



**EME**  
A BULTEN Company

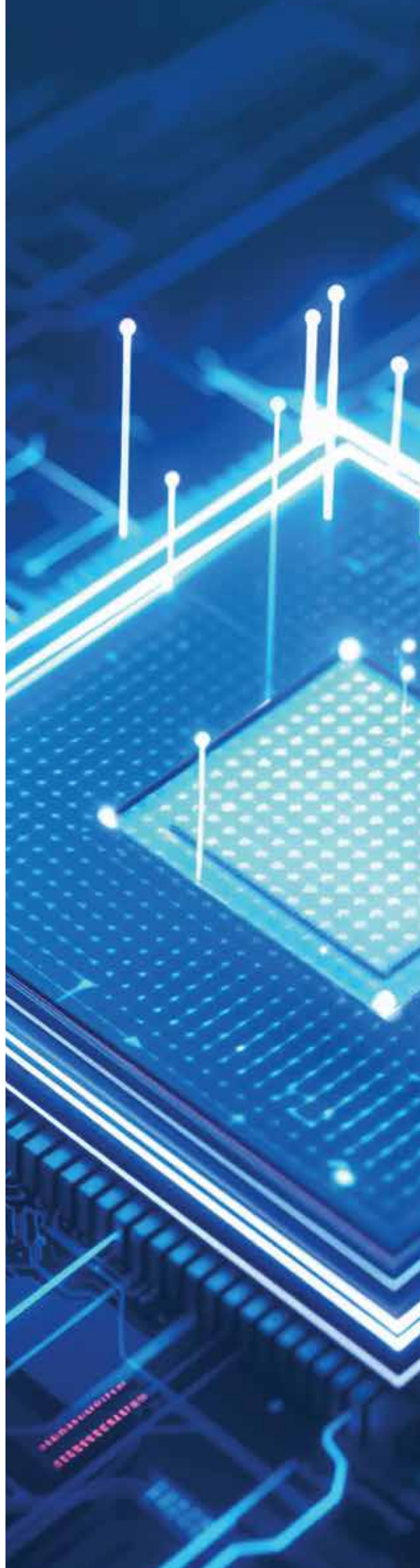
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# ESD & Cleanroom Products

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## COMPANY DETAILS



**Global**  
Distributor



**1982**  
Year Established



**148**  
Employees



**40,000+**  
Number of Line Items



**155+**  
Commodity Groups

### Vision

To be the global market leader in inventory management of mechanical and electro-mechanical components by being the link between world-class suppliers and global customer base.

### Mission

We provide through our expertise, knowledge and network of global suppliers, the best quality products and services that we specialize in for our customers in the various industries.

### Quality Management Certifications

<b>AS 9120</b>	Aerospace	<b>ISO 22301</b>	Business Continuity
<b>ISO 9001</b>	Business Enterprise	<b>ISO 26000</b>	Social Responsibility
<b>ISO 13485</b>	Medical Devices and Services	<b>ISO 29001</b>	Oil & Gas
<b>ISO 14001</b>	Environmental	<b>ISO 45001</b>	Occupational Health & Safety

Certified by:



### Values

- Professional** We take full responsibility throughout the value chain, delivering quality at every stage and making sustainability a natural part of all activities of our company. In the relation with our customers we are responsive, friendly and accountable.
- Receptiveness** Meeting Changes, Customizing, Maintaining Communication.
- Innovative** We are constantly pushing the boundaries of our business. With proven new technology and creative ideas we are striving to improve fastener applications, quality and enhance cost-efficiency.
- Dedicated** We are passionate about the fastening business and will always go that extra mile to meet the expectations of our clients. We are proud to carry forward the long heritage of Bulten into a challenging and exciting future.
- Empowered** At Exim you will meet highly skilled and motivated people empowered to make decisions and drive progress. Thus, you can be certain we will keep our promises and provide you the strongest possible solution for your fastening demands.

### Vendor Managed Inventory (VMI) Programme:

- Ship-To-Stock
- Kanban System
- Hub Programme
- Two-Bin System
- Just-In-Time
- Consignment
- Demand Pull
- Schedule Sharing

### Value-Added Services

- Our in-house capabilities include:
- Loctite Coating
  - Nylon Patching
  - Waxing of Fasteners
  - Painting
  - Drilling
  - Cutting
  - Printing
  - Kitting
  - Assembly

### Standards

ANSI, DIN, IFI, JIS, Military (MS), Army Navy (AN), and National Aeronautical (NAS). Customized parts according to your specifications from more than 2,000 trusted and reliable suppliers.

### Send Us Your Inquiries

We quote to your required specifications & quantity. Let us help to reduce your sourcing and purchasing costs.

### Industries Served:

Aerospace	Aircron & Refrigeration	Automated Teller Machine (ATM)	Audio Equipment	Automotive	Computer & Peripherals	Construction Equipment	Defense & Military	Distributors	Electronics
Electronic Manufacturing Services (EMS)	Environmental & Water Technology	Factory Automation	Fishing Reel	Furniture	Home Appliance	Info Communication	Instrumentation & Controls	Lightings	Life Science
Machine Builders	Marine & Offshore Engineering	Medical	Metal Stamping	Motors	Office Equipment	Oil & Gas	Optical Instrument	Plastic Molding	Power Supplies
Pumps	Renewable Energy	Sensors/Switches/Relays	Security Systems	Sports & Recreation	Switchgear/Panels/Enclosures	Telecommunications	Transport	Video Equipment	Wire Harnessing

### Recycled Cleanroom Fabric New

Recycled Cleanroom Fabric supports sustainable development goals through recycling and reuse of raw materials for sustainable consumption. The cleanroom fabrics and garments are engineered to meet the highest industry standards while ensuring a greener future. The fabrics are made with recycled multi-filament polyester yarn offering excellent barrier performance.

The high-density construction provides enhanced particle filtration efficiency for critical applications in pharmaceutical, medical, biotechnology, semiconductor, and high-tech industries. The sustainable and reliable fabrics maintain superior contamination control while supporting environmental responsibility initiatives. The products demonstrate commitment to both performance excellence and environmental stewardship in manufacturing operations.



**MDF-307R** (M02F-036) offers excellent barrier performance with high density, made with recycled multi-filament polyester yarn, providing enhanced particle filtration efficiency. It is designed for use in cleanroom environments in the pharmaceutical, medical, biotechnology, semiconductor, and high-tech industries.

#### Descriptions

- Composition 98% Polyester yarn (35% rPET), 2% Conductive carbon yarn
- Yarn count: PFY 75D x PFY 75D
- Density 210 x 120 threads/inch
- Weave 2/3 twill (4 mm Grid)
- Width 58"/60"
- Weight: 115 gr/m<sup>2</sup>



**MDF-199UTR** (M12F-009) is made of recycled polyester microdenier yarn and high-multi polyester textured yarn, offering a soft hand feel with added bulk, stretch, and elasticity. It undergoes a sand washing process to further enhance softness by optimizing the fiber structure, making it ideal for undergarments and scrubs while supporting sustainability.

#### Descriptions

- Composition 99% Polyester yarn (65% rPET), 1% Conductive carbon yarn
- Yarn count: PHY 75D x PMY 150D
- Density 105 x 84 threads/inch
- Weave Taffeta (5 mm Weft Stripe)
- Width 58"/60"
- Weight: 95 gr/m<sup>2</sup>

## Cleanroom & ESD Fabrics

Polstar® ESD / Cleanroom Fabrics are primarily composed of high multi-filament polyester and carbon filament yarn to insure maximum protection against particle contamination and Electrostatic Discharge (ESD). The Polstar fabrics did not neglect to consider the salient concerns of the workers including air permeability, wearability and durability.

#### Features

- Over 80 different fabrics
- Immediate delivery from our stock
- Strict quality control from our profound knowledge and wide experience
- Continuous development to meet customer's new requirement
- Additional treatments, such as silicon free, Teflon and antimicrobial are available

#### Applications

- Electronic and semiconductor industries
- Medical and pharmaceutical industries
- Food industry
- Automotive industry
- Aerospace industry and many others

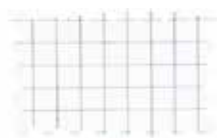
### Lint Free Static Control Fabric



M01F-001 (MDF-140)



M01F-002 (MDF-145)



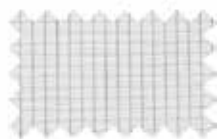
M01F-003 (MDF-160)



M01F-007 (MDF-170)



M01F-016 (MDF-502)



M01F-005 (MDF-167)

### Conductive Fabric



M03F-001 (MDF-150)



M03F-002 (MDF-152)



M03F-003 (MDF-153)



M03F-005 (MDF-156C)



M03F-004 (MDF-155)



M15F-016 (MDF-286)

## Sterilization Compatible Cleanroom Fabric



M02F-001 (MDF-110)



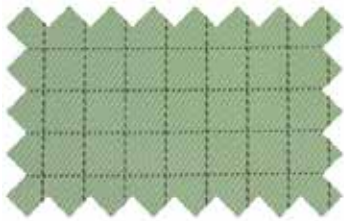
M02F-003 (MDF-120)



M02F-004 (MDF-125)



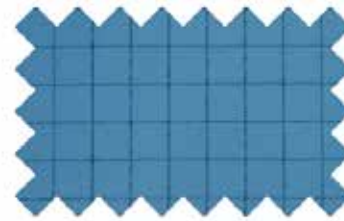
M02F-005 (MDF-127)



M02F-006 (MDF-130)



M02F-008 (MDF-190)



M02F-010 (MDF-210)



M02F-011 (MDF-211)



M02F-012 (MDF-220)



M02F-013 (MDF-221)



M02F-015 (MDF-146)



M02F-035 (MDF-149)



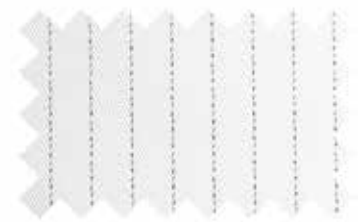
M02F-019 (MDF-165)



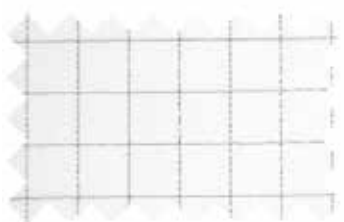
M02F-016 (MDF-305)



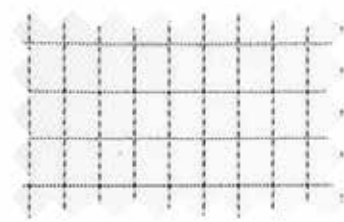
M02F-028 (MDF-304)



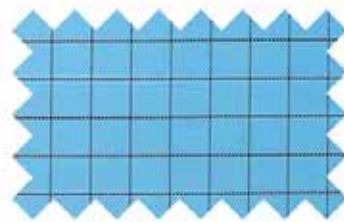
M02F-031 (MDF-316)



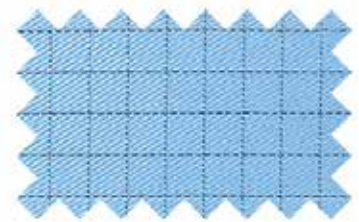
M02F-032 (MDF-164)



M02F-033 (MDF-319)



M02F-034 (MDF-336)



M02F-036 (MDF-307R)

## Non-ESD Fabric



M17F-005 (MDF-215)



M12F-002 (MDF-199Micro)



M17F-015 (MDF-216)



M17F-007 (MDF-217)

### Cleanroom & ESD Garments

Cleanroom/ESD Garment is used in the place where proper protection against particle contamination and Electrostatic Discharge is required. We can supply you with this garment as well as the fabric. We have various styles of garments such as Coverall, Gown, Lab Coat, T-shirt, etc. in our range.

#### Features

- Produced on your required fabric and design
- Produced by skilled workers with wide experience
- Considering air permeability, comfortability, wearability and durability
- Produced with high quality fabric and sewing accessories
- Strict quality control from fabric to finished garment
- Small quantities also can be supplied

### Cleanroom Coverall



### Cleanroom Hood

The Hood is required in Cleanroom together with Cleanroom garments to block particles generated from worker's head and neck. Customized fabrics and designs are available on request.

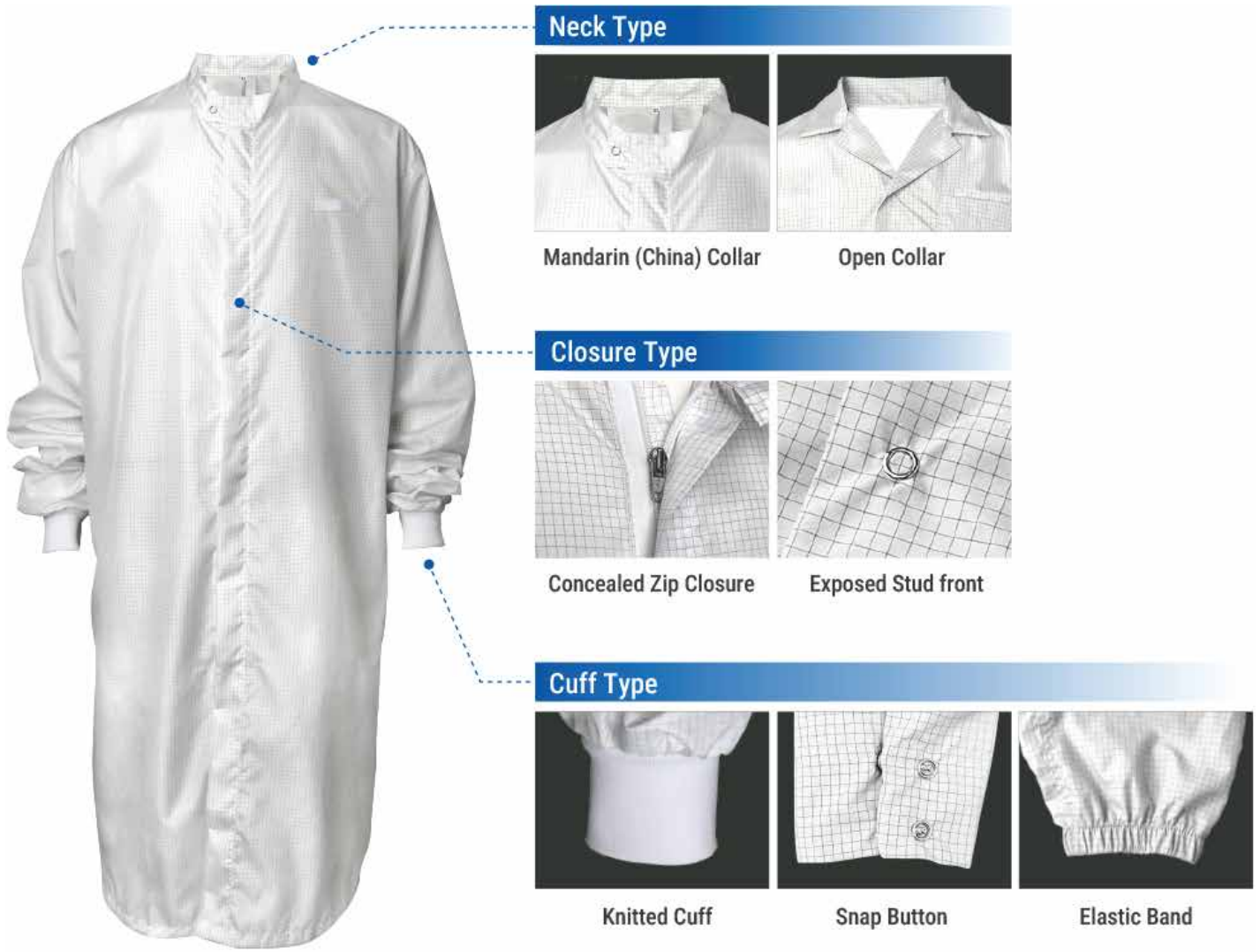


M11F-010



M11F-011

# Cleanroom Gown



Company logo printing is available.



### ESD Chemical Resistant Apron



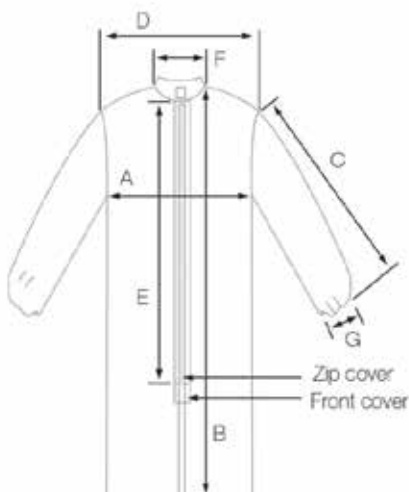
**Item Code** M25F-001  
**Fabric** MDF-245  
**SR** 10e10 ~ 10e11 ohm (front), 10e6 ~ 10e7 ohm (back)  
**Size** 640 mm(W)X910 mm(L)

### ESD Chemical Resistant Sleeves



**Item Code** M24F-001  
**Fabric** MDF-245  
**SR** 10e10 ~ 10e11 ohm (front), 10e6 ~ 10e7 ohm (back)  
**Size** 200 mm(W)X400 mm(L)

### ESD Chemical Resistant Gown



### ESD Chemical Open-back Coat



Front



Back

**Item Code** M26F-001  
**Fabric** MDF-245  
**SR (front)** 10e10 ~ 10e11 ohm  
**(back)** 10e6 ~ 10e7 ohm

(cm)

Size	Chest	Length	Sleeves	Shoulder
S	57	107	61	42.5
M	60	110	62	45
L	62.5	113	63	47.5
XL	65	116	64	50
2XL	67.5	119	65	52.5
3XL	70	122	66	55

**Item Code** M30F-001  
**Fabric** MDF-245  
**SR (front)** 10e10 ~ 10e11 ohm  
**(back)** 10e6 ~ 10e7 ohm

(cm)

Size	A	B	C	D	E	F	G
S	51.5	101	57.5	39.5	53	50	19
M	54	104	58	42	53	50	19
L	56.5	107	59.5	44.5	53	50	19
XL	59	110	61.5	47	53	50	19
2XL	61.5	113	62.5	49.5	53	50	20
3XL	64	116	62.5	52	53	52	20

## Conductive Shoes

<b>Out Sole</b>	PVC outsole	<b>Inner Sole</b>	ESD insole
<b>Upper</b>	PVC Synthetic Leather	<b>Volume Resistance</b>	10e4 - 10e5 ohm
<b>Size</b>	220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm		
<b>Features</b>	<ul style="list-style-type: none"> <li>Reliable steady resistance (conductive)</li> <li>No marking on the floor</li> </ul>		



Item Code M07A-009  
Model BCS-320



Item Code M07A-012  
Model BCS-321



Item Code M07A-013  
Model BCS-322



Item Code M07A-014  
Model BCS-323



Item Code M07A-015  
Model BCS-324



Item Code M07A-011  
Model BCS-328

## Static Dissipative Shoes

<b>Out Sole</b>	PVC outsole	<b>Inner Sole</b>	ESD insole
<b>Upper</b>	PVC Synthetic Leather	<b>Volume Resistance</b>	10e6 - 10e8 ohm
<b>Size</b>	220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm		
<b>Features</b>	<ul style="list-style-type: none"> <li>Cost-effective and popular design</li> <li>Anti-slip</li> <li>Abrasion resistant</li> <li>Low particle generation</li> <li>Durable and long-lasting</li> <li>Good wearability</li> </ul>		



Item Code M01A-002  
Model BSS-311



Item Code M01A-003  
Model BSS-312



Item Code M01A-005  
Model BSS-314



Item Code M01A-007  
Model BSS-318

<b>Out Sole</b>	PU outsole	<b>Inner Sole</b>	ESD insole
<b>Upper</b>	PU Synthetic Leather	<b>Volume Resistance</b>	10e6 - 10e8 ohm
<b>Size</b>	220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300, 310, 320 mm		
<b>Features</b>	<ul style="list-style-type: none"> <li>Light weight</li> <li>Recyclable PU outsole</li> <li>Comfortable cushion</li> <li>Abrasion resistant</li> <li>Low particle generation</li> </ul>		



Item Code M01A-008  
Model BUS-310



Item Code M01A-009  
Model BUS-311



Item Code M01A-011  
Model BUS-314



Item Code M01A-012  
Model BUS-318

## Static Dissipative Shoes New

(Mesh Standard Type, Mesh Velcro Type, Closed Type)

<b>Out Sole</b>	Anti-static PU outsole
<b>Insole</b>	ESD insole
<b>Upper</b>	PVC Upper
<b>Volume Resistance</b>	10e6 - 10e8 ohm
<b>Size</b>	230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 300 mm
<b>Features</b>	<ul style="list-style-type: none"> <li>The midsole is made with check conductive fabric, providing more stable resistance values compared to standard striped types, making it ideal for electrostatic control.</li> <li>The lightweight PU outsole minimizes worker fatigue during extended use.</li> <li>A protective heel pad is added to increase durability and extend product life.</li> </ul>



