



**ELECTROSTATIC**  
DISCHARGE CONTROL

**DOU YEE**  
ENTERPRISES



**GLOBAL CAPABILITY • LOCAL FOCUS**

Established in 1982, Dou Yee is a leading total industrial solutions provider, serving the semiconductor, data storage and electronic industries.

Dou Yee specializes in the manufacture of electronics packaging materials with static discharge and humidity control properties, cleanroom apparel and footwear, among others.

The comprehensive range of products makes Dou Yee a convenient one-stop industrial provider. With a worldwide business network of more than 43 international branches and representative offices spread across 23 countries, Dou Yee provides customers with comprehensive global solutions tailored to their local needs.



## **MISSION STATEMENT**

We aim to become the worldwide leading provider of industrial solutions in the semiconductors, data storage and electronics sector. We provide services that are of the highest standards, and quality products to our valued customers.

# ELECTROSTATIC DISCHARGE CONTROL



YOUR PERFECT PARTNER IN ESD  
CONTROL SOLUTIONS.

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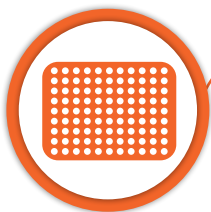
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# INTRODUCTION

- Generation of Static Charges
- Triboelectric Series
- Problem Caused by Static Charges
- Solutions

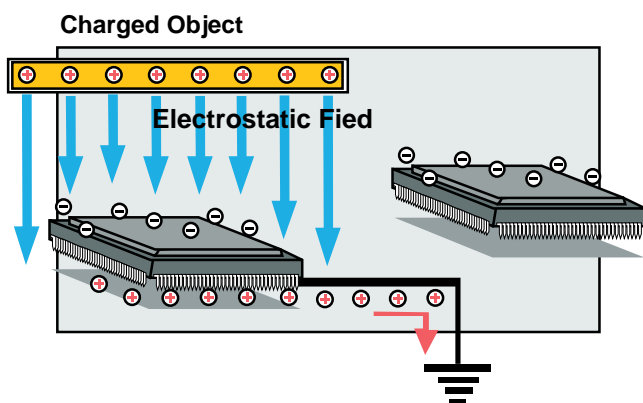
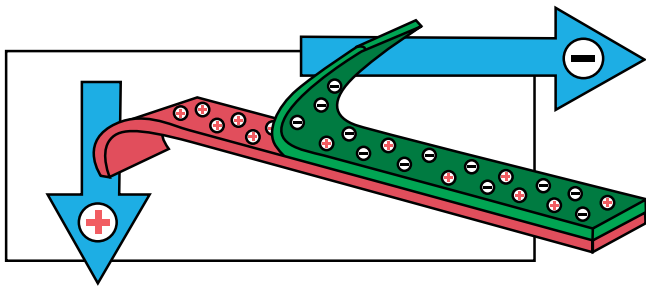
## GENERATION OF STATIC CHARGES

### Triboelectrification:

Any material, whether a conductor or non-conductor, can be charged triboelectrically. The magnitude and polarity of the charge depends on the characteristics of the two materials. They are affected by several factors, such as the surface condition, size of the contact area, speed of separation or rubbing etc.,

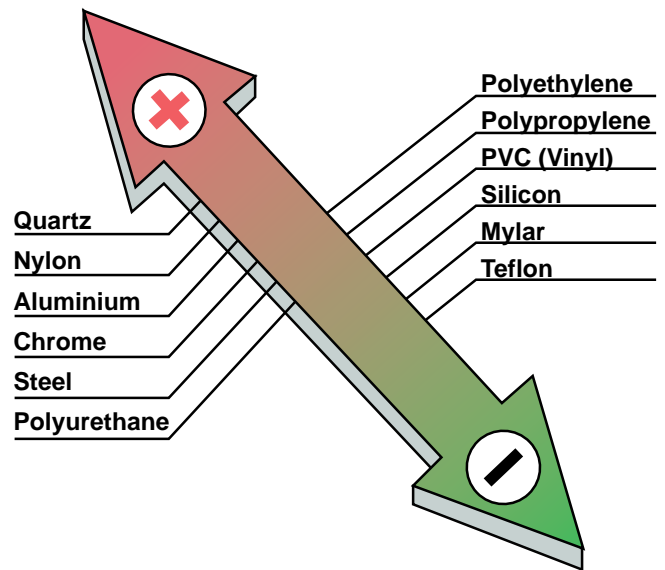
### Induction:

Static Charge present on an object creates an electrostatic field. When a conductive object is placed within the electrostatic field and connected to the ground, it takes on a static charge of opposite polarity to the original charged object.



