**



**Field Service Grounding**



**Floor Grounding**



**Mat Material**



**Worksurface Grounding**



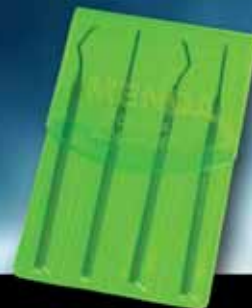
**ESD Packaging**



**Test and Monitoring  
Equipment**



**Ionising  
Equipment**



**Specialty Tools**



**Education**



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