M01A-031 M01A-032 M01A-033

## Static Dissipative Safety Shoes

<b>Out Sole</b>	PU outsole	<b>Inner Sole</b>	T/C fabric insole
<b>Upper</b>	PU Synthetic Leather	<b>Toe cap</b>	Steel toe cap
<b>Color</b>	White (WH), Black (BK)	<b>Volume Resistance</b>	10e7 - 10e8 ohm
<b>Size</b>	225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm		
<b>Features</b>	<ul style="list-style-type: none"> <li>Recyclable PU outsole</li> <li>Durable and long-lasting</li> <li>Anti-slip</li> <li>Oil resistant</li> <li>Abrasion resistant</li> <li>Shock absorption</li> </ul>		



Item Code M05A-001-WH  
Model BTU-510



Item Code M05A-002-WH  
Model BTU-515



Item Code M05A-001-BK  
Model BTU-510



Item Code M05A-002-BK  
Model BTU-515

<b>Out Sole</b>	PU outsole	<b>Inner Sole</b>	ESD Fabric + Soft EVA Sponge
<b>Upper</b>	Different by each model	<b>Volume Resistance</b>	10e6 - 10e8 ohm
<b>Color</b>	White (WH), Green (GE), Grey (GR), Navy (NA)		
<b>Size</b>	225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm		
<b>Features</b>	<ul style="list-style-type: none"> <li>High density PU foam outsole</li> <li>Excellent shock absorption</li> <li>New ergonomic design</li> <li>Direct injection moulding</li> <li>Durable and long-lasting</li> <li>Anti-slip</li> <li>Low particle generation</li> </ul>		



Item Code M01A-024  
Upper PVC Synthetic Leather



Item Code M01A-025  
Upper PVC Synthetic Leather + Polyester Mesh



Item Code M01A-026  
Upper PVC Synthetic Leather + Polyester Mesh + 20 mm Nylon Velcro



Item Code M01A-027  
Upper PVC Synthetic Leather + Polyester Mesh + 20 mm Nylon Velcro



Item Code M01A-028  
Upper PVC Synthetic Leather + 20 mm Nylon Velcro



Item Code M01A-029  
Upper PU Synthetic Leather + Polyester Mesh + Air cushion included



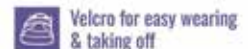
\*Air Cushion (TPU)



Item Code M01A-030  
Upper Polyester two-fold Mesh + PVC Leather tape



Design for good ventilation



Velcro for easy wearing & taking off

## Static Dissipative Safety Shoes

Out Sole	PU outsole	Taping	PVC
Inner Sole	Small diaper grid fabric + Conductive Thread	Toe cap	Steel toe cap
Upper	Wet PU (Polyurethane) + Non-woven + Merry Mesh Lining	Volume Resistance	10e6 - 10e8 ohm
Size	230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm		



MOSA-012-WH



MOSA-013-WH



MOSA-012-BK



MOSA-013-BK

Item Code	MOSA-014
Out Sole	PU with ESD Compound
Middle Sole	Penetration Resistant inserted Insole
Inner Sole	Static Control Polyester fabric + E.V.A.
Upper	Synthetic Leather + Merry Mesh Lining
Toe cap	Steel toe cap (604H)
Volume Resistance	10e7 - 10e9 ohm
Size	220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 295, 300, 310 mm



New

Item Code	MOSA-015
Out Sole	ESD PU (PU + ESD Material)
Middle Sole	Boi-ceramic ESD fiber (3 mm Latex)
Upper	PU Synthetic Leather (1.4 mm Thickness)
Pad	PU Interlock 5 mm Latex Cushion
Toe cap	Steel toe cap (604H)
Volume Resistance	10e7 - 10e9 ohm
Size	225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm



New

Item Code	MOSA-011
Out Sole	PU outsole & Air cushion
Inner Sole	Polyester + PVC Dots
Upper	Wet PU 1.5 mm + Non-Woven 0.9 mm(T) + Merry Mesh Lining
Toe cap	Steel toe cap
Volume Resistance	10e7 - 10e9 ohm
Size	225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm



\*Air Cushion (TPU)

## Static Dissipative Slippers

Out Sole	PU outsole	Inner Sole	ESD PU or PVC insole
Upper	PU Synthetic Leather	Volume Resistance	10e6 - 10e8 ohm
Size	220, 230, 240, 250, 260, 270, 280, 290 mm		
Features	<ul style="list-style-type: none"> <li>Good wearability for daily use</li> <li>Durable and long-lasting</li> <li>Low particle generation</li> </ul>		



Item Code MOSA-001  
Model BPU-420



Item Code MOSA-006  
Model BPU-426



Item Code MOSA-007  
Model BPU-427

Out Sole	PU outsole	Color	Black (BK), Grey (GR)
Upper	PVC Synthetic Leather + PVC 0.4 mm tape	Volume Resistance	10e6 - 10e8 ohm
Size	230, 240, 250, 260, 270, 280, 290, 300 mm		
Features	<ul style="list-style-type: none"> <li>Good wearability for daily use</li> <li>Durable and Long-lasting</li> <li>Low particle generation</li> </ul>		



Item Code MOSA-014-BK-size



Item Code MOSA-014-GR-size



\*Air Cushion (TPU)

## ESD Anti-Fatigue Slippers

Out Sole	Foamed PU and Conductive NBR pad
Upper	Laminated wet PU + 4 mm PU sponge laminated polyester fabric
Volume Resistance	10e5 - 10e6 ohm
Size	220, 230, 240, 250, 260, 270, 280, 290 mm
Features	<ul style="list-style-type: none"> <li>Ease the stress on feet</li> <li>Ergonomic designed sole</li> </ul>



Item Code MOSA-002

## Static Dissipative Boots

Out Sole	PVC outsole	Inner Sole	ESD insole
Upper	PVC Synthetic Leather	Volume Resistance	10e6 - 10e8 ohm
Leggings	Lint free ESD fabric leggings		
Size	220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm		
Features	<ul style="list-style-type: none"> <li>Cost-effective</li> <li>Anti-slip</li> <li>Abrasion resistant</li> <li>Low particles generation</li> <li>Durable and long-lasting</li> <li>Good wearability</li> <li>Clearroom applicable</li> </ul>		



Item Code MOSA-001  
Model BSB-330



Item Code MOSA-002  
Model BSB-333

Out Sole	PU outsole	Inner Sole	T/C fabric insole
Upper	PU Synthetic Leather	Volume Resistance	10e7 - 10e9 ohm
Leggings	Lint free ESD fabric leggings		
Size	225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300, 310, 320 mm		
Features	<ul style="list-style-type: none"> <li>Cost-effective design</li> <li>Light weight</li> <li>Durable and long-lasting</li> <li>Clearroom applicable</li> </ul>		



Item Code MOSA-003  
Model BUB-3815



Item Code MOSA-004  
Model BUB-382



Item Code MOSA-005  
Model BUB-383

Out Sole	PU outsole
Inner Sole	ESD insole
Upper	1.4 mm (T) PVC Synthetic Leather 0.5 mm (T) PVC Synthetic Leather Tape
Leggings	Static Dissipative Lint Free Fabric
Others	Sewing Thread made of Filament Yarn, Zipper, Elastic Band
Volume Resistance	10e6 - 10e8 ohm
Size	225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm



Item Code MOSA-002  
Model BUB-391

## Static Dissipative Safety Boots

Out Sole	PU outsole	Inner Sole	T/C insole
Upper	PU Synthetic Leather	Leggings	Lint free ESD fabric leggings
Toe cap	Steel toe cap	Volume Resistance	10e7 - 10e9 ohm
Size	225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm		
Features	<ul style="list-style-type: none"> <li>Recyclable PU outsole</li> <li>Durable and long-lasting</li> <li>Anti-slip</li> <li>Oil resistant</li> <li>Shock absorption</li> <li>Low particle generation</li> <li>Clearroom applicable</li> <li>Abrasion resistant</li> </ul>		



Item Code MOSA-001  
Model BTU-530



Item Code MOSA-002  
Model BTU-533



Steel toe cap

New



Item Code MOSA-003

Out Sole	PU outsole
Inner Sole	Small diaper grid fabric + Conductive Thread
Upper	Wet PU (Polyurethane) + Non-woven + Merry Mesh Lining
Leggings	Lint free ESD fabric leggings
Toe cap	Steel toe cap
Volume Resistance	10e6 - 10e8 ohm
Size	230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm

## Conductive Boots

Out Sole	Conductive PVC outsole
Inner Sole	ESD Insole
Upper	PVC Synthetic Leather
Leggings	Lint free ESD fabric leggings
Volume Resistance	10e4 - 10e5 ohm
Size	220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 290, 300 mm
Features	<ul style="list-style-type: none"> <li>Reliable steady resistance (conductive)</li> <li>No marking on the floor</li> <li>Cleanroom applicable</li> </ul>



Item Code M08A-001  
Model BCB-340

## Antimicrobial EVA Clogs New

### Features

- Eco-Friendly EVA material
- Good Ventilation (E01A-001)
- Antimicrobial (99.9%) treated insole
- Slip-resistant Outsole
- Foldable rear Strap (E01A-001)
- Washable & Quick dry
- Lightweight & Soft feeling
- Waterproof (E01A-002)

### Applications

- Hospital, Kitchen, etc.



## Conductive Overboots

Out Sole	Conductive PVC outsole
Leggings	Lint free ESD fabric leggings + Nylon strap and buckle
Volume Resistance	10e4 - 10e5 ohm
Size	XS, S, M, L, XL
Features	<ul style="list-style-type: none"> <li>Cost-effective</li> <li>Soft and flexible</li> <li>Reliable steady resistance (conductive)</li> <li>No marking on the floor</li> </ul>



Item Code M10A-001  
Model BCO-360

## Static Dissipative Overboots

Out Sole	Static dissipative fishbone designed hypalon sole (Chlorosulfonated Polyethylene (CSM) + Natural rubber + Conductive Compound)
Leggings	Lint-free cleanroom fabric + Polyester strap with snap buttons and buckle
Volume Resistance	10e7 - 10e9 ohm
Size	XS, S, M, L, XL, 2XL, 3XL
Features	<ul style="list-style-type: none"> <li>Autoclavable</li> <li>Sterilization compatible</li> <li>Soft and flexible</li> <li>Gamma radiation compatible</li> <li>Slip resistant</li> <li>Oil &amp; chemical resistant</li> <li>High washing temperature</li> </ul>



Item Code M04A-002  
Model NHB-370

Item Code	E01A-001
Material	Upper & Outsole: EVA (White - Antimicrobial) Insole: EVA (Antimicrobial)
Strap	PVC
Size	230, 240, 250, 260, 270, 280 mm
Width	9.5 cm (230 mm)
Height	9.0 cm (230 mm)
Heel height	2 cm
Colors	White, Grey, Navy

Item Code	E01A-002 (type A)	E01A-003 (type B)
Material	Upper: EVA (White - Antimicrobial) Insole: EVA (Antimicrobial) Outsole: PVC foam, Rubber (Non Slip)	EVA (White - Antimicrobial) EVA (Antimicrobial) PVC foam, Rubber (Non Slip)
Size	230, 240, 250, 260, 270, 280 mm	230, 240, 250, 260, 270, 280 mm
Width	9.5 cm (230 mm)	9.5 cm (230 mm)
Height	9.8 cm (230 mm)	9.8 cm (230 mm)
Heel height	1.5 cm	1.5 cm
Colors	White, Purple, Navy, Wine, Black	White, Purple, Navy, Wine, Black



## Cleanroom & ESD / Gloves

### Static Control Gloves

#### Features

- Goodgrip
- Stable ESD properties
- Made of static control carbon yarn mixed nylon (ESD) and copper yarn mixed nylon (Conductive)
- Excellent when handling small parts with great tactile sensitivity
- Suitable for the places where cleanliness and ESD control are required
- Provides protection to operator's hands and products being handled
- Good elasticity, air permeability and minimizing sweat build up

#### Applications

- Good for handling electronic instruments, circuit boards and components
- Prevent products from miscellaneous disturbances or accidents caused by static electricity
- Antistatic treated surface semiconductors, micro-processors and compact disks
- Assembling LSI, VLSI, Semiconductors as well as computers and precise instruments



Item Code	Product	Liners		Coating			Dots			Surface Resistance (ohm)
		Material	Color	Material	Color	Area	Material	Area	Color	
M07G-003	ESD Elastic Fit Gloves	Carbon yarn, Nylon	Grey							10e7 ~ 10e9
M08G-002	ESD Top PU Gloves	Carbon yarn, Nylon	Grey	PU	White	Finger tips				10e7~ 10e9
M08G-004	ESD Top PU Gloves	Copper yarn, Nylon	Grey	PU	Grey	Finger tips	PVC	Whole	Grey	10e7 ~ 10e9
M08G-008	ESD Top PU Gloves	Carbon yarn, Nylon	White, Grey	PU	White	Finger tips				10e7 ~ 10e9
M08G-009	ESD Top PU Gloves	Carbon yarn, Nylon	White, Grey	PU	White	Finger tips				10e7 ~ 10e9
M09G-002	ESD Palm PU Gloves	Carbon yarn, Nylon	Grey	PU	White	Palm				10e7 ~ 10e9
M09G-008	ESD Palm PU Gloves	Nylon, Spandex	Grey	PU	Grey	Palm				10e7 ~ 10e9
M09G-010	ESD Palm PU Gloves	AS coating, Nylon	White	PU	White	Palm				10e6 ~ 10e8
M10G-001	Conductive Elastic Fit Gloves	Copper yarn, Nylon	Copper							10e3 ~ 10e4
M11G-001	Conductive Top PU Gloves	Copper yarn, Nylon	Copper	PU	White	Finger tips				10e3 ~ 10e4
M13G-001	Conductive Palm PU Gloves	Copper yarn, Nylon	Copper	PU	White	Palm				10e3 ~ 10e4
M67G-001	Conductive Dot Gloves	Copper yarn, Nylon	Copper	PU	White	Finger tips	PVC	Palm	White	10e3 ~ 10e4

### Antistatic Polyester & Microfiber Gloves



M22G-001 (WTG-410)



M22G-004 (WTG-420)



M22G-013 (WTG-431)



M22G-012 (WTG-440)



M35G-001 (WTG-460)



M36G-003

Item Code	Model	Product	Material	Surface Resistance (ohm)
M22G-001	WTG-410	Antistatic Polyester Gloves	Tricot knitted polyester with ECF	10e7 ~ 10e9 ohm
M22G-004	WTG-420	Antistatic PVC Dot Gloves	Tricot knitted polyester with ECF, PVC Dot on Palm	10e7 ~ 10e9 ohm
M22G-013	WTG-431	Antistatic PU ECF Gloves	Tricot knitted polyester with ECF, PU coated on Palm	10e7 ~ 10e9 ohm
M22G-012	WTG-440	Antistatic PU Thick Gloves	Tricot knitted polyester, with ECF PU laminated on TC fabric on Palm	10e7 ~ 10e9 ohm
M35G-001	WTG-460	Antistatic Microfiber Gloves	Tricot knitted polyester with ECF, microfiber fabric	10e7 ~ 10e9 ohm
M36G-003	-	Microfiber Gloves	Microfiber fabric	

## Latex Gloves



Item Code	M28G-013-YE-size	M28G-017-YE-size	M28G-021-YE-size
Material	Natural High Grade Rubber Latex		
Color	Natural		
Length (All sizes)	12" (300 mm) ± 10 mm		
Palm Width (XS/S/M/L)	76/84/94/105 ± 3 mm		
Thickness (single wall)	Finger 0.15 ± 0.02 mm	0.16 ± 0.02 mm	0.17 ± 0.02 mm
	Palm 0.13 ± 0.02 mm	0.14 ± 0.02 mm	0.15 ± 0.02 mm
Weight (g/pc) (M)	7.2	8.0	9.5
Features	Cleanroom Compatible, Powder free, Full textured, Beaded cuff, Non-sterile, Double Chlorinated		
Packing	100 pcs/ double bag, 10 bags/carton		
Shelf Life	5 years		

Item Code	M28G-025-YE-size	M28G-032-YE-size	M28G-037-YE-size
Material	Natural High Grade Rubber Latex		
Color	Natural		
Length (All sizes)	9" (240 mm) ± 10 mm	12" (300 mm) ± 10 mm	11.5" (292 mm) ± 10 mm
Palm Width (XS/S/M/L)	76/84/94/105 ± 3 mm	73/83/93/103 ± 3 mm	-/85/96/109 ± 3 mm
Thickness (single wall)	Finger 0.13 ± 0.02 mm	0.18 ± 0.02 mm	0.22 ± 0.02 mm
	Palm 0.12 ± 0.02 mm	0.13 ± 0.02 mm	0.20 ± 0.02 mm
Weight (g/pc) (M)	6.4	9.9	9.2
Features	Powder free, Full textured, Beaded cuff, Non-sterile, Single Chlorinated	Cleanroom Compatible, Powder free, Full textured, Beaded cuff, Double Chlorinated	Cleanroom Compatible, Powder free, Silicone Free, Beaded cuff, Finger textured, Double Chlorinated
Packing	100 pcs/dispenser, 10 dispensers/carton	100 pcs/ double bag, 10 bags/carton	100 pcs/bag, 10 bags/carton
Shelf Life	5 years		

## Halogen Free Nitrile Gloves New



Item Code	M27G-030-WH-size	M27G-058-WH-size	M27G-060-WH-size	M27G-061-WH-size
Class	1000	1000	1000	1000
Material	100% Pure Nitrile	100% Synthetic Nitrile Latex	100% Synthetic Nitrile Latex	100% Synthetic Nitrile Latex
Color	Natural White			
Length (All sizes)	12" (300 mm) ± 10 mm	12" (300 mm) ± 10 mm	240 mm ± 10 mm	12" (300 mm) ± 10 mm
Palm Width (XS/S/M/L/XL)	78/85/95/105/115 ± 5 mm	-/85/96/108/113 ± 3 mm	76/84/94/105/113 ± 3 mm	
Thickness (single wall)	Finger 0.07 ± 0.02 mm	0.14 ± 0.02 mm	0.09 ± 0.02 mm	0.11 ± 0.02 mm
	Palm 0.07 ± 0.02 mm	0.08 ± 0.02 mm	0.07 ± 0.02 mm	0.07 ± 0.02 mm
	Cuff 0.06 ± 0.02 mm	0.06 ± 0.02 mm		
Weight (g/pc) (M)	4.5	7.6	3.5	4.5
Features	Halogen Free, Sulphur, Accelerator, Zinc free, Plasticizers, Phthalates, Esters, Silicone oil, Amide free, Beaded cuff, Powder free, Textured	Halogen Free, Accelerator Free, Silicone, Amide, DOP free Sulphur free Powder free Textured, Beaded cuff	Halogen Free, Polymer Coated, Silicone Free, Non-Sterile Powder free, Finger Textured, Beaded cuff	
Packing	100 pcs/bag, 10 bags/carton Single pack, Vacuum Sealed	100 pcs/bag, 10 bags/carton	100 pcs/bag, 10 bags/carton	

## Nitrile Gloves



Item Code	M27G-018-WH-size	M27G-022-WH-size	M27G-026-WH-size
Class	1000		
Material	100% Pure Nitrile		
Color	White		
Length (All sizes)	12" (300 mm) ± 10 mm		
Palm Width (XS/S/M/L)	78/85/95/105 ± 5 mm		
Thickness (single wall)	Finger 0.07 ± 0.02 mm	0.08 ± 0.02 mm	
	Palm		
	Cuff		
Weight (g/pc) (M)	4.8	7.0	
Features	No Sulphur, Accelerator, Zinc, No Plasticizers, Phthalates, Esters, Silicone oil, Amide, Beaded cuff, Powder free, Finger textured	Non-tacky	Tacky
		No Sulphur, Accelerator, Zinc, No Plasticizers, Phthalates, Esters, Silicone oil, Amide, Beaded cuff, Powder free, Finger textured	
Packing	100 pcs/ double bag, 10 bags/carton	100 pcs/ double bag, 10 bags/carton	

Item Code	M27G-054-WH-size	M27G-026-WH-size	M27G-049-WH-size	M27G-033-WH-size
Class	1000	1000	1000	100
Material	Nitrile (NBL)	100% Synthetic Nitrile Latex	100% Synthetic Nitrile Latex	100% Synthetic Nitrile Latex
Color	White			
Length (All sizes)	12" (300 mm) ± 10 mm	12" (300 mm) ± 10 mm	12" (300 mm) ± 10 mm	12" (300 mm) ± 10 mm
Palm Width (XS/S/M/L)	-/85/95/105 ± 2.5 mm	76/84/94/105 ± 3 mm	77/84/94/105 ± 3 mm	77/84/94/105 ± 3 mm
Thickness (single wall)	Finger 0.1 ± 0.01 mm	0.13 ± 0.02 mm	0.13 ± 0.02 mm	0.13 ± 0.02 mm
	Palm 0.08 ± 0.01 mm	0.12 ± 0.02 mm		0.12 ± 0.02 mm
	Cuff 0.06 ± 0.01 mm			
Weight (g/pc) (M)	4.5	6.2	6.2	6.2
Features	Powder free, Finger textured, Beaded cuff	Non-tacky	Tacky	Non-tacky
		Silicone, Amide, Phthalates Free, Powder free, Finger textured, Beaded cuff		Silicone, Amide, Phthalates Free, Powder free, Finger textured, Beaded cuff
Packing	100 pcs/ double bag, 10 bags/carton	100 pcs/ double bag, 10 bags/carton		100 pcs/ double bag, 10 bags/carton



