All you need to protect against

ESD







helping you make it

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All you need to protect against ESD

Everyone knows what static electricity feels like. We've all touched a charged piece of clothing and got a small electric shock; surprising but essentially harmless. If an electronic component or device is subjected to an electrostatic discharge (ESD) it could have a much greater impact, damaging other components, itself and the working environment.

The cost of a single ESD failure in the field or in-house can be hugely significant. Businesses aim to prevent possible damage and reliability problems by storing, assembling and handling equipment in electrostatic safe conditions.

From bags to grounding straps, storage bins to stationery, gloves and shoes to antistatic matting, Rapid offers an extensive range of ESD products from leading brands such as Antistat and Bondline.





The Ground Rules

For areas where electronics are being assembled, refurbished or repaired – as with any home or office – proper grounding is essential.

Human beings are the greatest single source of ESD. Anyone working at a bench in an ESD protected area must wear a wrist strap, even if they also wear heel straps or ESD-control shoes. This allows static potential on a person to equalize with ground. Walking across a carpet can produce anything up to 35,000 volts, and a worker at a bench between 700 to 6000 volts.

Grounding ensures that equipment and workers are protected from electrical surges and harmful voltages. But because of the increased contact with ESD-sensitive parts, special accommodation for ESD needs to be made.

It is important to ensure that personnel and equipment is at the same electrical potential. To do this all components of the work area need to be grounded to the same electrical ground point. This includes work surfaces, personnel and equipment.

ESD Gloves



Antistat Carbon PU Tip Gloves

- Natural light grey carbon liner with white coated fingertips

 • Made from 80% Nylon and 20% Carbon
- (knitted with 13 Gauge); Polyurethane Finger tip coating
- Surface resistivity: 1x10^6-8Ω/cm
- Supplied in pairs

Size	Order code	1+	10+
Small	87-9450	1.08	
Medium	87-9452	3.30	
Large	87-9454	3.30	
Extra large	87-9456	3.30	2.76

Antistat Dott∈d. Palm and Fingers Gloves

- Good elasticity
- Excellent sweat absorbencyGood ventilation
- · Delicate round tip finishing
- Surface resistivity: 10¹⁰Ω²
- · Available in a range of sizes
- Supplied in pairs

		MOQ 5
Size	Order code	5+
Small	87-9458	0.55
	P	rice each
Size	Order code	1+
Medium	87-9460	1.30
Large	87-9462	1.30
Extra large	87-9464	1.30



BJZ Gloves with PU Coated Nopped Antistatic Palms - I Pair

Micro polyester filament yarn and high conductive filament woven fabric. Additionally equipped with PU-coated nopped palms, these electrostatic dissipative gloves have a 107 ohm surface resistance and are available in different

Size	Order code	1+	5+	10+
Small	51-8119	3.63	3.51	
Medium	51-8120	3.63	3.51	
Large	51-8121	3.63	3.51	3.36
Extra Large	51-8122	3.32	3.20	3.08
				E2012



Integrity® Pink Anti-Static Fingercots

- ESD fingercotsClass 100 powder-freeNitrile or Latex
- Mechanically cleaned
- Antistatic
- Ideal for aerospace, electronics and semi-conductor industry

Туре	Order code 1+
Small	87-9568 21.62
Medium	87-9570 21.62
Large	87-9572 21.62
X Large	87-9574 21.62
	547613

Wrist Straps



Bondline Stainless Steel Wristband

- Polyurethane and stainless steel construction
- Adjustable by adding or removing links Insulation resistance between inner
- and outer surfaces of strap is $300\text{M}\Omega$ at 500V Straps are fitted with a 10mm press
- stud for connection to a suitable ground cord
- Bondline type ERG10A

Туре	Order code	1+	10+
Stainless steel wristband	87-1230	11.00	9.95
			020122



Bondline Blue Coiled Groundina Cords

A range of coiled blue grounding cords 1.8m long with a 10mm snap on one end and a 4mm banana plus on the other

- · Choice of economy or premium versions
- Supplied with crocodile clip
- . Banana plug fits into socket of crocodile clip
- Bondline CCJ10 series

Туре	Order code	1+	
1.8m cord - Economy	87-1266	3.67	
1.8m cord - Premium	87-1267	3.99	
			124530



BJZ Adjustable **Elastic Wrist** Strap 4.0mm Stud

This Adjustable Elastic Wrist Strap from BJZ has been designed with comfort in mind thanks to the adjustable elastic strap which fits every size.