## TRIBOELECTRIC SERIES

The triboelectric series is a ranking of materials in the order of their likelihood of becoming positively or negatively charged. If two materials listed on the chart contact and separate, the one higher on the list will become positively charged. The better the insulator, the more easily it is charged by friction.



## PROBLEMS CAUSED BY STATIC CHARGES

### Contamination:

Materials used in the cleanroom are typically good insulators which accumulates charges effortlessly. As such, once these particles are bonded to a charged surface, it will be very difficult to remove these particles. Contamination of this nature is a major contributor to product degradation and device failure.

### Destruction of Sensitive Devices:

ESD can cause electronic device failure during any phase in the production, packaging and testing processes. As the critical dimensions and tolerance of components and circuits become progressively smaller, they become less tolerant to ESD.

## SOLUTIONS

It is impossible to eliminate static electricity from production environments. However, we can control the problem by implementing the following solutions:

### 1. ESD Control Facilities:

To reduce the risk of ESD damage by 3 basic steps:

<b>Prevention</b>		Use ESD-Safe material to reduce static charge generation
<b>Protection</b>		Use protective material with Faraday Cage shielding effect during storage and transportation
<b>Elimination</b>	<b>Grounding</b>	Create a path for charges to migrate from conductive objects/ human bodies to ground
	<b>Neutralisation</b>	Create air ions to neutralize charges on both insulators and isolated conductors

### 2. Awareness/ Training

The sustained success of an ESD control program is heavily dependent on personnel that fully understand the extent of the ESD program. Training is essential for all personnel at all levels. ESD awareness must be maintained in ESD-sensitive areas.

### 3. Enforcement

Extensive awareness training makes it easier to enforce ESD control program requirements. However, it is still necessary to establish formal and realistic enforcement procedures to reinforce the point that ultimately, these responsibilities lie with everybody.

## 4. Testing Regulations

To ensure compliance on ESD control program, ANSI ESD S20.20 standard provides guidance on a list of test methods to various ESD control items. The required control items and test methods are listed in the below table:

Table 4.1

ESD Control Item	Test Method
Work Surface Resistance	ANSI/ESD S4.1
Wrist Strap Cord	ANSI/ESD S1.1
Wrist Strap Cuff	ANSI/ESD S1.1
Footwear	ANSI/ESD STM9.1
Foot Grounders	ESD SP9.2
Flooring	ANSI/ESD STM7.1
Seating	ANSI/ESD STM12.1
Ionization	ANSI/ESD STM3.1
Shelving	ANSI/ESD S4.1
Mobile Equipment	ANSI/ESD S4.1
Garments	ANSI/ESD STM 2.1
Personnel System Resistance	ANSI/ESD STM 97.1
Personnel System Charging	ANSI/ESD STM 97.2
Packaging Standard	ANSI/ESD S541
Surface Resistance	ANSI/ESD STM 11.11
Volume Resistance	ANSI/ESD STM 11.12
Point to Point Resistance	ANSI/ESD STM 11.13
Discharge Shielding	ANSI/ESD STM 11.31



# PACKAGING

- SUPERSHIELD® Static Shield Bags
- SUPERBARRIER® Moisture Barrier Bags
- Static Shielding Zip-Lock Bags
- Clean Bags
- Moisture Barrier Box Bag
- Anti-Static Bubble Wrap
- Anti-Static & Conductive Packaging Bag
- Conductive / Static Dissipative Packaging Foams
- End Caps For Trays
- Normal And High Temperature Resistant PP Straps
- Pink Antistatic Packaging Foams
- Antistatic Utility Tapes
- Vacuum Sealers
- ESD Grid Tapes
- Floor Marking Tape With ESD Logo

A well-recognized leader in the static control industry for over thirty-five years, DOU YEE ESD-safe packaging products have satisfied thousands of customers in the electronic industry. Our experience, technological know-how and advanced production facilities enable us to offer greater quality products at the most competitive prices in the industry.