Item Code	M27G-044-BL-size	M27G-052-BL-size
Material	100% Synthetic Nitrile Latex	100% Synthetic Nitrile Latex
Color	Blue (BL)	
Length (All sizes)	240 mm ± 10 mm	
Palm Width (XS/S/M/L/XL)	76/84/94/105/113 ± 3 mm	76/84/94/105/113 ± 3 mm
Thickness (single wall)	Finger 0.10 ± 0.02 mm	0.12 ± 0.02 mm
	Palm 0.07 ± 0.02 mm	0.10 ± 0.02 mm
Weight (g/pc) (M)	3.5	5.0
Features	Powder Free Full textured, Beaded cuff, Single Chlorinated	Powder Free Finger textured, Beaded cuff, Single Chlorinated
Packing	100 pcs/dispenser, 10 dispensers/carton	100 pcs/dispenser, 10 dispensers/carton

## Vinyl Gloves

Item Code	M25G-004-TP-size
Material	Polyvinyl Chloride
Color	Clear
Length (All sizes)	290 mm ± 5 mm (min)
Palm Width (XS/S/M/L/XL)	75/85/95/105/115 ± 5 mm
Thickness (single wall)	Finger 0.12 ± 0.03 mm
	Palm 0.10 ± 0.03 mm
	Cuff 0.08 ± 0.03 mm
Weight (g/pc) (S/M/L)	6.5/7.0/7.5 ± 0.3
Features	Powder-free, Ambidextrous, Beaded cuff, Smooth external finish, DOP, DEHP, PDMS free
Packing	100 pcs/bag, 10 bags/carton



## Cleanroom Face Mask

### Features

- Adopting unique designs and materials
  - Using HOPE film in out layer
  - Using TPU earbands
  - Bigger size (9 cm x 23 cm)
  - Attaching earbands onto the front side of the mask
- Using best fit materials required by each part to achieve comfortability, good air permeability and filtration
- All materials used have been passed in a skin trouble test with the mark of "Negligible"
- By using Polypropylene filter, which has a high efficient filtering performance with a good air permeability, as a middle layer, our Cleanroom Face Mask provides excellent comfortability to users

### Basic Information

Item Code	M01D-009	M01D-010	M01D-011
Size	90×230 mm	90×210 mm	90×180 mm
Material	Out layer	HDPE Film (1st filtration)	
	Middle layer	Polypropylene Filter (2nd filtration)	
	In layer	PET/PP mixed non-woven	
	Ear Band	TPU	
Packing	50 pcs/bag, 30 bags/box		

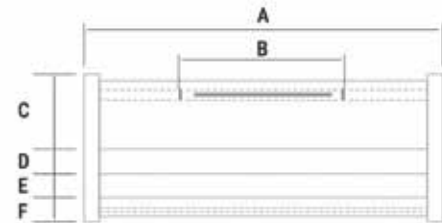


### Product Specifications

(90 mm × 230 mm)

	A	B	C	D	E	F	Tolerance
Length (mm)	230	95	35	17	15	23	+/- 5%

	Measure	Standard	C
APC	ea/g, 0.1 μm, 1CFM	Max. 120	
Dimensional Stability	%	Max. 5	



### TEST Data

Test Unit	Specifications	APC Test			
		20 - RPM	30 - RPM	40 - RPM	50 - RPM
Cleanliness (5 ea)	Less than 825.0	410.7	643.4	648.9	639.1
Cleanliness (1 ea)	Less than 165.0	82.1	128.7	129.8	127.8
Cleanliness (g)	Less than 50.0	24.6	40.9	31.9	34.1

Ion Test		
Test Unit	Results (mg/L)	Test Methods
Na	0	ICP Test
Ca	0	ICP Test
Ci	0	IC Test

Skin Trouble Test		
Test Unit	Results (mg/L)	Test Methods
Mask Body	Negligible	ISO 10993-10 Skin irritation test
TPU Band	Negligible	ISO 10993-10 Skin irritation test

### Clean Face Mask

#### Features

- Bacteria Filtration Efficiency (BFE): Min. 99%
- Pressure Differential (Delta-P): Max. 1.6 mm/Aq
- Particles ( > 0.3 microns): Less than 50 ea (Dry Flex test)



\* 3 ply non-woven meltblown PP filter

### General Information

Item Code		M15D-001-WH	M15D-005-WH	M16D-001-WH	M16D-005-WH
Structure	Descriptions	2ply	3ply (ES)	2ply	3ply (SBPP)
Body	Inner Layer	Ethylene Propylene 30 g	Ethylene Polypropylene 21 g	Spunbond Polypropylene 23 g	Spunbond Polypropylene 20 g
	Middle Layer	-	Melt Blown Polypropylene 19 g	-	Melt Blown Polypropylene 18 g
	Outer Layer	Ethylene Propylene 25 g	Ethylene Polypropylene 21 g	Spunbond Polypropylene 23 g	Spunbond Polypropylene 20 g
	Length	180 mm			
	Width	90 mm			
Ear Loop	Material	SOP			
	Length	175 mm			
Nose Clamp	Position	Fixed in Center of the Top			
	Material	Soft flexible steel			
	Length	105 mm			

### Specifications

Tensile Strength (N/cm)	41.3
Longitudinal Tensile Strength (N/cm)	26.8
Earband Strength (N)	10

Packing	50 ea/bag, 40 bags/ctn
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### Cleanroom Active Carbon Face Mask

4 ply non-woven meltblown PP and active carbon filter for smell filtering

#### Features

- Bacteria Filtration Efficiency (BFE): Min. 99%
- Pressure Differential (Delta-P): Max. 1.6 mm/Aq
- Particles ( > 0.3 microns): < 50 ea (Dry Flex test)



Item Code	M07D-000	Ear Loop	190 mm
Size	90 mm × 180 mm	Packing	50 pcs/bag

## Disposable Shoe Cover



Item Code	M02D-011-BL
Material	Non-woven fabric
Size	40 cm × 16 cm
Color	Blue
Weight	40 g
Packing	50 pairs/bag, 20 bags/ctn

## ESD Disposable Shoe Cover



Item Code	M14D-003-BL
Size	40 cm × 15 cm
Conductive Ribbon	60 cm × 2 cm
Color (shoe cover)	Blue
Weight	35 g
Surface Resistance (Black Ribbon)	10e3 ~ 10e5 ohm

## Non-woven hair cap

Item Code	M09D-012-WH	M09D-013-WH	M09D-014-WH	M09D-015-WH	M09D-016-xx
Material	Non-woven fabric				
Size	21"	23"	21"	23"	23"
Color	White	White	White	White	White (WH), Blue (BL)
Weight	10 g	10 g	20 g	20 g	30 g
Packing	100 pcs/bag, 10 bags/ctn				

\* xx: color (WH, BL)

### Features

- Lightweight and breathable material
- Comfortable and easy to wear
- Single use only
- Various options
  - 3 options by weight (10 g, 20 g, 30 g)
  - 2 options (30 g) by color (White, Blue)
  - 2 options by size (21", 23")



Laboratories



Food processing facilities



Electronic manufacturing factories



Hospitals



Interior shops





### Finger Cots

Physical Properties	
Tensile Strength (MPa)	≥ 16
Elongation at Break (%)	≥ 500
Surface Resistance (ohm)	• 10e7 ~ 10e11    • 10e5 ~ 10e8
Material	• 100% Natural Rubber Latex • Nitrile
Color	White (WH), Yellow (YE), Pink (PK), Black (BK), Transparent (TP), etc.
Storage Conditions	• Cool and dry place • Avoid direct sunlight and copper material

### Features

- RoHS1, RoHS2, REACH, CE Registration
- OEM Brand (Option)
- 4 different Packing Options
- Antistatic, Conductive
- Rolled, Cut, Plain, Textured
- Tight Fit and Heavy Duty Types are available
- Low Powdered, Powder Free (Chlorinated)
- Various Colors

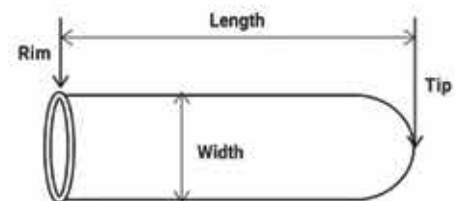
Type	Descriptions	Item Code	Option	Appearance
Antistatic, Low Powdered		M08D-100-WH-xxx M08D-110-WH-xxx	Rolled, Plain	
		M08D-101-WH-xxx	Rolled, Textured	
		M08D-102-WH-xxx M08D-160-WH-xxx	Cut, Plain	
		M08D-103-WH-xxx	Cut, Textured	
Antistatic, Powder free  • Color (IV, YE, PK)		M08D-200-xx-xxx M08D-210-xx-xxx	Rolled, Plain	
		M08D-201-xx-xxx M08D-240-xx-xxx	Rolled, Textured	
		M08D-202-xx-xxx M08D-260-xx-xxx	Cut, Plain	
		M08D-203-xx-xxx M08D-280-xx-xxx	Cut, Textured	
Antistatic, powder free (Polymer treated)		M08D-700-WH-xxx M08D-720-WH-xxx	Rolled, Plain	
		M08D-740-WH-xxx	Cut, Plain	
		M08D-760-WH-xxx	Cut, Textured	
Conductive, Powder free		M08D-300-BK-xxx M08D-301-BK-xxx	Rolled, Plain	
		M08D-302-BK-xxx	Cut, Plain	
		M08D-303-BK-xxx	Cut, Textured	
Antistatic, Powder free		M08D-400-BK-xxx M08D-401-BK-xxx	Rolled, Plain	
		M08D-402-BK-xxx	Cut, Plain	
		M08D-403-BK-xxx	Cut, Textured	
Heavy Duty		M08D-500-TP-xxx	Unrolled, Textured	
Antistatic, Low Powdered (Tight Fit)		M08D-600-TP-xxx	Rolled, Textured	
		M08D-601-TP-xxx	Cut, Textured	
Antistatic, Powder free  Nitrile		M08D-900-WH-xxx M08D-901-WH-xxx	Rolled, Plain	
		M08D-902-WH-xxx	Cut, Plain	
		M08D-903-WH-xxx	Cut, Textured	

• M08D-100-xx-xxx [ • xx: color (WH, IV, YE, PK, BK, TP) / • xxx: size (S, M, L, XL) ]

Item Code	Type	Rolled	Cut	Plain	Textured	Low Powdered	Powder Free	Antistatic	Conductive
M08D-100-xx-xxx M08D-110-xx-xxx		●		●		●		●	
M08D-101-xx-xxx		●			●	●		●	
M08D-102-xx-xxx M08D-160-xx-xxx			●	●		●		●	
M08D-103-xx-xxx			●		●	●		●	
M08D-200-xx-xxx M08D-210-xx-xxx		●		●			●	●	
M08D-201-xx-xxx M08D-240-xx-xxx		●			●		●	●	
M08D-202-xx-xxx M08D-260-xx-xxx			●	●			●	●	
M08D-203-xx-xxx M08D-280-xx-xxx			●		●		●	●	
M08D-700-xx-xxx		●		●			●	●	
M08D-720-xx-xxx		●			●		●	●	
M08D-740-xx-xxx			●	●			●	●	
M08D-760-xx-xxx			●		●		●	●	
M08D-300-BK-xxx		●		●			●		●
M08D-301-BK-xxx		●			●		●		●
M08D-302-BK-xxx			●	●			●		●
M08D-303-BK-xxx			●		●		●		●
M08D-400-BK-xxx		●		●			●	●	
M08D-401-BK-xxx		●			●		●	●	
M08D-402-BK-xxx			●	●			●	●	
M08D-403-BK-xxx			●		●		●	●	
M08D-500-TP-xxx	Unrolled				●				
M08D-600-TP-xxx		●			●	●		●	
M08D-601-TP-xxx			●		●	●		●	
M08D-900-WH-xxx		●		●			●	●	
M08D-901-WH-xxx		●			●		●	●	
M08D-902-WH-xxx			●	●			●	●	
M08D-903-WH-xxx			●		●		●	●	

• M08D-100-xx-xxx [ \* xx: color (WH, IV, YE, PK, BK, TP) / \* xxx: size (S, M, L, XL) ]

Dimension		Size S	Size M	Size L	Size XL
Average Weight/pc	g	0.42±0.02	0.46±0.02	0.50±0.02	0.56±0.02
Width	mm	23±1	26±1	29±1	32±1
Length-Rolled/Unrolled	mm	70±2	70±2	70±2	70±2
Rim Thickness	mm	1.2±0.1	1.2±0.1	1.2±0.1	1.2±0.1
Length-Cut	mm	60±3	60±3	60±3	60±3
Thickness (double wall)	mm	0.22±0.04	0.22±0.04	0.22±0.04	0.22±0.04
Thickness at Tip	mm	≥ 0.20	≥ 0.20	≥ 0.20	≥ 0.20

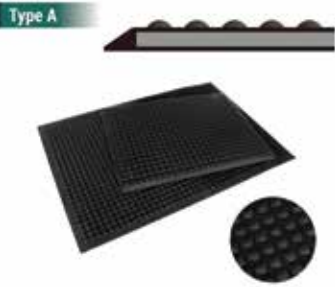


#### Packing Information

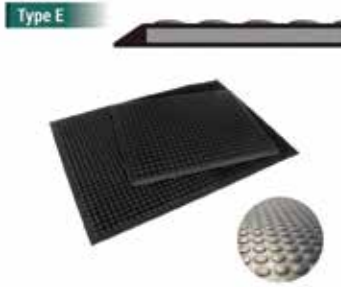
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|---|--|
| <b>1</b> 10 gross (1,440 pcs)/bag, 20 bags/carton | <b>3</b> 100 pcs/zipper bag, 250 zipper bags/carton        |
| <b>2</b> 1,000 pcs/bag, 30 bags/carton            | <b>4</b> 100 pcs/zipper bag + paper case, 200 cases/carton |
- Carton** 48 × 29 × 40 in cm (Rolled Type) / 48 × 29 × 35 in cm (Cut Type)



## ESD Antifatigue Mat



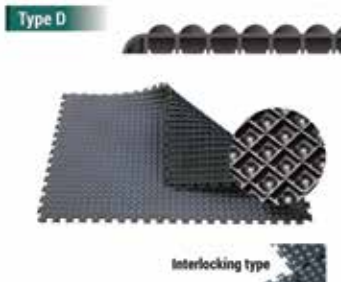
Item Code	M15M-002-BK	M15M-003-BK
Size	60 cm x 90 cm	45 cm x 60 cm
Weight/mat	3.6 kg	1.8 kg
Material	Conductive NBR + High Elastic PU Foam	
Thickness	16 mm	
Color	Black	
Surface Resistance	10e5 ~ 10e6 ohm	



Item Code	M15M-011-BK	M15M-012-BK
Size	60 cm x 90 cm	45 cm x 60 cm
Weight/mat	3.4 kg	2.1 kg
Material	Conductive NBR + High Elastic PU Foam	
Thickness	13 mm	
Color	Black	
Surface Resistance	10e5 ~ 10e6 ohm	



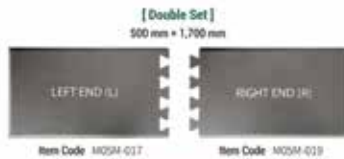
Item Code	M15M-005-BK
Size	60 cm x 90 cm
Weight/mat	3.5 kg
Material	Conductive NBR
Thickness	16 mm
Color	Black
Surface Resistance	10e5 ~ 10e6 ohm



Item Code	M15M-004-BK
Size	60 cm x 90 cm
Weight/mat	2.7 kg
Material	Conductive NBR
Thickness	16 mm
Color	Black
Surface Resistance	10e5 ~ 10e6 ohm

## ESD Antifatigue Mat New

**Type T**



Item Code	M15M-017-BK	M15M-018-BK	M15M-019-BK
Size/mat	500 x 869 mm	500 x 869 mm	500 x 869 mm
Material	Foamed rubber		
Color	Black		
Weight/mat	1.3 kg		
Thickness	17 mm		
Surface Resistance	10e6 ~ 10e9 ohm		

## ESD Antifatigue Mat in Roll

Item Code	M30M-002-BR	M30M-002-GR
Color	Brown	Grey
Material	Foamed PVC	
Weight / Roll	35 kg	
Thickness	8 mm	
Size	1 m x 10 m	
Surface Resistance	≤ 10e9 ohm	



## ESD Antifatigue Mat New

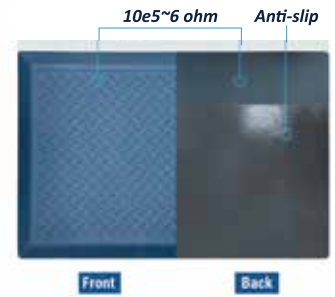
The ESD Antifatigue Mat consists of foam layers, that would absorb and distribute weight of the worker to relieve fatigue that may build throughout the standing hours. This mat also has strong ESD properties to effectively ground static electricity, which is an essential property to have in semiconductor fabs and any static electricity-sensitive facilities.



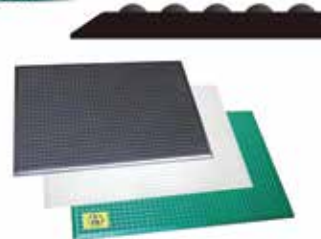
Item Code	M15M-030-LN
Size	610 x 920 mm
Weight/mat	3 kg
Material	PVC
Thickness	19 mm
Color	Light Navy(LN)
Surface Resistance	10e5 ~ 6 ohm
Packing Details	5 mats/ctn, 960 x 680 x 125 mm

**Features**

- Developed in accordance with ASTM F150-06 International Standards
- Excellent antifatigue effect
- Made out of non-toxic, non-heavy metal, safe raw materials
- Little to no odor/smell

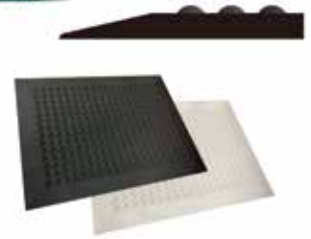


**Type N**



Item Code	M15M-023-BK	M15M-023-WH	M15M-023-GE
Color	Black	White	Green
Size	60 cm x 90 cm		
Material	Polyurethane		
Thickness	15 mm		
Weight/mat	2.7 kg		
Surface Resistance	10e8 ~ 10e9 ohm		

**Type K**



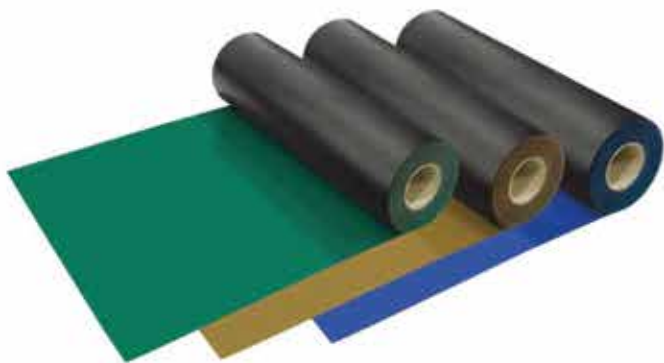
Item Code	M15M-021-BK	M15M-021-GR
Color	Black	Grey
Size	45 cm x 60 cm	
Material	NBR	
Thickness	15 mm	
Weight/mat	2.3 kg	
Surface Resistance	10e5 ~ 10e6 ohm	10e7 ~ 10e9 ohm

**Type H**



Item Code	M15M-014-BK	M15M-015-BK	M15M-016-BK
Size/mat	500 x 900 mm (20" x 36")	600 x 900 mm (24" x 36")	900 x 1500 mm (35" x 59")
Material	Foamed rubber		
Color	Black		
Weight/mat	1.6 kg		
Thickness	17 mm		
Surface Resistance	10e6 ~ 10e9 ohm		

## ESD Control Table Mat



### [ Standard ]

Item Code	M11M-000	
Thickness	1.5 mm, 1.8 mm, 2 mm, 3 mm	
Width	60, 70, 80, 90, 100, 120 cm	
Length	10 m / roll	
Surface Resistance	Top	10e8 ~ 10e9 ohm
	Bottom	10e3 ~ 10e6 ohm
Color	 Green/Black, Dark Green/Black, Blue/Black, Sky Blue/Black, Grey/Black, Brown/Black, Beige/Black	
Layer	 — Static Dissipative Rubber (30~20% in thick) — Conductive Rubber (70~80% in thick)	