- 4mm stud
- Light blue colour
- Manufacturer's part C-198 1261

	teres o pare			
Туре	Order code	1+	5+	10+
Wrist strap	51-7689	5.02	4.53	4.19
				52774



Antistat Metal Wrist Bands IOmm

These fully expandable silver metal wristbands from Antistat are made of stainless steel and are ideal for clean room use.

- Ensures good contact at all times
- · Secured by a black or light blue plastic buckle
- Width 10mm

Size	Order code	1+	10+	
Small	87-9502	4.40	3.86	
Medium	87-9504	4.40	3.86	
Large	87-9506	5.51		
Extra large	87-9508	3.26		
				530096

Footwear & Heel Straps



BJZ ESD Conductive Heel/ Toe Straps

This Blue ESD Conductive Heel Strap from BJZ has been designed to offer static dissipation for protection, while reducing the risk of potential damage to equipment. Supplied in one size and ideal for quick fitting over footwear with Velcro at a low

- Blue colour
- One size elastic fastener
- Manufacturer's part C-204 001H

Strap type	Order code	1+	5+	10+
Heel	51-8534	4.56	4.35	4.13
				528237



Antistat ESD Heel Strap with Clip Fastener

- Each heel strap incorporates a 1 MΩ safety resistor
- For use with ESD flooring or mats
- Snap release easy to take off
- Recommended to be worn on both feet · Reusable and washable by hand with
- mild detergent Manufacturer's part 068-0005

Fastener	Order code	1+	10+
Clip	87-9492	4.40	3.86
			530092



Bondline Single Adjustable Rubber Heel Grounding Strap

- Conductivity: Black rubber surface: 8 x 104Ω
- White rubber surface: 1 x 1012Ω
- Metal film resistor: 1MΩ + 20%
- Conductive tab: 160Ω / inch (max) Spec ref: WI-IQA-MRI-001
- Bondline Killstat type HS5 Order code 1+ 5+ 87-1253 3.62 3.07

Antistat Premier Coiled Earth Lead IOmm with I Meg Resistor, IOft



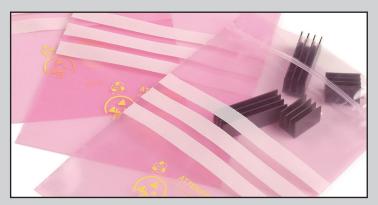
It's in the Bag

Electronic components sensitive to ESD should be bagged up to reduce the threat of static discharge. There are numerous ways to do this, from anti-static to conductive and static shielding bags. But which bag do you need?



Pink

Pink bags offer the lowest level of ESD protection. They are "anti-static", protecting any ESD discharge from its contents from leaking outside, but no shielding.





Antistat Pink Antistatic Reclosable Bags

- Pink antistatic bags with antistatic additives from LDPE and LLDPE
- Ziploc seal
- Soft and flexible
- 300 gauge / 75 micron plastic
- Printed with antistatic message
- Write-on panel
- \bullet Surface resistance 108 to 1011 Ω
- · Static release time is less than 2 seconds
- Wide range of sizes Supplied in packs of 100

- Capplica in paolis of 200					
Туре	Order code	1+	10+	25+	
76 x 127mm	87-9340	5.72	5.40		
102 x 152mm	87-9342	6.81	6.06		
127 x 203mm	87-9344	9.45			
152 x 203mm	87-9346	11.35	10.81		
152 x 254mm	87-9348	12.97	12.43		
203 x 254mm	87-9350	19.26	18.38		
203 x 305mm	87-9352	18.17	17.66	16.65	
254 x 305mm	87-9354	22.06	20.87		
254 x 355mm	87-9356	25.41	24.33		
				530074	



Bondline. Open Top Pink **Antistatic Bags**

These pink anti-static bags from Bondline are ideal for use in transporting non-static sensitive devices, (e.g. nuts, bolts etc.) into an Electro-static Protected Area. (E.P.A.).