## SUPERSHIELD® Static Shield Bags

Product Code: DY3650

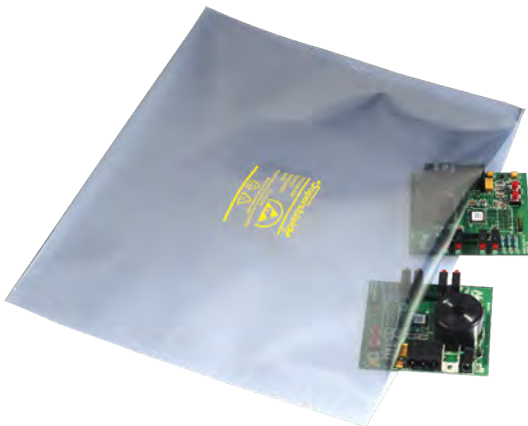
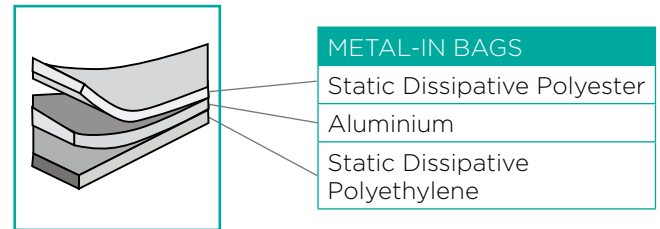
SUPERSHIELD® Static Shielding Bag is a static dissipative metalized bag designed to provide superior protection for sensitive electronics devices. Thickness available from 2mils to 3.4 mils, offering competitive pricing for different applications.

- Faraday cage created to protect sensitive products from electrostatic discharge
- Customizable sizes and thickness upon request
- Customizable printing upon request
- Customizable easy tear upon request
- Printed with ESD awareness logo and date code for traceability
- Bags are RoHS compliant

## Typical Value

Property	Value
Thickness (ASTM D374)	2 mils (DY3660) 2.5 mils (DY3655) 3 mils (DY3650) 3.4 mils (DY3692)
Surface Resistance - Both surfaces (EOS/ESD S11.11)	$< 10^{11} \Omega$
Static Shielding (ANSI/ESD-STM-11.31)	$< 15\text{nJ}$

## Construction Of ESD Safe Bags



Static Shielding Bag



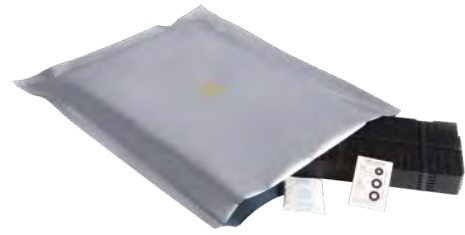
Static Shielding Bag

## SUPERBARRIER® Moisture Barrier Bags

Product Code: DY3008

Multilayer barrier bags offering superior protection against moisture, corrosion and shielding for sensitive components. SUPERBARRIER® Moisture Barrier Bag is available in both metallized and foil grades.

- Packaging of electronic components under vacuum or inert gas immediately after production
- Heat sealable
- Free from amine and amide
- Low outgassing and excellent protection from corrosion
- Customizable sizes and printing
- Other Non-ESD grade moisture barrier bags available
- Bags are RoHS compliant



Moisture Barrier Bags



Moisture Barrier Bags

## Static Shielding Zip-Lock Bags

Product Code: DY3700

A static shielding/moisture barrier bag equipped with high quality zipper to allow reclosable function to serve as an alternative packaging solution. Highly recommended for use in manufacturing environments where the bag needs to be reused for various processes and/or locations.