### Variations

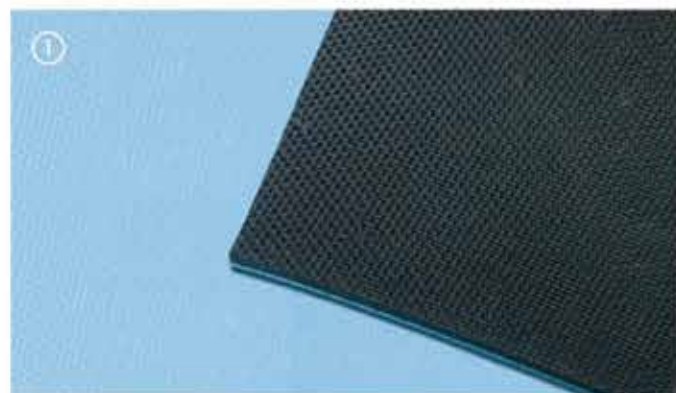
· Flame Retardant · Halogen-Free (Cl-Free) · Sulfur-Free (S-Free)

### [ Low S/R ]

Item Code	M11M-000	
Thickness	2 mm, 3 mm	
Width	60, 70, 80, 90, 100, 120 cm	
Length	10 m / roll	
Surface Resistance	Top	10e6 ~ 10e8 ohm
	Bottom	10e3 ~ 10e6 ohm
Color	 Green/Black, Blue/Black, Grey/Black • Other colors are also available on request	
Layer	 — Static Dissipative Rubber (30~20% in thick) — Conductive Rubber (70~80% in thick)	

## Embossed ESD Rubber Mat

• Embossed pattern option: ①②③④



Item Code	M14M-000	
Thickness	1.8 mm	
Width	60, 70, 80, 90, 100, 120 cm	
Length	10 m / roll	
Surface Resistance	Top	10e8 ~ 10e9 ohm
	Bottom	10e3 ~ 10e6 ohm
Color	 Sky Blue/Black	
Layer	 — Static Dissipative Rubber (30~20% in thick) — Conductive Rubber (70~80% in thick)	



Item Code	M14M-000	
Thickness	1.8 mm, 2 mm, 3 mm	
Width	60, 70, 80, 90, 100, 120 cm	
Length	10 m / roll	
Surface Resistance	Top	10e6 ~ 10e8 ohm
	Bottom	10e3 ~ 10e6 ohm
Color	 Green/Black	
Layer	 — Static Dissipative Rubber (30~20% in thick) — Conductive Rubber (70~80% in thick)	

### Conductive Black Mat

Homogenous black rubber

Item Code	M13M-000-BK
Thickness	1.3, 1.5, 2, 3 mm
Width	60, 70, 80, 90, 100, 120 cm
Length	10 m / roll
Surface Resistance (Top / Bottom)	10e3 ~ 10e6 ohm



### 3 Layer Static Dissipative Mat

The 3 layer Static Dissipative Mat consists of a smooth PVC top, perforated PVC bottom layer and a conductive grid mesh layer in the middle. The conductive mesh layer provides a fast discharge path to ground and the energy absorption of components susceptible to physical shock by its unique structures.



#### Features

- Smooth surface
- Easy to pick up small components on the mat
- Excellent electrical properties and performance
- Carbon free constructions
- Easy cleaning with soap and water without affecting its static dissipative properties

Item Code	M16M-000		
Width (Inch, cm)	24", 36", 48", 60 cm, 90 cm, 100 cm, 120 cm	Material	PVC + conductive grid mesh + foamed PVC
Length (m)	10, 15	Thickness (mm)	3 ± 5%
Color	Light Blue, Grey, Green	Constructions	 <ul style="list-style-type: none"> <li>• Dissipative Layer</li> <li>• Conductive Layer</li> <li>• Dissipative Cushion Layer</li> </ul>
RTT (Ω)	≤ 10e9		
RTG (Ω)	≤ 10e9		
Heat Resistance (°C)	Max 90		

## ESD Microfiber Mats

The tabletop of assembly lines or worktables for sensitive electronic parts.

### ESD Microfiber Mat (EVA)



Item Code	M23M-001-color	
Thickness	2.5 mm	
Size	0.96 m × 9.5 m	
Surface Resistance	Top	10e6 +/- 1 ohm
	Bottom	10e5 +/- 1 ohm
Color	Dark Blue (DL)	Yellow Green (YG)
Packing	4 rolls/carton, 27.20 kg/carton (ctn size: 400 mm × 400 mm × 1115 mm)	
Constructions		<ul style="list-style-type: none"> <li>• ESD Microfiber fabric (4 mm stripe)</li> <li>• Conductive EVA foam</li> </ul>


### ESD Microfiber Mat (EVA with Adhesive)



Item Code	M23M-002-color	
Thickness	2.7 mm	
Size	0.96 m × 9.5 m	
Surface Resistance	Top	10e6 +/- 1 ohm
	Bottom	10e5 +/- 1 ohm
Color	Dark Blue (DL)	Yellow Green (YG)
Packing	4 rolls/carton, 30 kg/carton (ctn size: 400 mm × 400 mm × 1150 mm)	
Constructions		<ul style="list-style-type: none"> <li>• ESD Microfiber fabric (4 mm stripe)</li> <li>• Conductive EVA foam</li> <li>• Acrylic adhesive</li> <li>• Releasing paper</li> </ul>

### ESD Microfiber Mat (Non-woven, with Adhesive)



Item Code	M23M-003-color	
Thickness	0.9 mm	
Size	0.7 m × 10 m	
Surface Resistance	Top	10e6 +/- 1 ohm
	Bottom	10e5 +/- 1 ohm
Color	Dark Blue (DL)	Yellow Green (YG)
Packing	4 rolls/carton, 18.3 kg/carton (ctn size: 320 mm × 320 mm × 720 mm)	
Constructions		<ul style="list-style-type: none"> <li>• ESD Microfiber fabric (4 mm stripe)</li> <li>• Conductive Non-woven fabric</li> <li>• Acrylic adhesive</li> <li>• Releasing paper</li> </ul>

### ESD Microfiber Fabric (with Adhesive)



Item Code	M32M-000-color	
Thickness	0.7 mm	
Size	1.37 m × 23 ~ 37 m	
Surface Resistance	Top	10e6 +/- 1 ohm
	Bottom	10e5 +/- 1 ohm
Color	Dark Blue (DL)	Yellow Green (YG)
Packing	4 rolls/carton, 18.3 kg/carton (ctn size: 360 mm × 360 mm × 1570 mm)	
Constructions		<ul style="list-style-type: none"> <li>• ESD Microfiber fabric (4 mm stripe)</li> <li>• Acrylic adhesive</li> <li>• Releasing paper</li> </ul>

### Sticky Mat

#### Features

- 99.80% of dust collection at several steps on the mats.
- Collected dust on the mats is not migrated.
- Comfortable walking and smooth passing of hand carts.
- Mat can be used with/without the frame.
- Adhesive level can be adjusted on request.
- Antimicrobial sticky mat is available for pharmaceutical, biological and medical areas.
- ESD sticky mat is available for static sensitive areas.
- Thin film sticky mat at economical price is another option.

Item Code	M01C-000
Film Thickness	30 µm, 35 µm, 40 µm, 45 µm (±5 µm)
Size	18"×36", 18"×45", 24"×36", 26"×45", 36"×45", etc.
Color	Blue, White, Grey, Green, etc.
Adhesive (g/25 mm)	350 ± 50 g (surface) – adjustable 700 ± 50 g (bottom)
Material	Polyethylene (LDPE)
Packing	30 sheets or 60 sheets/mat, 4 mats, 8 mats, 10 mats/case, etc.
Surface Resistance (M02C-000/E10S-000)	10e9 ~ 10e11 ohm
Reduction of Bacteria (E01S-000 / E10S-000)	99.9%



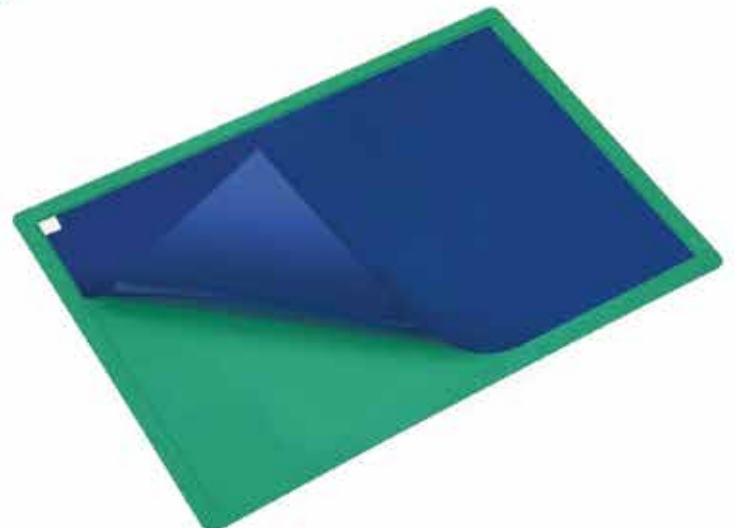
#### Variations

- M01C-000 Standard Sticky Mat
- M02C-000 ESD Sticky Mat
- E01S-000 Antimicrobial Sticky Mat
- E10S-000 ESD Antimicrobial Sticky Mat



### Frame For Sticky Mat

Item Code	M04C-007	M04C-008
Material	Rubber	
Color	Green	
Size	600×900 mm	600×1200 mm



## ESD Washable Sticky Mat



### Features

- Service life: 1 year under normal traffic & maintenance
- Homogeneous & excellent ESD properties
- Environment: Friendly & cost-effective
- Fixed by double sided tape

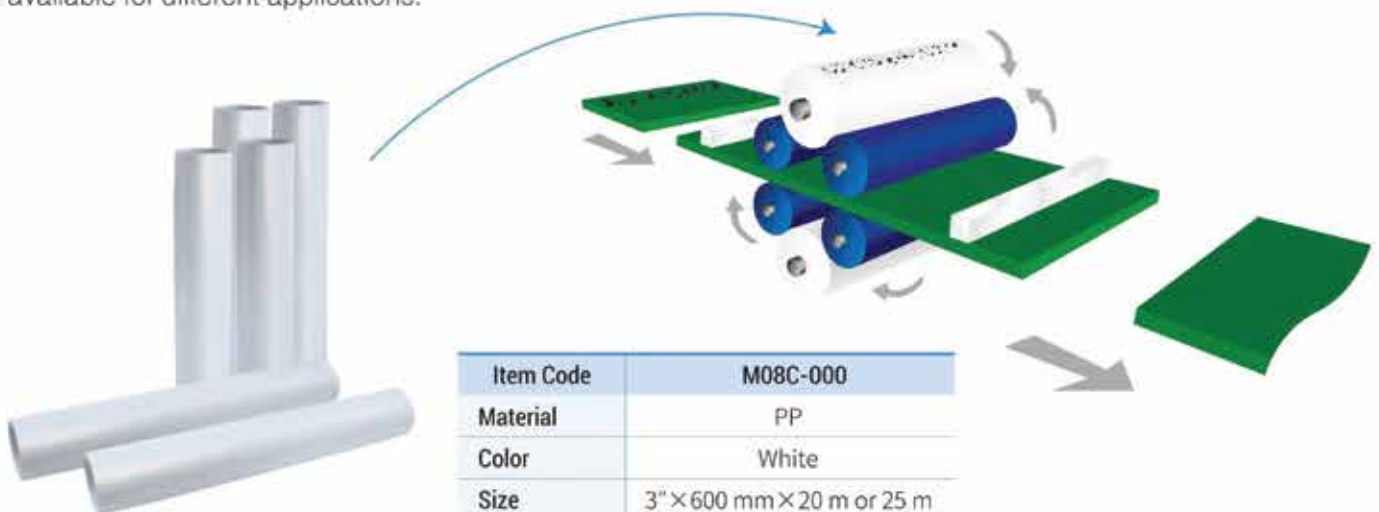
### Applications

- Entrances & exits of cleanroom labs and manufacturing facilities
- Changing rooms, air showers
- Static sensitive areas

Item Code	M35C-001-DL	M35C-002-DL	M35C-003-DL	M35C-004-DL	M35C-600-DL
Size (mm)	600×900×0.7(T)	600×1800×0.7(T)	660×1140×0.7(T)	900×3320×0.7(T)	1200×600×0.7(T)
Material	ESD homogeneous sticky PU sheet with surface resistance: 10e7-10e8 ohm				
Upper	ESD homogeneous sticky PU sheet with surface resistance: 10e7-10e8 ohm				
Bottom	PET sheet / double-sided tape				
Side Cover	ESD Fabric Tape with surface resistance: 10e6-10e7 ohm				
Adhesive Level	550 ± 50 gf/25 mm	Color	Dark Blue	Packing	5 mats/box

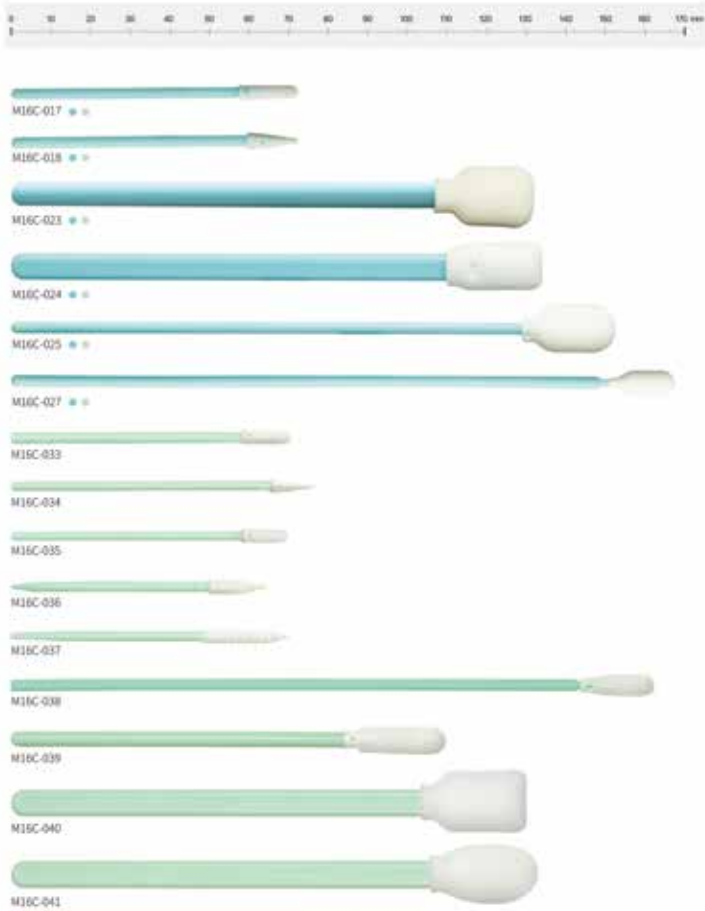
## Frame For Sticky Mat

PCB Cleaning Roll usually goes with machine, not with a handle, and this roll is mainly designed to clean PCB. To clean the surface of PCB effectively, perfect flat conditions of the roll is essential. Several different adhesive levels are available for different applications.



Item Code	M08C-000
Material	PP
Color	White
Size	3" × 600 mm × 20 m or 25 m

## PU Swab



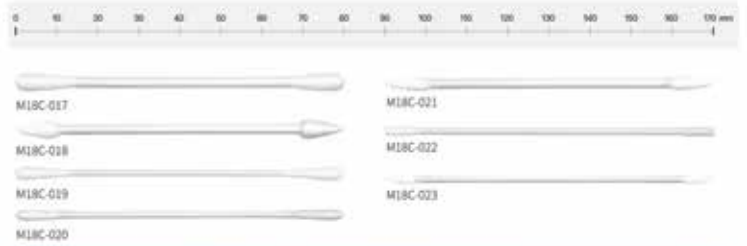
## Polyester Swab



## ESD Swab



## Cotton Swab



Item Code	Materials		Size		Packing		
	Tip	Stick	Tip (W x L)	Total Length			
M18C-017	PU	PP	3 mm x 13 mm	68 mm	100 pcs/bag, 40 bags/box, 12 boxes/case		
M18C-018			4 mm x 10 mm	68 mm	100 pcs/bag, 40 bags/box, 12 boxes/case		
M18C-023			15 mm x 25 mm	132 mm	50 pcs/bag, 10 bags/box, 12 boxes/case		
M18C-024			11 mm x 23 mm	134 mm	50 pcs/bag, 10 bags/box, 12 boxes/case		
M18C-025			11 mm x 22 mm	148 mm	50 pcs/bag, 10 bags/box, 12 boxes/case		
M18C-027			6 mm x 17 mm	163 mm	100 pcs/bag, 10 bags/box, 12 boxes/case		
M18C-033			3.5 mm x 12 mm	71 mm	100 pcs/bag, 5 s.bags/bag, 50 bags/ctn		
M18C-034			3.2 mm x 11 mm	77 mm	100 pcs/bag, 5 s.bags/bag, 50 bags/ctn		
M18C-035			3.5 mm x 11 mm	70 mm	100 pcs/bag, 5 s.bags/bag, 50 bags/ctn		
M18C-036			3.7 mm x 15 mm	65 mm	100 pcs/bag, 5 s.bags/bag, 50 bags/ctn		
M18C-037	4 mm x 21 mm	70 mm	100 pcs/bag, 5 s.bags/bag, 50 bags/ctn				
M18C-038	4.5 mm x 18 mm	163 mm	100 pcs/bag, 200 bags/ctn				
M18C-039	8 mm x 23 mm	110 mm	100 pcs/bag, 200 bags/ctn				
M18C-040	15 mm x 25 mm	130 mm	50 pcs/bag, 50 bags/ctn				
M18C-041	20 mm x 27 mm	133 mm	50 pcs/bag, 100 bags/ctn				
M18C-028	Knit Polyester	PP	3 mm x 13 mm	68 mm	100 pcs/bag, 40 bags/box, 12 boxes/case		
M18C-030	Polyester	PP	3 mm x 17 mm	163 mm	100 pcs/bag, 10 bags/box, 12 boxes/case		
M18C-031	Micro Denier Fabric with PP Tube	PP	8 mm x 20 mm	153 mm	100 pcs/bag, 10 bags/box, 12 boxes/case		
M18C-042	Polyester	PU	3.5 mm x 11 mm	70 mm	100 pcs/bag, 5 s.bags/bag, 50 bags/ctn		
M18C-043			3.2 mm x 11 mm	75 mm	100 pcs/bag, 5 s.bags/bag, 50 bags/ctn		
M18C-044			3.8 mm x 12 mm	71 mm	100 pcs/bag, 5 s.bags/bag, 50 bags/ctn		
M18C-045			7.0 mm x 17 mm	93 mm	100 pcs/bag, 200 bags/ctn		
M18C-046			7.0 mm x 17 mm	163 mm	100 pcs/bag, 200 bags/ctn		
M18C-047			13 mm x 25 mm	125 mm	100 pcs/bag, 50 bags/ctn		
M17C-006			PU	A/S PP	3 mm x 13 mm	68 mm	100 pcs/bag, 40 bags/box, 12 boxes/case
M17C-007			PU	Con. PP	11 mm x 22 mm	148 mm	50 pcs/bag, 10 bags/box, 12 boxes/case
M17C-008			PU	Con. PP	6 mm x 17 mm	163 mm	100 pcs/bag, 10 bags/box, 12 boxes/case
M17C-009			Knit Polyester	Con. PP	3 mm x 13 mm	68 mm	100 pcs/bag, 10 bags/box, 12 boxes/case
M18C-001	Cotton	Wood	2.5 mm x 9 mm	74 mm	100 pcs/bag, 50 bags/box, 20 boxes/ctn		
M18C-004	Cotton	Wood	2.5 mm x 15 mm	153 mm	100 pcs/bag, 12 bags/box, 20 boxes/ctn		
M18C-017	Cotton	Paper	4.4 mm x 12 mm	80 mm	25 pcs/bag, 100 bags/box, 20 boxes/ctn		
M18C-018	Cotton	Paper	4.7 mm x 11 mm	80 mm	25 pcs/bag, 100 bags/box, 20 boxes/ctn		
M18C-019	Cotton	Paper	3.2 mm x 12 mm	80 mm	25 pcs/bag, 100 bags/box, 20 boxes/ctn		
M18C-020	Cotton	Paper	2.6 mm x 11 mm	80 mm	25 pcs/bag, 100 bags/box, 20 boxes/ctn		
M18C-021	Cotton	Paper	3 mm x 11 mm	80 mm	25 pcs/bag, 100 bags/box, 20 boxes/ctn		
M18C-022	Cotton	Paper	2.0 mm x 7.5 mm	80 mm	25 pcs/bag, 100 bags/box, 20 boxes/ctn		
M18C-023	Cotton	Paper	2.2 mm x 7.5 mm	80 mm	25 pcs/bag, 100 bags/box, 20 boxes/ctn		

## Silicone Rubber Roller

### Stick Type



Item Code	Dia. (mm)	Width (mm)	Length (mm)
M15C-001	5	-	120

### Handy Type

Silicone Rubber Roller is a dust & particle cleaning roller, which can be used in vast range of industries. This product especially shines where you need a cleaning roller that leaves absolutely no residue behind where heat & chemical resistant roller is needed.