 Size ranges available: 75 x 125mm to 450 x 600mm (W x L)

Size (W x L) Order code 1+ 10+ 50+

- Design: open top
- Supplied in packs of 100

75 x 125mm	87-1440	3.11	2.85	2.48
100 x 200mm	87-1441	3.36	3.16	
125 x 200mm	87-1442	4.81	4.29	
150 x 200mm	87-1443	5.40	5.06	
150 x 250mm	87-1445	8.44	7.31	
200 x 250mm	87-1444	9.14	8.32	
200 x 300mm	87-1447	14.06	10.69	
250 x 300mm	87-1449	14.64	11.13	
250 x 350mm	87-1451	16.88	14.64	12.37
300 x 400mm	87-1446	17.01	16.10	
400 x 450mm	87-1459	24.88	19.48	
400 x 500mm	87-1461	28.14	22.51	20.26
450 x 600mm	87-1463	30.96	23.63	
				072667



Bondline Loc-Top Pink Antistatic

These pink anti-static bags from Bondline are ideal for use in transporting non-static sensitive devices, (e.g. nuts, bolts etc.) into an Electro-static Protected Area. (E.P.A.).

- Size ranges available: 75 x 125mm to 450 x 600mm (W x L)
- Design: Loc-Top resealable
- Supplied in packs of 100

1	Size (W x L)	Order code	1+	10+	50+
	75 x 125mm	87-1465	7.87	5.62	
	100 x 200mm	87-1467	9.34	7.31	
	125 x 200mm	87-1469	12.93	10.11	
	150 x 250mm	87-1471	16.88	13.49	
	200 x 250mm	87-1473	8.65		
	200 x 300mm	87-1475	15.75	14.70	13.65
	250 x 350mm	87-1479	14.82		
	300 x 400mm	87-1481	36.01	33.76	
	450 x 500mm	87-1485	59.51	54.11	
					E10270



Antistat ESD Moisture Barrier Bags

- Surface resistance 108 to 1011Ω
- EMI Shielding meets requirements of MIL-PRF-87105D Type 1
- Can be vacuum sealed
- Puncture resistant
- Supplied in packs of 100

Туре	Order code	1+	10+	25+
102 x 152mm	87-9416	11.03	9.93	
152 x 305mm	87-9418	23.33	22.27	20.15
152 x 660.4mm	87-9420	53.05	50.92	
152 x 711.2mm	87-9422	61.80	58.71	54.59
254 x 508mm	87-9424	51.50	48.41	44.29
254 x 610mm	87-9426	92.71	87.56	82.41
254 x 660.4mm	87-9428	103.01	97.86	92.71
305 x 508mm	87-9430	87.56	82.41	77.25
406 x 457mm	87-9432	77.45	76.38	74.26
457 x 457mm	87-9434	103.01	97.86	92.71
558.8 x 610mm	87-9436	216.33	206.03	195.73
				530076

Bondline PCBL Conductive PCB Rack 350 x 270 x 130mm 25 Slots

Moulded in conductive polypropylene.



Bondline PCBS Conductive PCB Rack 2IO x 275 x 95mm 25 Slots

Moulded in conductive polypropylene.

For storage of work in assembly



Cliff CLI8875 PCOI/C Antistatic PCB Storage Rack

- For safe handling and storage of printed circuit board assemblies during assembly, cleaning and testing stages in production environments
- Can accommodate up to 36 unpopulated (18 populated) printed circuit boards of between 15mm and 290mm width
- Can be adjusted by moving the two extruded rails which support the
- Supplied complete with wall mounting brackets and two rear strips which prevents PCBs from sliding out
- Front mounted handles ensure easy transport of the frame
 Overall dimensions when assembled 315mm(h) x 320mm (w) x 200mm(d)

Black

Black polyethylene bags prevent 30% of charge, but there is no dielectric layer to isolate the components or device inside the bag. The material is itself highly conductive, dissipating charges quickly.





Silver shielding bags are the 'gold standard' of ESD protection. An outer and inner surface dissipative layer works like a Faraday Cage, preventing 97% of a 1000V pulse from reaching inside the bag.