- Customize printing upon request
- Customizable to sizes as small as 2 inches opening and 3 inches length
- Quick and tight closing provides secure protection during transportation



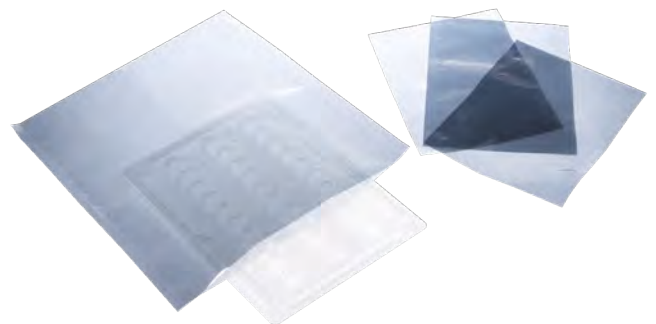
Zip-Lock Bag

## Clean Bags

Product Code: DY3800

The DY3800 Clean Bag is ideal for protecting electronic devices where particle contamination is undesirable.

- Available in different grades
- Cleanroom control manufacturing environment
- Customizable sizes upon request
- Emboss lot code for traceability
- Highly compatible with data storage and semiconductor industries requirements



Clean Bags

## Moisture Barrier Box Bag

Product Code: DY3900 / DY3950

This Moisture Barrier Box Bag is designed to accommodate wafer shipping boxes and JEDEC tray sizes in mind. Converted from static shielding or moisture barrier materials, it serves as an alternative packaging solution.

- Wide opening and added dimensions to house products that are too bulky to pack using conventional sealing.
- Highly recommended as a box liner for bulk packaging.
- Customizable printing and sizes upon request



Moisture Barrier Box Bag

## Anti-Static & Conductive Packaging Bag

Product Code: DY3002/ DY3003/ DY3004

These bags are made from polyethylene material that has excellent mechanical property and static shielding capabilities (for conductive bags only). The package and contents are kept at equal potential so that the accumulated charges can be drained away safely without damaging the contents.



## Anti-Static Bubble Wrap

Product Code: DY3004-AB

Designed with general packaging and cushioning functions, this inexpensive bubble wrap/bag offers complete protection of parts during transportation.



## Conductive / Static Dissipative Packaging Foams

Product Code: DY4000

A wide range of Conductive / Static Dissipative Foams with different densities and cell-structures are available for applications. This carbon-impregnated material provides permanent and uniform protection for ESD sensitive devices. It is ideal for long-term packaging of semiconductor components because of its low ionic contamination.

- Surface Resistance:  $10^3 - 10^6 \Omega$



PE/PU/EVA

## End Caps for Trays

Product Code: DY5004 / DY4300

Static Dissipative End Caps are used to cover the stacks of JEDEC trays to secure and protect trays during shipment.

They are used in conjunction with Conductive / Static Dissipative PP Straps for added security.

End Cap sizes can be customized to suit different packing requirements

- Surface Resistance:  $\leq 10^9 \Omega$



Black Static Dissipative PP /  
Pink Anti-Static EPE Foam (Closed Cell)

## Pink Antistatic Packaging Foams

Product Code: DY4300

This inexpensive foam has antistatic properties designed for general packaging and cushioning functions for ESD sensitive products.



PE / PU Foam

## Normal and High Temperature Resistant PP Straps

Product Code: Z2-999-SD-STRP

Conductive/Static dissipative PP straps are specially designed to pack ESD sensitive items firmly through strapping action. It is compatible with most of the conventional strapping machines.

- Size: 9mm x 1200m/ 12mm x 1500m
- Thickness: 0.65mm
- Tensile Strength: > 79MPa
- Elongation at Break: > 125%
- Surface Resistance:  $\leq 10^8 \Omega$
- High Temperature Resistant Grade Available



Black Conductive / Static Dissipative PP

## Antistatic Utility Tapes

Product Code: DY8200-AS-PE

This Aluminium-Metalized PET tape does not generate static within the decay rates of MIL B-81705. It also has an acrylic adhesive ESD treated, and is commonly use in the cleanroom and ESD sensitive areas.