This roller may reduce your long-term cost of using disposable variants. You can simply wash and dry the roller after using, but more common way is to use it with DCR-Pad as it cleans the roller very quickly, making the whole work process super efficient.



Item Code	Dia. (mm)	Width (mm)	Length
M15C-002	20	30 mm	90 mm
M15C-003	25	50 mm	90 mm
M15C-004	30	100 mm	150 mm
M15C-005	30	150 mm	150 mm
M15C-006	30	200 mm	150 mm
M15C-007	30	250 mm	150 mm
M15C-008	30	300 mm	150 mm



Materials	Silicone Roller, Aluminum Handle
Width	30, 50, 100, 150, 200, 250, 300 mm
Diameter	20, 30 mm
Adhesive Level / Hardness	Weak/40
	Medium/30

Item Code	Size	Adhesive type
M15C-027	30 mm	weak adhesive
M15C-028	50 mm	weak adhesive
M15C-029	100 mm	weak adhesive
M15C-030	100 mm	medium adhesive
M15C-031	150 mm	weak adhesive
M15C-032	150 mm	medium adhesive
M15C-033	200 mm	weak adhesive
M15C-034	200 mm	medium adhesive
M15C-035	250 mm	weak adhesive
M15C-036	250 mm	medium adhesive
M15C-037	300 mm	weak adhesive
M15C-038	300 mm	medium adhesive

## Floor Type



Item Code	Dia. (mm)	Width (mm)	Length
M15C-009	50	250 mm	1-2 m
M15C-010	50	300 mm	1-2 m
M15C-011	50	500 mm	1-2 m
M15C-012	50	600 mm	1-2 m

## DCR-PAD

OCR-Pad and the variations offer a great time-saving, efficient way to clean and re-use the rollers such as silicone rubber rollers.

### Technical Specifications

Descriptions	Adhesive Paper	Release Paper
Materials	Paper, Adhesive	Silicone coated paper
Adhesion (g/75 mm)	Weak: 600 g ± 100 Standard: 1100 g ± 100 Strong: 1250 g ± 100	
Thickness	80 µm / sheet	117 µm / sheet
Total Thickness	13.0 mm (pad 50 sheets)	
Packing	50 sheets/pad, 20 pads/box (330 mm) 50 sheets/pad, 40 pads/box (165 mm)	
Constructions	<ul style="list-style-type: none"> <li>- Release paper</li> <li>- Adhesive</li> <li>- Base paper</li> </ul>	



### Features

- Use with reusable Rubber Rollers
- Excellent cleaning guaranteed
- Cost-effective

### 1) DCR-Pad with full adhesive area (standard)

Item Code	M14C-005	M14C-006
Size	330 mm x 240 mm	165 mm x 240 mm
Adhesive Area	330 mm x 180 mm	165 mm x 180 mm
Color	White (base paper)	
Descriptions	Full adhesive	



### 2) Black colored DCR-Pad for better dust visibility

Item Code	M14C-009	M14C-010
Size	330 mm x 240 mm	165 mm x 240 mm
Adhesive Area	330 mm x 180 mm	165 mm x 180 mm
Color	Black (base paper)	
Descriptions	Full adhesive Improved dust visibility	



### 3) BCR-Pad with adhesive free area

Item Code	M14C-007	M14C-008
Size	330 mm x 240 mm	165 mm x 240 mm
Adhesive Area	330 mm x 180 mm	165 mm x 180 mm
Color	White (base paper)	
Descriptions	Adhesive free on one end Easier to peel-off	



## Mop Trolley

Mop Trolley provides the utmost convenience and work efficiency to workers. All the components including buckets, wringer and casters are fully autoclavable to help maintain the trolley always clean. In addition, the whole trolley was designed around touchless mopping system, so workers wouldn't have to touch the mop refills throughout the entire cleaning stages.

Item Code	M31C-002
Main Material	Stainless Steel 304
Casters Material	Phenolic
Dimension	700x540 (mm) with handle and caster

### Features

- Fully compatible with following sterilizations: autoclaving, ETO, Gamma irradiation
- Removable handle for easier sterilization and storage
- 3 Buckets



## PU Swab



### Wet Mop

Wet Mop is the most popular 1/4" knitted tube mop that MEC supplies. The mop is made of 100% microfiber polyester, makes it incredibly liquid-absorbent while particle generation is suppressed at the reasonable level. It is cost-effective, easy to use and works great for the application.

Item Code	M19C-001	Wet Mop Set
	M19C-004	Wet Mop Refill
	M19C-011	Wet Mop Handle
Size	Mop	16 cm x 35 cm
	Handle	80 cm - 150 cm (Adjustable)
Material	Mop	100% Microfiber Polyester
	Handle	Aluminum

### Flat Mop with SUS Plate

SUS Flat Mop is the best cleanroom mop MEC has to offer. The mop is made 1/4" knitted tube yarn, cleanroom-laundered as well as packaged in cleanroom, plus stainless steel handle makes it extremely low particle-generating mop. High-class cleanrooms, hospitals and labs will be excellent applications for Flat Mop.

Item Code	M19C-003	SUS Flat Mop Set
	M19C-008 <td>SUS Flat Mop Refill </td>	SUS Flat Mop Refill
	M19C-010 <td>SUS Flat Mop Handle</td>	SUS Flat Mop Handle
Size	Mop	12 cm x 40 cm
	Handle	80 cm - 150 cm (Adjustable)
Material	Mop	100% Microfiber Polyester
	Handle	Stainless Steel

### Flat Mop with Plastic Plate

Plastic Flat Mop is endless knitted tube mop that is made of 100% microfiber polyester. This mop comes with simple, solid handle that provides excellent durability, while the mop frame has a foot-press button on top for easier mop replacement, making it one of the most convenient mops to work with.

Item Code	M19C-012	Plastic Flat Mop Set
	M19C-006 <td>Plastic Flat Mop Refill</td>	Plastic Flat Mop Refill
	M19C-015 <td>Plastic Flat Mop Handle</td>	Plastic Flat Mop Handle
Size	Mop	12.5 cm x 60 cm
	Handle	125 cm (Non-adjustable)
Material	Mop	100% Microfiber Polyester
	Handle	Galvanized Steel

### T Mop

T Mop is designed for cleaning windows, walls and ceilings because of the shape as well as lightweight aluminum frame. Cleanroom-laundered 100% microfiber polyester mop will be very effective at cleaning places your hands won't reach, and adjustable handle will make it even more viable.

Item Code	M19C-019	T Mop Set
	M19C-020 <td>T Mop Refill</td>	T Mop Refill
	M19C-021 <td>T Mop Handle</td>	T Mop Handle
Size	Mop	8 cm x 40 cm
	Handle	80 cm - 150 cm (Adjustable)
Material	Mop	100% Microfiber Polyester
	Handle	Aluminum



### Cleanroom Paper

Polstar Cleanroom Paper is specially designed for writing, printing and photocopying in Cleanroom environments. Through a polymerization process, fiber lint and particulates are tightly bound to each other. This reduces electrostatic buildup and ultimately minimizes the scrap rate of the copy paper Polstar Cleanroom Paper provides a variety of colors, sizes and weights.

#### Features

- LowTalc
- Recyclable
- Clear writing
- Double packing (Single packing - option) in cleanroom
- Smooth feeding and superior toner adherence in laser printers and PPC copiers
- High opacity and durability
- Good tear and tensile strength
- Ultra-low particle generation, extractable chemical substances and metallic ion content



#### Clean Paper (Roll type)



Item Code	Product	Weight (g)	Size (mm)		Packing
M01S-000	Cleanroom Paper	72	A3	420×297	250 sheets/pk, 5 pks/ctn
			A4	210×297	250 sheets/pk, 10 pks/ctn
			A5	210×148	250 sheets/pk, 20 pks/ctn
		80	B4	257×364	250 sheets/pk, 5 pks/ctn
			B5	182×257	250 sheets/pk, 10 pks/ctn
		100	Full Size	645×900	9 sheets of A4 size are available
	850×900			12 sheets of A4 size are available	
250	Cleanroom Paper (Roll type)	2", 3" (core)×30~1600 mm(W) ×30~10,000 m(L)			

\* Color: M01S-000 - White, S. Blue, R. Blue, L. Blue, Green, Pink, Yellow, Orange

M01S-000 (100 gsm) - White, S. Blue, R. Blue



## Clean Notebook



### Features

- Easy to write on
- Good Tear resistance
- High-density polyethylene cover and plastic spirals (a spiral type)
- Type: Spiral or Stapler
- Line: Ruled, Checked
- Size A4, A5, A6 (Custom sizes are also available)

## Clean Label

Polstar Clean Label is used for the purpose of memo, data writing or barcoding on wafer carriers or boxes. It is made of particle-free PP film with an acrylic based adhesive. It minimize contamination and leaves no residue on the surface after the label is removed. As the film is chemical treated for bar code printing, the frequency of error from a bar code reader is reduced.



M07S-000

## ESD Clear File

Item Code	M10S-001-TP-A4	M10S-002-TP-A3
Material	PP	
Size	A4	A3
Thickness	0.05 mm	
Surface Resistance	10e9 - 10e11 ohm	



## ESD Clipboard



Item Code	M11S-001-TP-A4	M11S-002-TP-A5
Material	Static Dissipative PMMA (Acrylic) / PC	
Body	S/Steel + Plastic	
Clip		
Size	A4	A5
Surface Resistance	10e6 - 10e8 ohm	

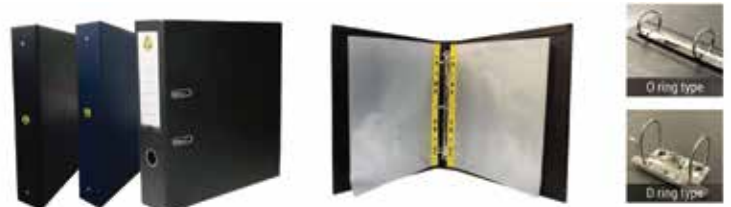
Item Code	M11S-006-BK-A4
Material	Static Dissipative Synthetic Leather / PC
Body	S/Steel + Plastic
Clip	
Size	A4
Color	Black
Surface Resistance	10e5 - 10e8 ohm

## Clean Sticky Notes



Item Code	M06S-001	M06S-002	M06S-003
Material	Clean Paper (72 g)		
Size	2"×3"	3"×3"	4"×3"

## ESD Ring Binder



Item Code	M15S-001	M15S-002	M15S-003	M15S-004	M15S-005	M15S-006
Material	PVC	PVC	PVC	PVC	PU	Paper
Color	Black	Black	Black	Black	Black	Blue
Thickness	45 mm	45 mm	75 mm	75 mm	45 mm	45 mm
Size	A4	A4	A4	A4	A4	A4
Ring	2 rings	3 rings	2 rings	3 rings	3 rings	3 rings
Surface Resistance	10e5 - 10e8 ohm					

## Cleanroom Ring Binder New



Item Code	M54S-001-color	M54S-002-color	M54S-003-color	M54S-004-color
Material	PE Cover + Metal or Plastic Ring			
Color	White(WH), Blue(BL), Red(RE), Black(BK)			
Ring	3 rings (Plastic)	3 rings (Metal)	3 rings (Metal)	3 rings (Metal)
Size	1"	1"	2"	3"

\* Class 10 Cleanroom Packets. \* Poly Pockets on the front cover for documentation or labeling. \* Each binder is individually double-bagged.

## Cleanroom Clipboard New



Item Code	M55S-001	M55S-002
Material	PE	
Color	White, Navy, Green, Red, Yellow, Orange	White, Navy, Green, Red, Yellow, Orange
Size	1.25"×9.125"×13" (for 8.5 × 11 sheet)	1.25"×9.125"×16" (for 8.5 × 14 sheet)
Packing	10 per pack	13 per pack

\* Class 10 Cleanroom Packets. \* 93% post industrial recycled material (BK, NA, GE)

### ESD Document Holder



Item Code	M14S-004
Material	PET
Size	A4
Thickness	0.2 mm
Surface Resistance	10e5 ~ 10e7 ohm (both sides)

#### Features

- Protect documents, especially thinner files
- Cleanroom compatible
- Open 2 ways (top & right side)



- ESD Treatment
- PET (125  $\mu$ m)
- ESD Treatment



Item Code	M14S-008	M14S-009
Width	20 mm	30 mm
Material	PETG	
Size	A4	
Color	Black	
Surface Resistance	10e5 ~ 10e8 ohm	



M14S-007



M14S-010



M14S-011

Item Code	M14S-007	M14S-010	M14S-011
Material	ABS	ABS	ABS
Paper Size	A4	A4	A4
Color	Black	Black	Black
Surface Resistance	10e5 ~ 10e8 ohm	10e5 ~ 10e8 ohm	10e5 ~ 10e8 ohm

## Cleanroom Pen



### Features

- Ball size: 0.8 mm
- Double poly packed in Class 10 (ISO 3)
- Low Sodium, Chloride and Heavy Metal used Ink
- Non-smearing permanent Ink
- Low outgassing and particulate generation material is used
- Barrel is made of HDPP (high-density polypropylene)
- Rectangular clip design

Item Code	Type	Color	Packing
M39S-004-BK	Stick type	Black	12 pcs/bag
M39S-004-BL		Blue	
M39S-004-RE		Red	
M39S-005-BK	Click type	Black	12 pcs/bag
M39S-005-BL		Blue	
M39S-005-RE		Red	

## Cleanroom Marker New



Item Code	M53S-001-BK	M53S-001-BL	M53S-001-RE	M53S-002-BK	M53S-002-BL	M53S-002-RE
Color	Black	Blue	Red	Black	Blue	Red
Descriptions	Dry erase, Chisel tip			Dry erase, Bullet tip		
Packing	12 markers per box			12 markers per box		



Item Code	Color	Descriptions	Packing
M53S-003-BK	Black	Felt tip, Water proof, Smear & fade-Resistant	12 markers per box
M53S-003-BL	Blue		
M53S-003-RE	Red		
M53S-003-GE	Green		

Item Code	Color	Descriptions	Packing
M53S-004-BK	Black	Chisel tip Permanent, Quick-drying, IPA-Resistant,	12 markers per box

### Microfiber Cleanroom Wiper New

#### A High-Performance Wiper for Critical Applications

The Microfiber Wiper, INOX-1008, represents the next generation of cleaning solutions, carefully designed to meet the high standards of modern high-tech industries. This product offers comparable performance to leading wipers such as S\*\*\*na MX, making it a reliable and cost-effective alternative for cleanrooms and other sensitive environments. Engineered with a high-density structure, it delivers superior cleaning performance and durability to meet the most strict cleanliness standards.

Unlike many other typical microfiber wipers that use 75 denier, 36-filament fabric, our Microfiber Wiper is made with 75 denier, 48-filament fabric, resulting in a significantly higher density. This advanced structure ensures enhanced cleaning efficiency, outperforming conventional wipers.



Model	Item Code	Size
Inox-1008	M02W-041	9" x 9"
	M02W-042	5" x 5"

#### Technical Specifications

Item	Unit	Specifications
Material	-	Knitted Polyester + Micro Denier Nylon (High Density)
Cutting		By Laser
Size	inch	9 x 9, 5 x 5
Weight	g/m <sup>2</sup>	Min. 180
Thickness	mm	0.45 ± 0.03
Air Particles	ea/sh(≥0.3μm)	Max. 30 (9"x9")
Absorption Amount	g/m <sup>2</sup>	Min. 350
Absorption Rate	sec	Max. 10
Cleanroom Grade	-	Class 100 (ISO 5)

#### Features

- High-Density Construction
- Negligible Lint Generation
- Excellent Water Absorbency
- Low Ion Dissolution
- Exceptional Cleaning Power

#### Applications

**Ideal for critical environments such as:**

- Semiconductor and LCD manufacturing.
- Laboratories requiring strict dust control.
- Cleanrooms for pharmaceutical and medical device production.

### Microfiber Woven Wiper New

#### Technical Specifications

Item	Unit	Specifications
Material	-	Polyester 80% + Micro Denier Nylon 20% (Woven type)
Cutting		By Laser
Size	inch	9 x 9, 5 x 5
Weight	g/m <sup>2</sup>	Min. 120
Thickness	mm	0.3 ± 0.26
Air Particles	ea/sh(≥0.3μm)	Max. 30 (9"x9")
Absorption Amount	g/m <sup>2</sup>	Min. 230
Absorption Rate	sec	Max. 10
Cleanroom Grade	-	Class 100 (ISO 5)



Model	Item Code	Size
Inox-1002	M02W-039	9" x 9"
	M02W-040	5" x 5"

## Polyester Knit Wiper

### Features

- 100% Polyester continuous yarn
- Cost-effective solution
- Good absorption capacity
- Low particle generation
- Double packed in Class 100~1000 Cleanroom



Model	Item Code	Size
Inox-3140	M01W-025	9"×9"
	M01W-039	6"×6"
	M01W-038	4"×4"
	M01W-037	2"×2"
Inox-3070	M01W-026	9"×9"

## Micro-Denier Fiber Wiper

### Features

- Excellent wiping without scratches
- Extremely low non-volatile residues and ions
- Excellent absorption capacity
- Suitable for sensitive surface by its soft texture
- Double packed in Class 10~100 Cleanroom



Model	Item Code	Size
Inox-1003	M02W-004	9"×9"
	M02W-005	6"×6"
	M02W-006	4"×4"

Model	Item Code	Size
Inox-1006	M02W-007	9"×9"
	M02W-008	6"×6"
	M02W-009	4"×4"



Model	Item Code	Size
Inox-1050	M02W-027	9"×9"

Model	Item Code	Size
Inox-1080	M02W-028	9"×9"

Item Code	Size
M06W-020	9"×9"
M06W-021	6"×6"
M06W-022	4"×4"

### PVA Sponge Wiper

#### What is a PVA Sponge?

The PVA Sponge is a kind of wiper that is composed of uniform and continuous foamed open cells made by aged Poly Vinyl Alcohol as a raw material. The PVA Sponge has an excellent chemical resistance. It is lint & dust free and soft. The PVA Sponge can be used in many industries, such as a sophisticated cleaning sector in semiconductor industry or health & beauty industries. With being able to adjust its absorption, elasticity, size, density, color and shape, PVA sponge is highly versatile, which easily fits in any industrial fields.

#### Features

- Excellent ability to remove moisture due to a strong hydrophilic properties, allowing it to absorb water more than 10 times of its own weight.
- Soft and elastic in wet texture
- No lint or dust is generated during the cleaning.
- Excellent chemical resistance & abrasion resistance

#### General use (sheet or blocks)

Widely used in various industrial fields, such as Cleanroom, PCB, Glass, Mirror, Optical instrument and many others. Other types (block, roller, sheet, etc.) are available.



Packing 2 mm (T) x 9" x 9" 10 sheets/pack, 20 packs/ctn



M04W-000

#### Used in FPD & Semiconductor industries

Cleaning wafer surface after Chemical Mechanical Polishing (CMP) process.