Antistat Metal Shielding Ziplock Bags

- Metal 'Faraday cage' layer shields products from electrical energy and prevents static build-up
- Four-layer protection guards against electrical charges inside and out
- Semi transparent for easy identification of contents
- Surface resistance 108 to 1011Ω
- Conforms to MIL-PRF-81705D Type III, EIA 625, EIA 541, ANSI/ESD S-20.20
- Supplied in packs of 100

All sizes are approximate

Туре	Order code	1+	10+	25+
76 x 127mm	87-9720	6.16	5.83	
102 x 152mm	87-9722	7.20	6.87	
127 x 203mm	87-9724	10.81	10.27	
152 x 203mm	87-9726	12.43	11.35	10.81
152 x 254mm	87-9728	14.38	13.41	
203 x 254mm	87-9730	18.38	17.20	
203 x 305mm	87-9732	20.23	18.92	17.30
254 x 305mm	87-9734	23.80	21.64	
254 x 355mm	87-9736	23.92	22.35	
305 x 406mm	87-9738	31.33	27.58	
				552638



Bondline Open Top and Loc-Top Metallised Shielding Bags

- Size ranges available: 75 x 75mm to 350 x 450mm
- Open top or Loc-Top styles
- Conform to EN-61340-5-1
- Supplied in packs of 100 bags

Size (W x L)	Order code	1+	10+	25+
Open top				
75 x 125mm	87-1410	5.92	5.38	4.72
100 x 150mm	87-1412	5.92	5.38	4.72
125 x 200mm	87-1414	7.87	7.12	5.92
150 x 200mm	87-1415	7.69	6.93	5.76
150 x 250mm	87-1416	10.13	9.05	8.11
200 x 250mm	87-1418	12.89	11.89	11.34
250 x 300mm	87-1420	17.90	17.30	16.12
300 x 400mm	87-1422	28.60	25.69	23.83
350 x 450mm	87-1424	40.56	38.17	35.25
Loc-Top				
75 x 75mm	87-1390	4.39		

Teknis BCC229I9I64F Tekstat **ESD Conductive Transit Packs** $229 \times 191 \times 64 \text{mm} + PPF$

A 229 x 191 x 64mm Electrostatic Conductive Transit Pack from Teknis that offers both 'Faraday cage' and mechanical protection for your ESD sensitive devices and assemblies. The box is manufactured from corrugated conductive cardboard coated on both sides and comes complete with pink dissipative foam to ensure both physical and electrical protection.

- 229 x 191 x 64mm
- Electrostatic Conductive Transit Pack
- Offers both 'Faraday cage' and mechanical protection
- Rs <105Ω
- Printed with ESD warning logo

Size	Order code	1+
178 x 127 x 38mm	87-1700	3.45
229 x 191 x 64mm	87-1702	4.91
267 x 217 x 64mm	87-1704	4.42
394 x 318 x 64mm	87-1706	8.50
521 x 394 x 64mm	87-1708	10.69
		518330



ESD Hand Tools www.rapidonline.com













Teknis Electrostatic Shelf Bins Cardboard Dip Tube Box

A range of Electrostatic Cardboard Shelf Bins ideal for storing IC or other ESD component tubes. The boxes are made from conductive cardboard that is coated on both sides. The partially open front allows easy access when the hoxes are stored in shelving making them ideal for use in warehouses and other storage areas

- . Electrostatic Cardboard Shelf Bins
- Ideal for storing IC and other ESD component tubes · Ideal for use in warehouses and other storage areas
- Rs <105Q



ESD Matting

Antistatic mats and ESD flooring are effective methods of controlling electrostatic discharge within ESD Protected Areas (EPA). Antistatic matting must be either conductive or dissipative and be connected to a suitable grounding point. It slows down and controls this discharge allowing static electricity to transfer safely to ground. It also protects the surface of the sensitive devices from wear and tear during processing.

These mats are designed to be laid out in workshops, laboratories or other areas used for ESD components, communication equipment and ICs.





Bondline Killstat Anti-Static ESD Bench Mats

Anti-static bench matting in a variety of colours and sizes

- Durable two-layer synthetic rubber material
- Top layer is static dissipative
- Bottom layer is conductive
- Resistance to ground typically 106
- . 10mm stud in each corner
- Resistant to solder splash and abrasion
- Smooth surface for easy cleaning
- Thickness 2mm
- Bondline types KSM32 (900 x 610mm) and KSM42 (1,200 x 610mm)

Please note: Grounding Cables and Wrist Straps are available separately and are not included with these mats.