PVA Sponge Roller (Embossing Type)



PVA Sponge Roller (Flat Type)



PVA Sponge Roller (Spur Type)



PVA Sponge Roller (Disk Type)

### Non-Woven Wiper

#### Features

- High absorbency
- Low particle generation & non-volatile residues

#### Applications

- Pre-cleaning for spare parts of equipment
- Cleanroom wall
- Cleanroom access floor
- Applicable for cleanroom environments



M05W-000



M05W-009



M05W-010



M05W-011



M05W-012



M05W-013

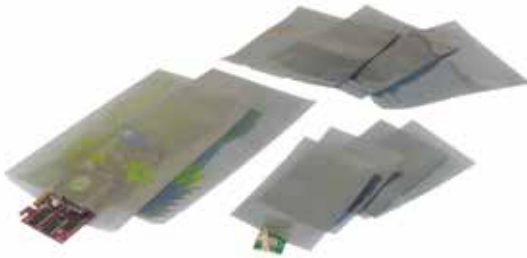
Item Code		M05W-009		M05W-010		M05W-011		M05W-012		M05W-013	
Parts No.		2025		2125		2225		2323		2429	
General Information											
Weight	g/m <sup>2</sup>	30	± 3	30	± 3	35	± 3	68.2	± 3	80	± 3
Thickness	mm	0.25	± 0.02	0.25	± 0.02	0.3	± 0.02	0.264	± 0.02	0.5	± 0.01
Width	mm	250	± 2	250	± 2	250	± 2	230 (9")	± 2	290	± 2
Length	mm	250	± 2	250	± 2	250	± 2	230 (9")	± 2	300	± 2
Compositions	%	Rayon 70 PET 30		Rayon 70 PET 20 / *LMP 10		Rayon 100		Polyester 45 Cellulose 55		PP Non-Woven 100	
Standard Packing		100pcs/bag 30bags/carton		100pcs/bag 30bags/carton		100pcs/bag 30bags/carton		300pcs/bag 10bags/carton		50pcs/bag 10bags/carton	

Vital Statistics		*LMP(Low Melt Polyester)									
Fibers	(ea/m <sup>2</sup> )	9.5		9.2		< 30		-		3.2	
Particles	≥ 0.3μm	-		-		20-50	Biaxial Shake	-		-	
	≥ 0.5μm	25	Biaxial Shake	13	Biaxial Shake	250	LPC	7×10 <sup>8</sup>	TM-107 (Air)	≥ 30	Biaxial Shake
	cu.ft	980	Helmke Drum	83	Helmke Drum	-		-		-	
Absorbency	cc/m <sup>2</sup> , sec.	337		313		380		< 4	TM-108 (sec.)	320	
Time to 1/2 sorption	sec	2		2		1		-		2	
2-Propanol	%	0.011		0.017		0.017		-		0.017	

Ions											
Na	ppm	98		99		23		61		25.34	
K	ppm	8.5		9.1		0.7		7		4.18	
Ca	ppm	ND		ND		< 0.15		-		1.13	
Mg	ppm	ND		ND		-		-		0.25	
Cl	ppm	-		-		5.3		18		15.99	
NO <sub>2</sub>	ppm	-		-		-		-		4.45	
NO <sub>3</sub>	ppm	-		-		-		-		7.83	
SO <sub>4</sub>	ppm	-		-		-		-		21.02	
NH <sub>3</sub>	ppm	-		-		-		-		5.42	
Fe	ppm	-		-		-		-		0.15	
Cu	ppm	-		-		-		-		0.1	
Al	ppm	-		-		-		-		0.098	
Ni	ppm	-		-		-		-		ND	
Zn	ppm	-		-		< 0.15		-		0.15	
Mn	ppm	-		-		-		-		0.15	
Residue/Water	ppm	-		-		180		-		0.10	
Residue/IPA	ppm	-		-		50		-		-	

### Static Shielding Bag (SSB)

SSB is manufactured by depositing a thin metal coating, like aluminum over antistatic polyester film substrate. This metalized layer protects the devices or the components in the bag from electrostatic fields. According to the position of the metalized layer, there are two types of metalized shielding bags, "Metal-In" and "Metal-Out", in the market. A metal-in bag or a buried metal shielding bag is the most commonly used and recommended for packaging of static-sensitive components. It also tends to be superior to a metal-out bag in durability and cost. A metal-out shielding bag also protects the devices in the bag against static-induced damage. As the metal layer is closer to the outside surface, the metal-out shielding bag has lower ESD reading than a metal-in bag. The SSB we offer is a metal-in type, which has the metalized layer inside.



#### Regular Sizes in Stock

Product	Item Code	Size (D, W) x L	Item Code	M04P-000
Static Shielding Bag	M04P-069	3mils x 90 x 120mm	Thickness	55 - 200 µm (Common: 75 µm)
	M04P-070	3mils x 130 x 200mm	Maximum Width	1,250 mm
	M04P-071	3mils x 160 x 250mm	Surface Resistance	10e9 - 10e11 ohm
	M04P-072	3mils x 180 x 280mm	Constructions	
	M04P-073	3mils x 200 x 300mm		
	M04P-074	3mils x 250 x 350mm		
	M04P-075	3mils x 300 x 400mm		
	M04P-076	3mils x 350 x 450mm		
M04P-077	3mils x 400 x 500mm			

-W/O logo printings

### Antistatic PE Bag (APB)

Item Code	M07P-000
Thickness	40-200 µm (Common: 50 µm, 80 µm)
Maximum Width	1,000 mm
Color	Pink, Blue, etc.
Surface Resistance	10e9 - 10e11 ohm
Constructions	



#### Features

- Cost-effective bag
- Suitable for less sensitive components for ESD

### Packaging Film

Item Code	Product Name	Width (mm)	Length/roll (m)	Thickness (µm)
M08P-000	Film for Tyvek/MBB	200-900	1000	247-307
M09P-000	Film for AMBB	200-1200	1000	62-200
M10P-000	Film for ANMBB	200-1200	1000	62-200
M11P-000	Film for SSB	200-1500	1000	55-200
M17P-000	Film for TMBB	200-1200	1000	62-200
M12P-000	Film for CBPB	50-700	1000	40-200
M13P-000	Film for APB	50-1000	1000	40-200

**Thickness units**  
 Mil - 0.001 inch, ex) 3 mils = 0.003 x 25.4mm = 0.0762mm = 76.2 microns  
 Micron - 1/1,000,000 m (1/1,000 mm = 0.001 mm), ex.) 100 microns = 100/25.4 = 3.93 mils  
 MM - 0.15 mm = 150 microns

**MVTR**  
 The Moisture Vapor Transmission Rate (MVTR) is the rate that water vapor passes through a specific area of barrier material. MVTR is measured in grams of water vapor per 100 square inches of barrier per 24 hours (g/100 in 2/24 h). EIA 583 Packaging Material Standards for Moisture-Sensitive Items defines a Class 1 barrier as having an MVTR of <0.02 g/100 in 2/24 h. A Class 2 barrier is set at <0.08 g/100 in 2/24 h.



All types of pre-laminated packaging films, thicknesses and sizes are available.

### Conductive Black PE Bag (CBPB)

Item Code	M06P-000
Thickness	40 - 200 µm (Common: 80 µm, 100 µm)
Maximum Width	700 mm
Surface Resistance	10e3 - 10e6 ohm
Constructions	



#### Features

- Cost-effective bag
- Low surface resistance

### Moisture Barrier Bag (MBB)

It is essential to keep Surface-Mount Devices (SMDs) dry from manufacturing point to the time of reflow soldering. Moisture Barrier Bag, also known as Vapor Barrier Bag, is made by multiple layers of plastic and a thin aluminium layer or aluminized layer that controls moisture vapor leakage. Basically, there are 3 kinds of Moisture Barrier Bags (MBBs), Tyvek MBB, AMBB and ANMBB, in the market. The key factor of moisture barrier function of the bag is a metal layer or a metalized layer, like thickness of the foil layer, metalized layer, etc., but the thickness or the material of other layers also affects the quality of MBB as well.



Product	Tyvek Moisture Barrier Bag (Tyvek MBB)
Item Code	M01P-000
Thickness	307 µm, 247 µm
MVTR*	< 0.02 g/100 sqinch/24h
Constructions	

Tyvek MBB is ideal for moisture sensitive devices or components, and especially suitable for sharp-shape components thanks to its excellent puncture resistance.



Product	Aluminum Moisture Barrier Bag (AMBB)
Item Code	M02P-000
Thickness	307 µm, 247 µm
MVTR*	< 0.02 g/100 sqinch/24h
Constructions	

AMBB is a good choice for moisture sensitive devices and components. Depending on the products stored in the bag and the periods of storage, you have several selections on AMBB by adjusting the total thickness of the bag, the thickness of AL foil layer, etc.

## Cleanroom Packaging Bags New

- Manufactured in class 100 cleanroom
- Ultra-clean materials
- Low LPC, IC, NVR & Outgassing

### Cleanroom LDPE Bag

- Item Code M20P-000
- Clean material up to class 10 compatible
  - Heat sealable
  - FDA approved grades are available
  - IPA resistant printings are available



### Cleanroom Nylon Bag

- Item Code M24P-000
- Excellent puncture resistant and tensile strength
  - Heat sealable
  - High transparency



### Cleanroom Aluminum Bag

- Item Code M25P-000
- Excellent moisture and oxygen barrier
  - Ideal for vacuum packing



### Cleanroom Static Shielding Bag

- Item Code M26P-000
- Excellent ESD shielding properties

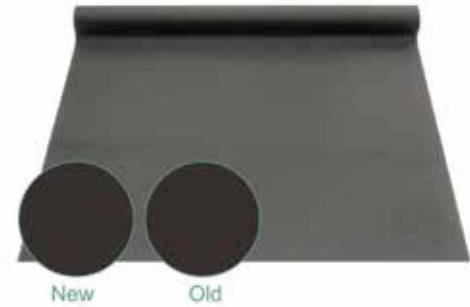


## Desiccant (cont.)

Product Item Code	Ultra Dry-PAK M15P-100	Silica-Gel M15P-001 (3 g)
Appearance		
Material	Bentonite (Clay)	Silica-gel
Packing	Non-woven + Paper	OPP, Paper, Tyvek, Non-woven
Unit	50 g	3, 5, 10, 20, 30, 50, 100 g

## ESD Opaque Black Grid Curtain Film

This is not a homogeneous constitution, but a specially formulated conductive carbon grid printed on opaque black PVC film. The surface resistance of the carbon printed side is  $10e4-10e6$  ohm. This film is good for shielding screen effect with conductive surface.

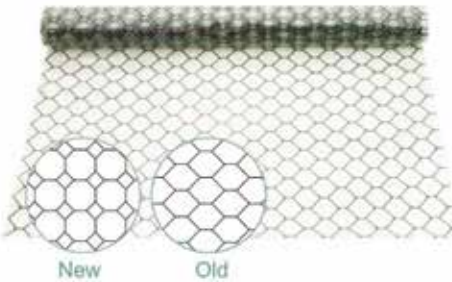


Model	Item Code	Size
P-PGB	M09Y-001	0.3 mm(T)×1370 mm×30 m
	M09Y-005	0.5 mm(T)×1370 mm×20 m

## Cleanroom & ESD / Walls & Partitions

### ESD Grid Curtain Film

Specially formulated conductive carbon grid printed on normal transparent PVC film. The surface resistance of the carbon printed side is  $10e4-10e6$  ohm.



Model	Item Code	Size
P-PGF	M05Y-004	0.3 mm(T)×1370 mm×30 m
	M05Y-013	0.3 mm(T)×1370 mm×50 m
	M05Y-009	0.5 mm(T)×1370 mm×20 m
	M05Y-011	1 mm(T)×1000 mm×20 m

### ESD Clear Curtain Film

This is a homogeneous antistatic transparent PVC film made of antistatic compounded PVC, not antistatic coated material. ESD properties remain permanent. The surface resistance is  $10e8-10e10$  ohm and the volume resistance is  $10e7-10e9$  ohm.



Model	Item Code	Size
P-PCH (Homogeneous Type)	M06Y-002	0.3 mm(T)×1370 mm×30 m
	M06Y-006	0.5 mm(T)×1370 mm×20 m
	M06Y-010	1 mm(T)×1200 mm×20 m
	M06Y-014	2 mm(T)×1200 mm×10 m

### ESD UV Clear Curtain Film

Homogeneous yellow tinted antistatic PVC film for the protection of harmful ultraviolet ray. The surface resistance is  $10e8-10e10$  ohm and the volume resistance is  $10e7-10e9$  ohm.



Model	Item Code	Size
P-PUH (Homogeneous Type)	M07Y-001	0.3 mm(T)×1370 mm×30 m

### ESD Opaque Black Curtain Film

This is a homogeneous antistatic opaque black PVC film made of antistatic compounded PVC, not antistatic coated material. ESD properties remain permanent. The surface resistance is  $10e8-10e10$  ohm and the volume resistance is  $10e7-10e9$  ohm.

Model	Item Code	Size
P-PBH (Homogeneous Type)	M10Y-001	0.3 mm(T)×1370 mm×30 m

### ESD Opaque Black Grid Curtain Film, Both sides

This is not a homogeneous constitution, but a specially formulated conductive carbon grid printed on opaque black PVC film on both sides. The surface resistance of the both sides are  $10e4-10e6$  ohm.



Model	Item Code	Size
P-PGG	M09Y-002	0.3 mm(T) × 1370 mm × 30 m
	M09Y-003	0.5 mm(T) × 1370 mm × 20 m

### ESD Clear Adhesive Curtain Film

This is a homogeneous antistatic transparent PVC film with adhesive one side. ESD properties remain permanent. The surface resistance is  $10e8-10e10$  ohm and the volume resistance is  $10e7-10e9$  ohm. This film can be applied to any insulated walls, windows, partitions and other insulative materials.



Model	Item Code	Size
P-PAH (Homogeneous Type)	M11Y-002	0.25 mm(T) × 1200 mm × 10 m

## ESD Strip Door & Folding Door

### ESD Strip Door Curtain Film

Polstar Strip Door Curtain Film is recommendable for the gates or entrances of factories that are frequently opened and closed. It saves energy by keeping the temperature of the factories. It also prevents wind, insects and any foreign materials from coming inside of the factories.

4 options, general purpose of strip door curtain film, cold resistant strip door curtain film, anti-insect strip door curtain film and antistatic strip door curtain film, are available.



Item Code	M16Y-000
Model	P-PSF
Surface Resistance	$10e8 - 10e10$ ohm
Color	Bluish Transparent / Greenish Transparent
Available Sizes	2 mm(T) × 200 mm × 30 m
	2 mm(T) × 300 mm × 30 m
	3 mm(T) × 300 mm × 30 m



### Accessories for P-PSF



Strip Door Frame  
M18Y-004



Strip Door Hanger  
M18Y-005

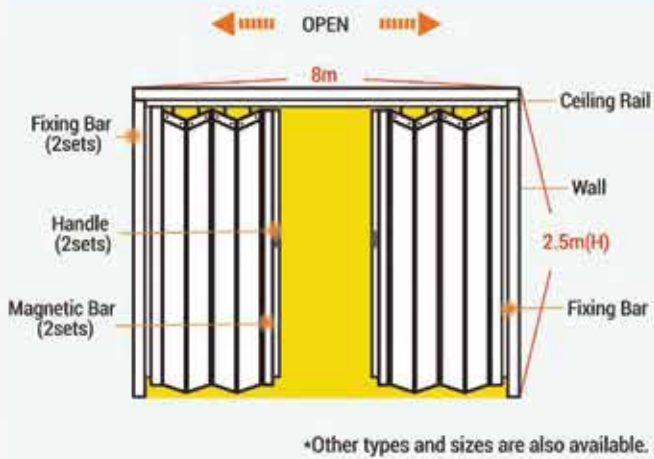
## ESD Clear Adhesive Curtain Film



Homogeneous antistatic foldable film is suitable to make clean booths, soft partitions, walls, doors, etc. The standard size is 1.35 mm(T) x 1000 mm(W) x 12 m(L) and there are 8 folding lines in 1000mm width all the way to the length direction. Two colors, greenish clear and yellowish clear, are available.

Item Code	M21Y-000
Model	P-PFF
Surface Resistance	10e8 ~ 10e10 ohm
Color	Yellowish, Greenish Transparent
Available Sizes	1.35 mm(T) x 1000 mm(W) x 12 m(L)

### The drawing of ESD folding door



### Accessories for P-PFF



Runner  
M18Y-001



Hanger  
M18Y-003



Rail  
M18Y-002



### ESD Floor Marking Tape

PET laminated PVC tape with ESD Symbol and the letter "ESD Protected Area"

#### Features

- Color coding
- Safety Markings
- Indication of "ESD Protected Area", "ESD Controlled Area", "ESD Safe Area", etc.

### ESD Marking Tape

PVC tape with antistatic treatment on both sides



### ESD Marking Tape with Printings

PET laminated PVC tape with printings and antistatic treatment on both sides



Item Code	M03T-000
Model	PT-CMT
Color	Green, Yellow, Blue, Red, White
Surface Resistance	10e7 ~ 10e9 ohm
Thickness	140 μm
Size	1", 3/4", 2", 4" × 33 m, 1000 mm × 33 m (Jumbo roll)
Packing	60 rolls/ctn (25 mm × 33 m) 30 rolls/ctn (50 mm × 33 m)

Item Code	M04T-000
Model	PT-CMP
Color	White, Blue, Yellow, Red, Green, Black&Yellow
Surface Resistance	10e7 ~ 10e9 ohm
Thickness	145 μm
Size	1/2", 1", 3/4", 2", 4" × 33 m/roll, 1000 mm × 33 m (Jumbo roll)
Packing	60 rolls/ctn (25 mm × 33 m) 30 rolls/ctn (50 mm × 33 m)



- Antistatic treatment
- PVC (110 μm)
- Antistatic treatment
- Antistatic acrylic adhesive (30 μm)



- Antistatic treatment
- PET (15 μm)
- ESD logo printed PVC (100 μm)
- Antistatic treatment
- Antistatic acrylic adhesive (30 μm)

## ESD Floor Marking Tape

PET laminated PVC tape with ESD Symbol and the letter "ESD Protected Area"

### Features

- ESD properties on both surfaces
- Printings will not wear off easily thanks to PET laminating layer
- Resistant to floor cleaners
- Good abrasion resistance
- Heavy duty
- Plastic core for less particles

Item Code	M05T-000
Model	PT-EMT
Color	Black printing on yellow
Surface Resistance	10e7 ~ 10e9 ohm
Thickness	145 µm
Size	50 mm × 33 m / roll
Packing	30 rolls/ctn



- Antistatic treatment
- PET Film (15 µm)
- Printed PVC Film (ESD symbol and "ESD Protected Area") (100 µm)
- Antistatic treatment
- Antistatic acrylic adhesive (30 µm)

## ESD Packing Tapes

ESD Packing Tapes have been developed to protect static sensitive products from static electric ity generated by triboelectricity when they are unrolled or removed from the objects. ESD packing tapes generate very low static voltage while normal tapes yield about 1KV to 9.5KV to 14KV under the same conditions.

### Applications

- Bundle of DIP IC Tubes
- Seal Static Shielding Bags
- Pack Conductive IC Trays
- Pack Wafer Carrier
- Attach a Note in Cleanroom
- EM! Shielding
- Covers for External Plugs

## Antistatic Utility Tape (Standard)

Metallized PET film with antistatic acrylic adhesive.



Item Code	M01T-000
Model	NAT-801
Surface Resistance	10e7 ~ 10e9, Back: 10e11 ~ 10e12 ohm
Thickness	50 µm
Size	1/2", 1", 3/4", 2" × 50 m/roll, 1200 mm × 50 m (Jumbo roll)
Packing	100 rolls/ctn (25 mm × 50 m) 50 rolls/ctn (50 mm × 50 m)



- Metallized PET (25 µm)
- Antistatic treatment
- Antistatic acrylic adhesive (25 µm)

### Antistatic Utility Tape (Halogen Free+ Standard)

Metallized PET film with antistatic acrylic adhesive.



Item Code	M38T-000
Model	NAT-801
Surface Resistance	10e7 ~ 10e9, Back: 10e11 ~ 10e12 ohm
Thickness	50 μm
Size	1/2", 1", 3/4", 2" × 50 m/roll, 1200 mm × 50 m (Jumbo roll)
Packing	100 rolls/ctn (25 mm × 50 m) 50 rolls/ctn (50 mm × 50 m)



- Metallized PET (25 μm)
- Antistatic treatment
- Antistatic acrylic adhesive (25 μm)

### ESD Control Tape

Cellulose based synthetic film with antistatic acrylic adhesive



Item Code	M02T-000
Model	NAT-803
Surface Resistance	10e8 ~ 10e9, Back: 10e10 ~ 10e11 ohm
Thickness	55 μm / 48 μm
Size	1", 2" × 50 m/roll, 600 mm × 50 m (Jumbo roll) 800 mm × 50 m (Jumbo roll)
Packing	100 rolls/ctn (25 mm × 50 m) 50 rolls/ctn (50 mm × 50 m)



- Cellulose film (30 μm/40 μm)
- Antistatic acrylic adhesive (25 μm/8 μm)

### ESD Control Tape with Printings

Cellulose based synthetic film with antistatic acrylic adhesive & ESD logo printings



Item Code	M26T-000
Surface Resistance	10e8 ~ 10e9, Back: 10e10 ~ 10e11 ohm
Thickness	55 μm
Size	1", 2" × 50 m/roll, 600 mm × 50 m (Jumbo roll)
Packing	100 rolls (25 mm × 50 m) 50 rolls (50 mm × 50 m)



- Cellulose film (30 μm)
- Antistatic acrylic adhesive (25 μm)

## Antistatic Grid Tape

Metallized PET film with ESD symbol and carbon grid printing



Item Code	M06T-000
Model	PT-CGT
Surface Resistance	10e7 ~ 10e9, Back: 10e8 ~ 10e9 ohm
Thickness	50 μm
Size	1/2", 1", 3/4", 2" × 50 m/roll, 1000 mm × 50 m (Jumbo roll)
Packing	100 rolls/ctn (25 mm × 50 m) 50 rolls/ctn (50 mm × 50 m)



- Carbon Printing
- Metallized PET (25 μm)
- Antistatic treatment
- Antistatic acrylic adhesive (25 μm)

## Antistatic OPP Tape

Antistatic treated OPP film tape with rubber adhesive



### Features

- Keep semi-permanent antistatic properties
- Strong adhesive power
- Environment friendly material

Item Code	M20T-000
Model	PT-CGT
Surface Resistance	10e11 ~ 10e12, Back: 10e7 ~ 10e10 ohm
Thickness	67 ± 5 (Film: 40 μm)
Size	1", 2" × 50 m/roll, 1000 mm × 50 m (Jumbo roll)
Packing	100 rolls/ctn (25 mm × 50 m) 50 rolls/ctn (50 mm × 50 m)



- Antistatic treatment
- OPP (40 μm)
- Rubber adhesive (20 μm)

## Antistatic OPP Tape with Printings

Antistatic treated ESD logo printed OPP tape with rubber adhesive



### Features

- Keep semi-permanent antistatic properties
- Strong adhesive power
- Environment friendly material

Item Code	M21T-000
Surface Resistance	10e11 ~ 10e12, Back: 10e7 ~ 10e10 ohm
Thickness	67 ± 5 (Film: 40 μm)
Size	1", 2" × 50 m/roll, 1000 mm × 50 m (Jumbo roll)
Packing	100 rolls/ctn (25 mm × 50 m) 50 rolls/ctn (50 mm × 50 m)



- Antistatic treatment
- ESD Logo printed OPP (40 μm)
- Rubber adhesive (27 μm)

### Masking Tapes

#### HT PET Masking Tape

High temperature PET film masking tape with silicone adhesive



Item Code	M12T-010-OG	M12T-011-OG	M12T-100-OG
Size	1170 mm×50 m	50 mm×50 m	1000 mm×50 m
Color	Olive Green		Olive Green
Backing Material	PET		PET
Adhesive	Silicone		Silicone
Thickness	60 μm		70 μm

#### Crepe Masking Tape

Crepe paper masking tape for painting on general/automotive/ electric field



Item Code	M45T-001-YE	M45T-002-YE
Size	1250 mm×40 m	50 mm×40 m
Color	Yellow	
Backing Material	Crepe Paper	
Adhesive	Rubber	
Thickness	150 μm	

#### Polyimide Tape

Polyimide film with thermal resistant silicone adhesive

##### Features

- Heat resistance: 250 °C
- Excellent solvent and chemical resistance

##### Applications

- Masking PCB during a wave soldering or a solder dip process



#### Antistatic Polyimide Tape

Polyimide film with thermal resistant silicone adhesive and antistatic properties

##### Features

- Heat resistance: 250 °C
- Flame retardant
- Excellent solvent and chemical resistance

##### Applications

- Masking PCB during a wave soldering or a solder dip process



Item Code	M17T-000
Model	PT-PIT
Thickness	65 μm
Size	10 mm, 20 mm, 25 mm, 50 mm×33 m/roll, 1000 mm×33 m (Jumbo roll)
Packing	100 rolls/ctn (25 mm×33 m) 50 rolls/ctn (50 mm×33 m)

Item Code	M13T-000
Model	PT-APT
Thickness	65 μm
Surface Resistance	10e5 ~ 10e8 ohm
Size	10 mm, 20 mm, 25 mm, 50 mm×33 m/roll, 1000 mm×33 m (Jumbo roll)
Packing	60 rolls/ctn (25 mm×33 m) 30 rolls/ctn (50 mm×33 m)



- Polyimide film (25 μm)
- Silicone adhesive (40 μm)



- Antistatic treatment
- Polyimide film (25 μm)
- Silicone adhesive (40 μm)

Automatic Shoe Cover Dispenser



Item Code	M67E-001
Shoe Cover Capacity	PE: 200 pcs CPE: 160 pcs Non-woven: 100 pcs
Power Supply	AC220V 50Hz
Machine Size	63(L)×31(W)×101(H) cm
Packing Size	71(L)×37.5(W)×107.5(H) cm/ctn
Net Weight	20 kg/set
Gross Weight	22 kg/set/ctn



Item Code	M67E-002
Shoe Cover Capacity	PE: 100 pcs CPE: 80 pcs Non-woven: 50 pcs
Power Supply	AC220V 50Hz
Machine Size	63(L)×31(W)×75(H) cm
Packing Size	71(L)×37.5(W)×82(H) cm/ctn
Net Weight	20 kg/set
Gross Weight	22 kg/set/ctn



Item Code	M02D-003
Material	Non-woven
Net Weight	4 g/pc
Thickness	0.13 mm
Packing	100 pcs/box, 21 box/ctn, 2100 pcs/ctn
Packing Size	49×80×63 cm(H)/ctn
Gross Weight	15 kg/ctn



Item Code	M02D-004
Material	Non-woven
Net Weight	4 g/pc
Thickness	0.13 mm
Packing	50 pcs/box, 42 box/ctn, 2100 pcs/ctn
Packing Size	49×80×65 cm(H)/ctn
Gross Weight	15 kg/ctn

### Cleanroom & ESD Chair

Item Code	M22E-001	M22E-002	M22E-003	M22E-018	
Appearance					
Material	Seat	ESD PU leather	ESD PU leather	ESD PU leather	
	Back	ESD PU leather	ESD PU leather	Antistatic & ESD PU leather	
	Body	Aluminium + Metal with hard chrome coating			Chroming steel
	Caster	Metal	Metal	Metal	Conductive plastic
Color	Black	Body: Black Pad: Blue or Black	Blue or Black	Blue or Black	
Surface Resistance (ohm)	10e5 ~ 10e8	10e5 ~ 10e8	10e5 ~ 10e8	10e3 ~ 10e6 (Conductive type)	
Resistance to Ground (ohm)	10e5 ~ 10e8	10e5 ~ 10e8	10e5 ~ 10e8	10e6 ~ 10e9 (ESD type)	
Back Seat Size (W x H)	43 cm x 37 cm	44 cm x 50 cm	-	40 cm x 30 cm	
Seat Size (W x D)	48 cm x 43 cm	45 cm x 40 cm	39 cm (dia)	43 cm x 40 cm	
Height (Bottom to Seat) (Adjustable)	45 cm ~ 59 cm	41 cm ~ 56 cm	45 cm ~ 59 cm	44 cm ~ 58 cm	
Filter System	Air Exhausted from sealed cushion is passed through HEPA filter	-	-	-	
Cleanroom Class	1,000 ~ 10,000	1,000 ~ 10,000	1,000 ~ 10,000	-	

Item Code	M22E-007	M22E-008	M22E-015	M22E-019	
Appearance					
Material	Seat	ESD PU leather	ESD PU leather	ESD PU leather	
	Back	ESD PU leather	ESD PU leather	ESD PU leather	
	Body	Aluminium + Metal with hard chrome coating			Aluminium diecasting
	Caster	Chrome coating to aluminium diecasting			Conductive plastic castor
Color	Blue or Black	Blue or Black	Blue or Black	Blue	
Surface Resistance (ohm)	10e5 ~ 10e8	10e5 ~ 10e8	10e5 ~ 10e9	10e4 ~ 10e6	
Back Seat Size (W x H)	44 cm x 50 cm	44 cm x 50 cm	40 cm x 30 cm	39 cm x 29 cm	
Seat Size (W x D)	45 cm x 40 cm	45 cm x 40 cm	48 cm x 43 cm	44 cm x 40 cm	
Height (Bottom to Seat)	47 cm ~ 61 cm	41 cm ~ 56 cm	44 cm ~ 59 cm	49 cm ~ 69 cm	
Filter System	-	-	Air Exhausted from sealed cushion is passed through HEPA filter	-	
Cleanroom Class	1,000 ~ 10,000	1,000 ~ 10,000	1,000 ~ 10,000	-	

## ESD Chair

Item Code	M73E-001	M73E-002	M73E-003	M73E-005	
Appearance					
Material	Seat	ESD Fabric	ESD Fabric	ESD Fabric	PU Foam
	Backrest	ESD Fabric	ESD Fabric	ESD Fabric	PU Foam
	Support (Backrest)	Chrome Plating metal	Metal with hard chrome coating	Metal with hard chrome coating	Metal with hard chrome coating
	Base	Chrome Plating metal (dia. 300 mm)	Chrome Plating metal (dia. 320 mm)	Aluminum (dia. 320 mm)	Chrome Plating metal
	Caster	Chrome Plating metal	Chrome Plating metal	Chrome Plating metal	Chrome Plating metal
Surface Resistance (ohm)	10e5 ~ 10e8	10e5 ~ 10e8	10e5 ~ 10e8	10e6 ~ 10e9	
Seat Size (W×D)	46 cm×41.5 cm	42 cm×47 cm	42 cm×47 cm	40 cm×44 cm	
Backrest (W×D)	38 cm×33 cm	42 cm×40 cm	48 cm×46 cm	40 cm×30 cm	
Features	High quality gas spring Seat Height is adjustable Backrest support is adjustable	High quality gas spring Seat Height is adjustable Backrest support is adjustable	High quality gas spring Seat Height is adjustable Backrest support is adjustable	<ul style="list-style-type: none"> <li>No particle issue that occurs in synthetic leather, fabrics, etc.</li> <li>Polyurethane foam offers great overall durability</li> <li>Remarkably comfortable due to wider seat and backrest</li> </ul>	

## ESD CR Chair Cover



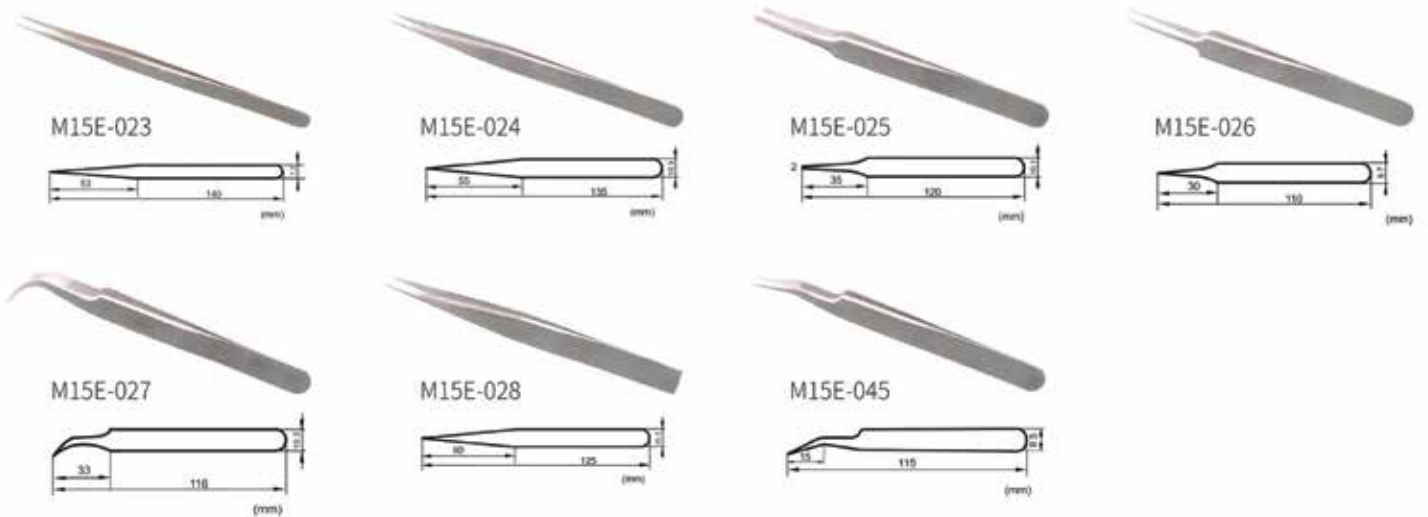
Item Code	M23E-001	Color	Navy Blue, Black
Size	1.2 mm(T)×1,370 mm×40 m	Surface Resistance	< 10e10 ohm

### Tweezers

#### Stainless Steel Tweezers

##### Features

- Swiss Style ST Precision Stainless Steel Tweezers
- Anti-Magnetic, Anti-Acid, Non-Corrosive
- Precision Crafted ST Pattern Style Tweezers, Among the Most Popular Choices
- Made from ST Stainless Steel with a Rockwell Hardness Rating of 40HRC
- Hand-finished precision tips may result in slight variations, which is an industry standard practice



#### Epoxy Coated Tweezers

##### Features

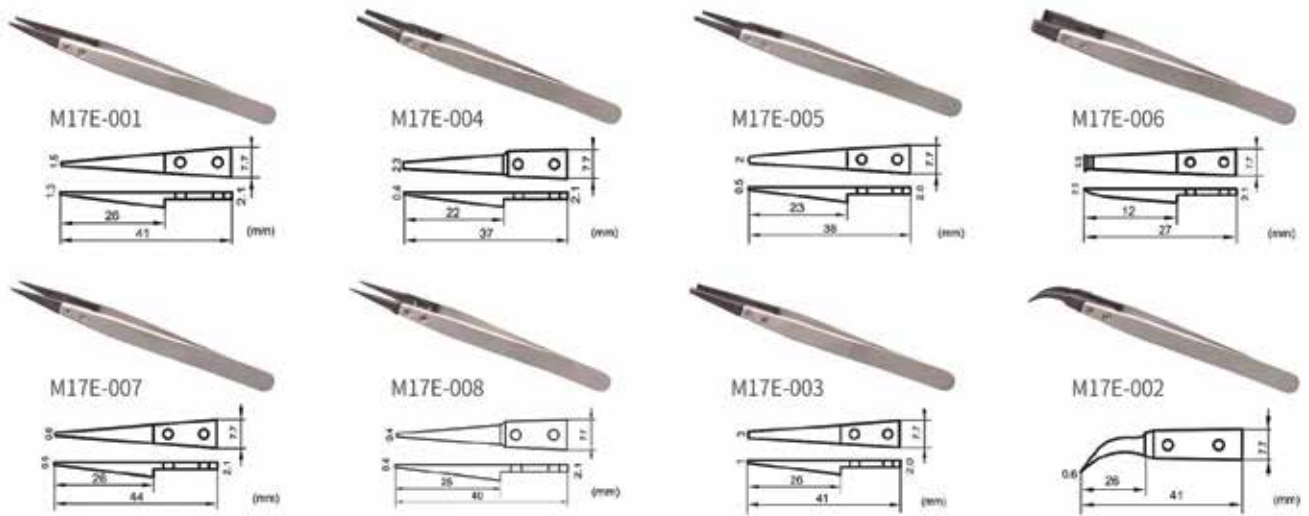
- Anti-Magnetic, ESD-Safe, Static Dissipative Precision Point Tweezers
- Anti-Acid, Non-Corrosive, Non-Glare
- Made from Stainless Steel with a Rockwell Hardness of 40HRC



## ESD-Tip Tweezers

### Features

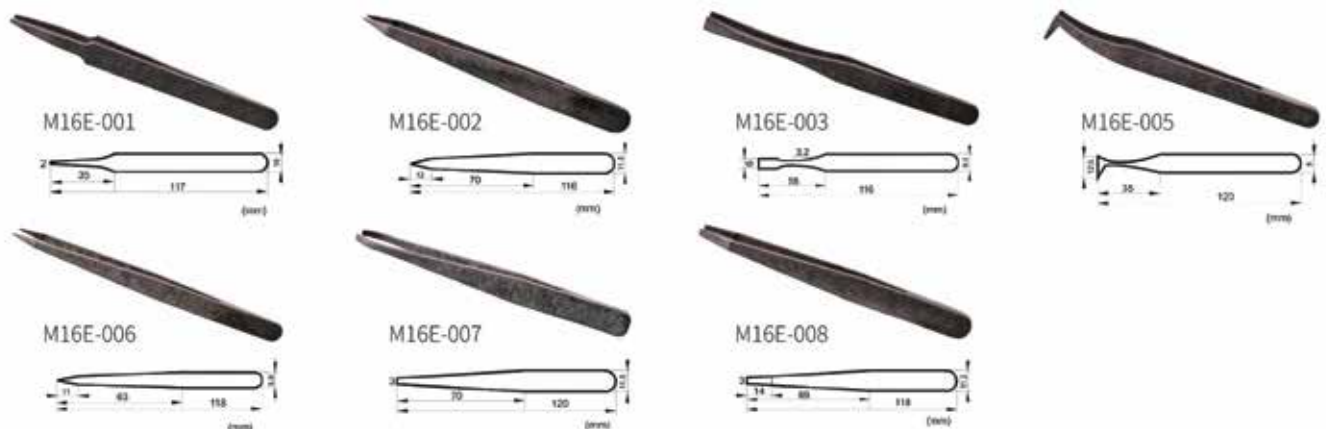
- Anti-Magnetic, ESD-Safe Precision Tweezers with Synthetic Fiber Tips
- Anti-Acid and Temperature Resistance up to 374°F (-40°C to 190°C)
- Superior Strength and Rigidity
- Non-Marring on most surfaces (ideal for scratch-sensitive delicate surfaces)
- Suitable for high purity cleanroom environments
- Resistant to UV Sterilization and Hydrolysis
- High chemical resistance to most chemical solutions, solvents, ketones, and halogens (Not suitable for NMP, N-Methyl-2-pyrrolidone)
- 302 Stainless Steel Body with Synthetic Fiber Exchangeable Plastic Tips
- Precision Tip ensures Longevity, Symmetry, Balance and Performance



## ESD Plastic Tweezers

### Features

- Smooth Resin Surface with high mechanical strength and durability
- Suitable for high purity cleanroom environments
- Synthetic carbon fiber reinforced with PVDF (Polyvinylidene Fluoride)
- Anti-Magnetic, Non-Corrosive, Anti-Acid (resistant to most acids, solvents and halons)
- Heat Stabilized for temperatures up to 311 °F (-40 °C to 155°C)



### Wrist Strap Tester

Item Code	M10E-003
Test Voltage	Regulated 9 volts, DC
Operating Voltage	6.5 ~ 9 volts
Accuracy	± 5%
Weight	145 g
Dimensions	28 mm(T) × 71 mm(W) × 90 mm(L)



#### LED Display Indicator

- GOOD (Green): 800 KΩ~10MΩ
- HIGH (Yellow): 10 MΩ above
- LOW (Red): 800 KΩ below

### Wrist Strap Monitor

#### Features

- Instant warning of wrist strap failure.
- Easy and convenient to operate
- Compact and handy
- Compatible with any wrist straps with banana plug in the market.