Size (mm)	Colour	Order code	1+	
900 x 610	Blue	87-1534	22.95	
900 x 610	Grey	87-1536	22.95	
900 x 610	Beige	87-1538	22.95	
1200 x 610	Blue	87-1540	29.75	
1200 x 610	Grey	87-1542	29.75	
1200 x 610	Beige	87-1544	29.75	
				077353



Antistat Workstation Kit Blu∈ Mat

This ESD workstation kit from Antistat includes blue matting, signage, bonding plugs, wrist strap and leads

- Kit includes: 1 ESD mat (600 x 1200 x 2mm) with 10mm stud in each corner
- 1 ESD Protected Area vinyl sign
- 1 Earth bonding plug 3x10mm stud
- 1 x 10mm fabric adjustable wrist strap hypo allergenic
- 1 x 10mm coiled earth lead
- 1 x 10mm straight lead
- Instruction leaflet

Other mat colours available on request.

Colour	Order code	1+	
Blue	87-9528	38.99	
			530106

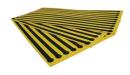


BJZ Alfaplan S **ESD Table Mat** 2.0mm I.22 x 10.00m - Greu

This Grey Alfaplan S ESD Table Mat from BJZ is a sturdy two-layered ESD table material manufactured with synthetic rubber which is comfortable to use. Heatproof with a low Ω beam, this versatile mat can be used for loose transfer or sticking.

- Platinum grey colour
- 1 x 1.22m (L x W)
- 107-108 Ω leakage resistance
- 2mm thickness
- Manufacturer's part C-189 204P 1.22

Туре	Order code	1+	3+	5+
ESD table mat	51-7674	56.25	55.11	53.99
				527726



Antistat Disposable Heel Grounder One Size

These disposable heel grounders from Antistat are designed for use by visitors and temporary workers who enter static controlled areas. They are made from antistatic fabrics and provide safe and effective resistance. These disposable heel grounders use the conductive yarn in the antistatic fabric to create and maintain electrical contact between the ground and body and optimise static dissipation.

- Colour vellow
- Size 300 x 150mm
- Non-marking
- For use with Antistat Disposable Heel Grounder Dispenser - Rapid code 87-9496
- Supplied in packs of 100
- Manufacturer's part 068-0009

Туре	Order code	1+	10+	25+
Pack of 100	87-9494	19.28	17.13	16.06





Kit includes: 1x red pouch, 1 mat (590 x 590mm). 1x 10mm wrist band. 1x coiled earth lead (10mm to banana), 1x straight earth lead (banana to banana with crocodile clip).

Colour	Order code	1+	10+
Red	87-9526	40.35	35.30



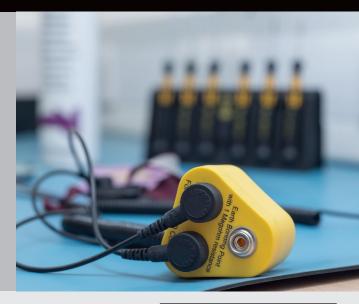




ESD Tools

A range of tools are available from Rapid for the thorough cleaning of PCBs, motherboards, integrated circuits and other delicate components - including specially developed brushes designed to dissipate the build-up of static charges.

Other tools and equipment useful in ESD areas include earthing plugs to provide grounding via mains connections, as well as pumps, dispensers and bottles made from static dissipative polyethylene, in order to dispense alcohol, isopropanol, ethanol, methanol and other liquids.





BJZ ESD Cleaning Brushes

These ESD Cleaning Brushes from BJZ have been designed to perform the safe cleaning of ESD equipment and components such as PCBs and motherboards, discharging any static electricity to the floor.

Excellent for removing dirt and dust, and therefore ideal for getting into difficult to reach areas without generating any dangerous static charges, these brushes have a comfortable grip and are easy to use. Manufactured to a high standard using bristles made from conductive modificated nylon that remain much more versatile than carbon fiber bristles.