Item Code	M11E-001
Input	AC 220V / 50 ~ 60Hz (DC 6V)
Material	Polystyrene
Dimension	67 mm × 60 mm × 29 mm
Weight	60 g (not including power supply adaptor)



### Solvent Dispenser

Item Code	M32E-001	M32E-002
Capacity	180 ml	
Surface Resistance	10e9 ~ 10e11 ohm	
Shape	Square and octagonal designs	
Material	HDPE (bottle) + Stainless Steel (Mechanical Pump)	



M32E-001



M32E-002

ESD Container



Item Code	M35H-001	M35H-002	M35H-003	M35H-004	M35H-005	M35H-006	M35H-007	M35H-008	
Size (cm) (W×L×H)	I.D.	27×17×11.5	27×17×16.5	37×27×11.5	37×27×16.5	37×27×21.5	57×37×16.5	57×37×21.5	57×37×26.5
	O.D.	30×20×12	30×20×17	40×30×12	40×30×17	40×30×22	60×40×17	60×40×22	60×40×27
Capacity (Litter)	5.3	7.6	10	15	20	35	45	56	
Weight (g)	520	660	1010	1210	1480	1840	2080	2440	
Volume Resistance (ohm/cm)	10e3 < 10e10								
Material	ESD PP								

\*Size I.D.: Inner Dimension / O.D.: Outer Dimension

Conductive Chip Box



Item Code	M15H-004	M15H-005	M15H-006	M15H-007	M15H-008	M15H-009	
Size (mm) (W×L×H)	I.D.	14(Dia)×17(H)	13×13×17	29×13×16	29×41×16	61×41×16	61×41×34
	O.D.	18(Dia)×22(H)	16.8×28.8×23.5	32.6×28.8×23.5	32.6×56.5×23.5	64.5×56.5×23.5	64.5×56.5×41.5
Weight (g)	2	5	11	15	24	36	
Surface Resistance (ohm)	10e4 ~ 10e6						
Material	Conductive PP						

## Conductive Tray



Item Code	M10H-005	M10H-006	M10H-007	M10H-008	M10H-009	
Size (mm) (W×L×H)	I.D.	335×465×40	235×335×40	195×260×35	130×180×35	510×360×45
	O.D.	355×485×45	255×355×45	215×280×40	150×200×40	545×405×50
Weight (g)	412	328	158	84	673	
Surface Resistance (ohm)	10e4 ~ 10e6					
Material	Conductive PS					



M10H-010



M10H-011



M10H-012



M10H-014



M10H-013

Item Code	M10H-010	M10H-011	M10H-012	M10H-013	M10H-014	
Size (mm) (W×L×H)	I.D.	445×292×35	295×210×25	240×180×26	184×140×24	510×350×33
	O.D.	480×328×42	338×255×30	283×223×28	217×174×26	530×365×43
Weight (g)	460	150	137	90	910	
Surface Resistance (ohm)	10e4 ~ 10e9					
Material	Conductive PP					

## Conductive Cabinet



Item Code		M16H-002	M16H-003	M16H-004	M16H-005	M16H-006	M16H-007
Size (mm) (W×L×H)	Drawer	73×146×32	73×146×32	122×212×62	89×115×139	139×134×189	121×210×60
	O.D.	82×150×41	159×150×41	260×218×72	101×120×150	151×140×200	400×216×290
Drawer (pc)		1	2	2	1	1	12
Weight (g)		164	290	1030	450	860	3028
Surface Resistance (ohm)		10e4 ~ 10e6					
Material		Conductive PP					

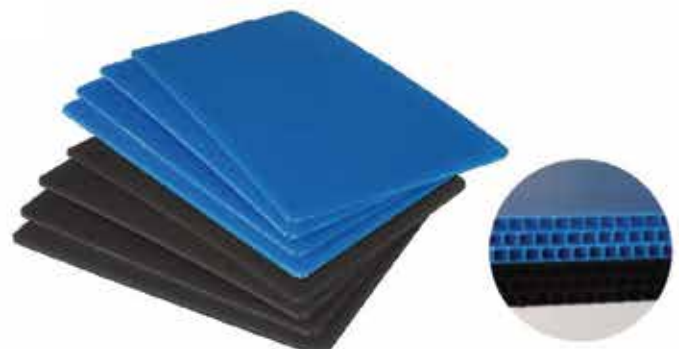
## Conductive Corrugated Box

Item Code	M12H-000
Material	Conductive PP
Surface Resistance (ohm)	10e4 ~ 10e6
Size	Custom sizes



## Conductive & Normal Corrugated Sheet

Item Code	M13H-000	M23H-000
Material	Conductive PP	Normal PP
Surface Resistance (ohm)	10e4 ~ 10e6	-
Color	Black	Blue, etc.
Thickness	3T, 4T, 5T, 10T	3T, 4T, 5T, 8T, 9T
Size (mm)	1100×1100, 1200×2400, 1220×2440	



### Conductive Tray

Item Code	M28H-001
Surface Resistance (ohm)	10e5 ~ 10e8
Size	1.7 mm(T)×12 mm×120 mm (0.5"×4.75")
Color	Black
Packing	150 ~ 170 pcs/bag



### ESD Strap

Black polypropylene hook and loop strap secures JEDEC trays using a O-Ring fastening system. The ESD version is designed with a metal O-Ring to insure a complete static loop. Unlike other "dipped" products that have a limited shelf life, our ESD strap has permanent ESD properties on both sides with ESD logo on the strap.

Item Code	M29H-001
Surface Resistance (ohm)	10e9
Size	25 mm×508 mm
Color	Black
Weight	22.7 g/pc
Packing	10 pc/bag
Constructions	Hook & Loop nylon strap with a metal D-Ring



### ESD Tool Box



M30H-001



M30H-002



Item Code	M30H-001	M30H-002
Surface Resistance (ohm)	10e5 ~ 10e6	10e5 ~ 10e8
Size	255 mm×125 mm×100 mm(H)	400 mm×180 mm×180 mm(H)

### ESD Control PP Strap






Item Code	M04H-001
Size	0.7 mm(T)×12 mm(W)×1500 m(L)
Color	Black
Surface Resistance (ohm)	10e5 ~ 10e8
Packing	2 rolls/ctn, 18 kgs/ctn







## ESD Squeeze Bottle

Item Code	M26H-001	M26H-002	M26H-003	M26H-004	M26H-005	M26H-006
Appearance						
Surface Resistance (ohm)	$\leq 10e9$					
Material	Polyethylene (PE)					
Capacity	60 ml	60 ml	60 ml	60 ml	60 ml	60 ml
Needle	16	20	26	16	20	26
Color	Yellow	Yellow	Yellow	Sky Blue	Sky Blue	Sky Blue

Item Code	M26H-007	M26H-008	M26H-009	M26H-010
Appearance				
Surface Resistance (ohm)	$\leq 10e9$			
Material	Polyethylene (PE)			
Capacity	250 ml	500 ml	250 ml	500 ml
Color	Yellow	Yellow	Sky Blue	Sky Blue

Item Code	M26H-011	M26H-012	M26H-013	M26H-014	M26H-015
Appearance					
Surface Resistance (ohm)	$\leq 10e9$				$10e4 \sim 10e10$
Material	Polyethylene (PE)				LDPE
Capacity	250 ml	500 ml	250 ml	500 ml	500 ml
Color	Yellow	Yellow	Sky Blue	Sky Blue	Yellow

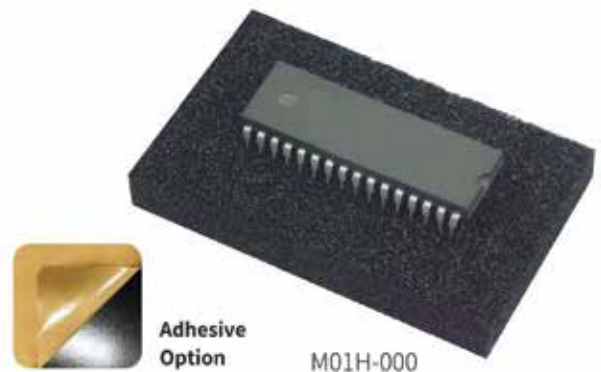
### ESD Spray Bottle

Item Code	M27H-001	M27H-002	M27H-003	M27H-004
Appearance				
Surface Resistance (ohm)	10e4 ~ 10e10			
Material	LDPE			
Capacity	250 ml	500 ml	250 ml	500 ml
Color	Yellow	Yellow	Sky Blue	Sky Blue

### Conductive Foam

The high quality of cross-linked conductive foams are created when carbon-compounded plastic resin is melted and expanded by the dispersion of gas in the liquid resin. The 4 types of Foams, PE, PU, EVA and AR, are available and they can be used in ESD packaging industries to protect sensitive IC chips and finished devices from ESD damage and outer impact during transportation and storage (The pre-adhesive treatment on the back side is optional).

Item Code	M01H-000	M36H-000	M03H-000	M19H-000
Material	PE	PE +Adhesive	EVA	EVA +Adhesive
Density (g/cm <sup>3</sup> )	10e4 ~ 10e6			
Surface Resistance (ohm)	0.045	0.045	0.16	0.16
Thickness (mm)	2 ~ 40	2 ~ 40	2 ~ 25	2 ~ 25
Size (m)	1×1.8	1×1.8	1×1.5	1×1.5
Weight / (m <sup>2</sup> )	45 kg	45 kg	160 kg	160 kg



### Ground Cord

The Ground Cord is a bridge line between a tabletop or a floor mat and a grounding point. We have 3 different diameters (4 mm, 7 mm, 10 mm) of male and female snaps and several lengths and different ends of Ground Cords to meet customer's various needs.

Item Code	M05Z-001	M05Z-002	M05Z-006	M05Z-015
Appearance				
Mold Material	Polyurethane (PU)			
Plastic Material	ABS + PC			
Cord Length + Snap Dia.	6ft (1.8 m) + 10 mm	0.5ft (15 cm) + 10 mm	6ft (1.8 m) + 10 mm	6ft (1.8 m) + 10 mm
Cap	Yellow cap on both sides		Yellow cap + Ring Terminal	Yellow cap + Alligator Clip
Color	Black			
Cable Break Load	120N			

\* Snap Dia & Type & Length & Color can be adjustable.

### Dual Ground Cord

Dual Common Ground Cord can connect 2 wrist straps to one grounding point.

Type	Square type	Round type
Item Code	M06Z-001	M06Z-002
Appearance		

#### Descriptions

- Snap Dia.: 10 mm
- Cord Length : 10ft
- Cord Dia.: 2.0 mm
- Conductor: 7 strand Tinsel Wire coated with durable 90A polyurethane
- Color: Black
- Cable Break Load: 120N
- Mold Material: Polyurethane (PU)
- Plastic Materials: ABS + PC

### Wrist Strap

Worksurface and personnel should be grounded by the proper using of Wrist Straps, ESD Shoes, Heel Grounders, ESD Clothing, etc. Polstar Wrist Straps provide a reliable and economical pathway of ESD built up on human body to ground. Ground Cords and Coil Cords are also the major parts of a safe work station.

Product	Wrist Strap	Wrist Band	Dual Wrist Strap	Metal Wrist Strap
Item Code	M01Z-002	M03Z-000	M02Z-000	M01Z-009
Appearance	 10 mm+10ft (3 m) +Alligator clip			 10 mm+10ft(3 m) +Alligator clip, band size - 18 cm
Snap Dia.	4 mm, 7 mm, 10 mm	4 mm, 7 mm, 10 mm	4 mm, 7 mm, 10 mm	4 mm, 7 mm, 10 mm
Cord Length	6', 8', 10', 12'	-	6', 8', 10', 12'	6', 8', 10', 12'
Material	Wrist Band	Elastic nylon with conductive carbon yarn		
	Back	Stainless steel	Plastic, Stainless steel	Stainless steel
Color	Wrist Band	Blue, Dark Blue, Purple, etc.	Blue, Dark Blue, Purple, etc.	Blue
	Coil Cord	Black, Blue		Black
Resistor	1 Mohm			

### Coil Cord



M07Z-004

4 mm+7ft(2 m)+Alligator Clip



M07Z-011

10 mm+10ft(3 m)+4 mm



M07Z-025-BK

10 mm+10ft(3 m)+7 mm



M07Z-021-BK

4 mm+8ft(2.4 m)+Banana plug

Item Code	M07Z-000
Snap Dia.	4 mm, 7 mm, 10 mm
Cord Length	6', 8', 10', 12'
End Type	Banana plug, Alligator clip, Ring terminal, Snap on both sides

\* Snap Dia & Type & Length & Color can be adjustable.

## Heel Strap

Foot Grounders are one of the best methods to remove static electricity charged on the human body. This will help to protect ESD susceptible products while you are handling them or moving around with them.

### Features

- Per ANSI/ESD S20.20, use with ESD Floor "as a grounding alternative to the wrist strap system for standing operations"
- All Foot Grounders are suitable ESD footwear components in your Flooring-Footwear System as the primary grounding method (<math>3.5 \times 10^7</math> ohms per ESD STM971)
- Integral current limiting resistor for enhanced operator safety
- 1 mega ohm resistor (15 & 2 mega ohm resistors are available on request)
- Exceptionally long-lasting premium rubber with tear resistant inner scrim and dual wear surface to double its life time

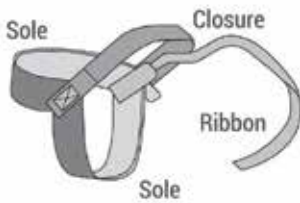
Product	Heel Grounder
Item Code	M13Z-000
Color	Black / White
Ribbon	18"/30" long nylon/polyester tab with 8 conductive strands
Resistor	1 Mohm

• Connecting with plug or snap button



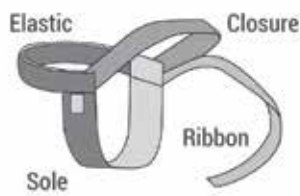
### Type D

- Two soles for double life span



### Type S

- One sole and an elastic back strap

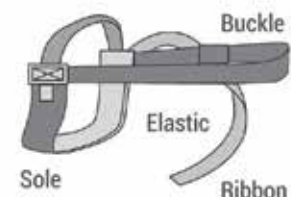


Product	Toe Grounder
Item Code	M14Z-000
Color	Black / White
Ribbon	12" long nylon/polyester grounding tab with 8 conductive strands
Resistor	1 Mohm

• Connecting with plug or snap button



Toe grounder with a snap-lock fastening system is designed for using with the variety of shoes, including high heels, cowboy boots, flat shoes, loafers, safety shoes, etc.

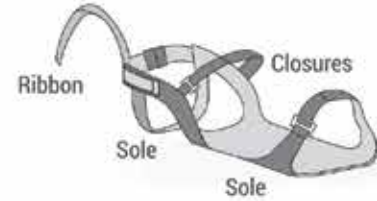


Product	Sole Grounder
Item Code	M15Z-000
Color	Black / White
Ribbon	12" long nylon/polyester grounding tab with 8 conductive strands
Resistor	1 Mohm



• Connecting with plug or snap button

Sole Grounders are equipped with an elastic D-ring fastening system, which provides the snug cinching of ankle strap and allows "flex" during walking. Having the features of Heel and Toe Grounders together, Sole Grounders are widely used with most types of shoes and boots.



Closure Styles	Hook & Loop (HL)	Hook & Elastic Loop (HE)	D-Ring (DR)	Quick Buckle (QB)
	It provides a comfortable and secure fit	It is easy to be adjusted to fit a individual wearer	It allows "flex" during walking	It provides a quick release

### Selection Guide ( Heel, Toe and Sole Grounders )

	Item Code	Closure Styles	Velcro (W)	Elastic Velcro(W)	Elastic Strap(W)	Elastic Band(W)	Size	Ribbon (L)	Sole
Heel Grounder (Type D)	M13Z-001	HE		3/4"(BK)			Free size	18"	Double
	M13Z-002	HE		3/4"(BL)					
	M13Z-003	HE		3/4"(GR)					
	M13Z-004	HL		3/4"(BK)					
	M13Z-005	HL		3/4"(BL)					
	M13Z-006	DR		3/4"(BK)					
	M13Z-007	DR		3/4"(BL)					
	M13Z-008	QB				3/4"(BK)			
Heel Grounder (Type S)	M13Z-500	HE		3/4"(BK)	1"(BK)		Free size	18"	Single
	M13Z-501	HE		3/4"(BK)	1"(RE)				
	M13Z-502	HE		3/4"(BK)	1"(GR)				
	M13Z-503	HE		3/4"(GR)	1"(BK)				
	M13Z-504	HE		3/4"(GR)	1"(RE)				
	M13Z-505	HE		3/4"(GR)	1"(GR)				
	M13Z-506	HL		3/4"(BK)	1"(BK)				
	M13Z-507	HL		3/4"(BK)	1"(RE)				
	M13Z-508	DR		3/4"(BK)	1"(BK)				
	M13Z-509	DR		3/4"(BL)	1"(BK)				
M13Z-510	QB			1"(BK)	3/4"(BK)				
Toe Grounder	M14Z-001	QB		3/4"(BK)	3/4"(BK)		Free size	12"	Single
Sole Grounder	M15Z-001	HE		3/4"(BK)	3/4"(BK)		S	12"	Single
	M15Z-002	HE		3/4"(BK)	3/4"(BK)		M	12"	Single
	M15Z-003	HE		3/4"(BK)	3/4"(BK)		X	12"	Single
	M15Z-004	HE		3/4"(BK)	3/4"(BK)		XL	12"	Single

\* Colors: BK-Black, BL-Blue, GR-Green, RE-Red

\* Closure Styles: HE-Hook & Elastic Loop, HL-Hook & Loop, DR: D-Ring, QB-Quick Buckle

### Wire Shelves

#### Pole



M01U-000

- Chrome plated steel pole
- 25.4 mm (Φ) × 1.2 mm (T)
- 9 different lengths (450 mm ~ 2200 mm)

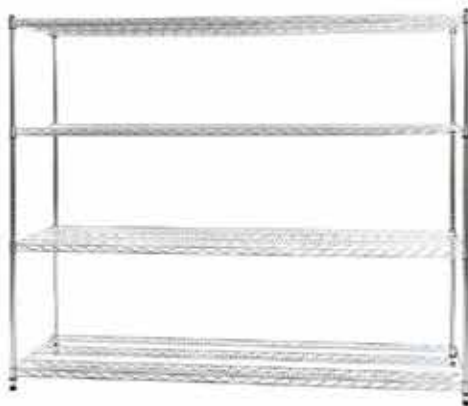
#### Wire Shelf



M02U-000

- Chrome plated steel wire
- Wire (Φ): 3.5 mm, 4.5 mm, 6 mm
- Load capacity: 250 kg/shelf

\* Stainless steel (SUS 304) material is also available on request  
\* Various size and designs



\*Wire shelf option ( ① ~ ⑳ )  
\*Pole option (450 mm ~ 2200 mm)

	350	450	530	610	Shelf	Pole
		③	⑩	⑰	610	450
		④	⑪	⑱	760	600
		⑤	⑫	⑲	910	750
		⑥	⑬	⑳	1070	900
		⑦	⑭	㉑	1220	1200
①		⑧	⑮	㉒	1520	1500
②		⑨	⑯	㉓	1820	1800
						1900
						2200

Example) ① - 350×1520 mm  
Example) ⑳ - 610×1820 mm

## Utility Carts

Item Code M50U-000

### Type A



- 3 shelves with U handle in 1 side
- Total height: 1050 mm
- Load capacity: 250 kg

			(mm)	
450	530	610	Shelf	Pole
①	⑧	⑮	610	750
②	⑨	⑯	760	900
③	⑩	⑰	910	
④	⑪	⑱	1070	
⑤	⑫	⑲	1220	
⑥	⑬	⑳	1520	
⑦	⑭	㉑	1820	

- \*Wire shelf option (① ~ ㉑)
- \*Pole option (750 mm ~ 900 mm)

### Type B



- 3 shelves with U handles in 2 sides
- Total height: 1050 mm
- Load capacity: 250 kg

			(mm)	
450	530	610	Shelf	Pole
①	⑧	⑮	610	750
②	⑨	⑯	760	900
③	⑩	⑰	910	
④	⑪	⑱	1070	
⑤	⑫	⑲	1220	
⑥	⑬	⑳	1520	
⑦	⑭	㉑	1820	

- \*Wire shelf option (① ~ ㉑)
- \*Pole option (750 mm ~ 900 mm)

### Type C

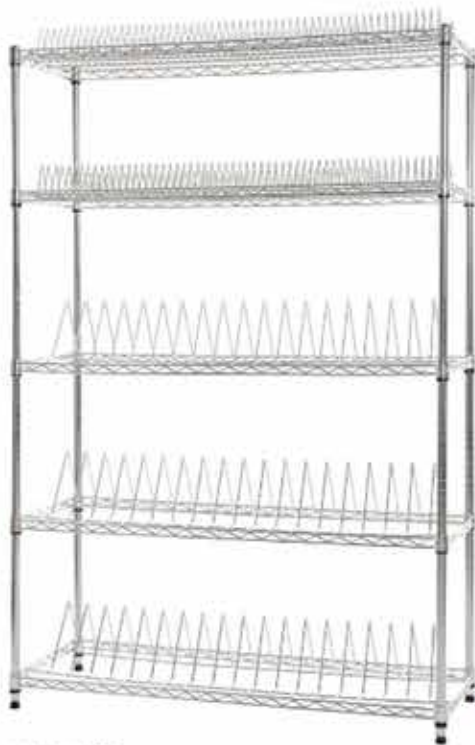


- 2 shelves with 1 side U handle
- Total height: 1050 mm
- Load capacity: 250 kg

			(mm)	
450	530	610	Shelf	Pole
①	⑧	⑮	610	750
②	⑨	⑯	760	900
③	⑩	⑰	910	
④	⑪	⑱	1070	
⑤	⑫	⑲	1220	
⑥	⑬	⑳	1520	
⑦	⑭	㉑	1820	

- \*Wire shelf option (① ~ ㉑)
- \*Pole option (750 mm ~ 900 mm)

### Wire Reel Shelves



M40U-000

Pole	Reel Wire Shelves
<ul style="list-style-type: none"> <li>• Chrome plated steel pole</li> <li>• 25.4 mm (Φ) × 1.2 mm (T)</li> </ul>	<ul style="list-style-type: none"> <li>• Chrome plated Steel Wire</li> <li>• Wire (Φ): 3.5 mm, 4.5 mm, 6 mm</li> </ul>

Capacity	Reel Shelves (mm)		Pitch size (mm)
	450 × 910	450 × 1220	
Small (double peaks)	80 pc	112 pc	20
Large (single peak)	13 pc	18 pc	60



Option: Castor

450		Shelf	Pole
①	910		1800
②	1220		

### Accessories

<b>ESD Foot</b>  M15U-001    M15U-002	<b>Metal Chain</b>  M16U-001	<b>ESD Castor</b>  M06U-000	<b>Donut Bumper</b>  M14U-001
<b>Handle</b>  M08U-000	<b>Supporting Bar</b>  M07U-000	<b>Guardrail</b>  M09U-000	<b>Divider</b>  M10U-000
<b>Plastic Split Joint / Chrome Split Joint</b>  M12U-001 M12U-002	<b>Clamp</b>  M11U-001	<b>N Hook</b>  M13U-000	

### **Send Us Your Inquiries**

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