- Black colour
- Available in different styles and sizes

Size (L x W)	Bristle	Order code	1+	5+	10+
150 x 40mm	14mm	51-8124	12.09		
25 x 3mm	15mm	51-8133	12.11	12.02	
35 x 10mm	15mm	51-8123	6.05	5.90	5.67
110 x 20mm	20mm	51-8130	8.44	8.11	
70 x 15mm	20mm	51-8131	8.44	8.04	
25 x 3mm	25mm	51-8132	11.81	11.72	



Bondline Conductive Brushes

Brushes with conductive polypropylene handles and conductive fibres consisting of 40% polypropylene, 45% Polyamide and 15% carbon

- · Allows thorough cleaning of ESD sensitive assemblies, avoiding any static build up
- · Existing charges are reduced more effectively if operators are grounded
- Approved to EN100015-1

Bristle width x length	Order code	1+	5+	10+
38 x 25mm	87-1902	4.27	4.02	3.64
70 x 20mm	87-1916	8.47	7.78	7.06
				030147



Bondline Earth Point Bonding Plugs

Earth point bonding plugs providing a safe and effective method of utilising the mains earth as ground.

- Plug is connected to earth and is terminated in a range of connectors on the back of the plug
- Live and neutral pins are insulated and used as locating pins only
- Available in single and 3-way versions 3-way version is available with either 3x 10mm studs or 1x 10mm stud plus 2x 4mm sockets
- 3-way versions are connected to earth via a 1MΩ resistor in accordance with CECC 00-015
- Bondline types BP (single), BP3 (3-way) & BP2J (3-way with 2x 4mm)

Туре	Order code	1+
Single - no resistor	87-1275	3.49
3-way with 1M res.	87-1277	5.19
Stud + 2x 4mm with 1M res.	87-1279	5.48



Bondline Earth **Bonding Points**

'L' shaped Earth bonding brackets, ideal for under-worktop or under-shelf mounting.

- Choice of 4mm banana plugs or 10mm studs . Three bonding points with individual $1M\Omega$ resistors
- 2m bonding cable terminated with 5mm ring tag
- Dimensions 70 x 37 x 22mm
- Supplied complete with mounting screws and washers
- Bondline types LSBJ (bananas) and LSBS (studs)

Туре	Order code	1+	
4mm banana sockets	87-1530	5.59	
10mm studs	87-1532	5.59	
			077252



Antistat ESD Flux Bottle 2oz 26 Gauge Needle

This Antistat ESD Flux Bottle will dissipate a static charge of ±5000V in less than two seconds at 40% relative humidity - without demonstating the less desirable features associated with Enthoxylated Tertiary Amine which is present in most similar antistatic agents.

- Static free
- Non-greasy
- Free of tertiary amines
- Humidity independent2oz bottle with 26 gauge needle
- Manufacturer's part 146-0001

Bottle size	Order code	1+	10+
20z	87-9470	8.00	7.72



Antistat ESD Solvent Dispenser

This 4oz ESD solvent dispenser from Antistat is ideal for use in cleanroom environments

- Bottle size 4oz
- Manufacturer's part 146-0041

Size	Order code	1+	10+
40z	87-9480	14.90	13.58
			52000







Wrist Band tester:

This Antistat wristband tester has been designed to measure both high and low fail and pass function. Testing is achieved by placing the jack plug into the socket and wearing the wristband - touch the touchplate and the status of the wristband will be revealed

Antistat Wristband Tester - Complete With Wallmount & Foot Plate 9V



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Sourcing, negotiating on your behalf, providing fixed pricing and confirming all costs and options up front including the expected start date.

3. Pay for what you use, when you use it



We will invoice you when we deliver your goods, with a final invoice for the last delivery with any remaining stock.

2. Agreement start



We'll inform you when the stock first arrives at our site in Colchester, at which point the agreement period will start*.

4. We'll keep track for you



We will send you a monthly update informing you of the balance of stock and the period left. We'll also give you some advanced notice for when the agreement will end.

*Our long term stock agreements are non-cancellable but we will always endeavour to help you with any challenges you have regarding changes in customer demand. Agreements can be renewed.



=Rapid

part of the **CNRAD** Group

Orderline: 01206 751166 Email : sales@rapidonline.com

Rapid, Severalls Lane, Colchester, Essex CO4 5JS



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