Plastic PE Core

## Vacuum Sealers

Product Code: DY3303

Vacuum sealers are essential to ensure proper sealing in vacuum environment. It protects ESD products against humidity oxidization, dust and corrosion.

With various vacuum sealer configuration and multiple memory functions, vacuum sealers can cater for a diversified range of sealing needs.

- Gas flushing and purging function available
- Double heating element for sealing thick bags available
- Stainless steel body for anti-corrosion
- Suitable for EPA environment
- Cleanroom models (with exhaust) available
- Electric Motor Vacuum Sealer Models Available (No Compressed Air Required)
- Each unit comes with a maintenance kit



Table Top Vacuum Sealer



Table Top Vacuum Sealer Unit with Stand



Table Top Chamber Vacuum Sealer



Chamber Vacuum Sealer



Electric Motor Vacuum Sealer



Vertical Vacuum Sealer

## ESD Grid Tapes

Product Code: DY8200-CP

This conductive biaxially oriented polypropylene packaging tape is protected between two copolymer layers and has an effective static shielding ability. The conductive grid tape offers reliable protection for any sensitive devices otherwise being damaged by normal insulating tape.



Plastic PE / Paper Core

## Floor Marking Tape With ESD Logo

Product Code: DY8200-FMT

PVC tape, printed with the ESD Logo and “ESD Protected Area”, is used for floor marking in EPA (Electrostatic Protected Area).

The logo comes with additional layer of protection for prolonged resistance against wear and tear.



Plastic PE Core

# STORAGE & SOLUTIONS

- Customizable Corrugated Boxes
- Conductive PCB Racks
- Part Bins
- PCB Storage Solutions
- Conductive Containers
- Small Lid Boxes
- Foldable Containers
- Thermoformed Trays

## Customizable Corrugated boxes

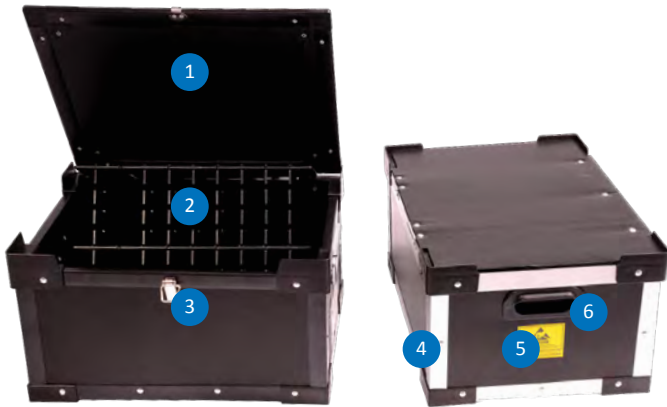
Product Code: DC2002

Storage boxes can be fabricated with corrugated polypropylene (PP) plastic sheets which are durable, water resistant, light-weight and economical. They can be customized to your required sizes/ designs and even suit a wide range of applications. These boxes will not be completed without our variety of ESD safe accessories (Covers, frames, cardholders etc.)

Properties	Value
Material	Conductive (DC2002) Static Dissipative (DC2006) Antistatic (DC2003) Normal (DC2001)
Material Thickness	2mm 3mm 4mm
Surface resistance (ESD material and accessory) ANSI/ESD STM11.11	$10^3 - 10^{11} \Omega$



### Configurations of ESD corrugated box



#### 1. Covers (Detachable/non-detachable)



#### 2. Partitions

- Foam supports
- Vacuum formed trays support

#### 3. Latches

- Metal latch
- Velcro

#### 4. Reinforced Frames

- Static dissipative PP
- Aluminum

#### 5. Label

- ESD Card Holders
- Print
- Sticker Labels

#### 6. Handle

- Type A: Encased Design
- Type B: Heavy Duty
- Type C: Easy Handling
- Type D: General Application



★ Contact our Douyee team to start planning for your storage solution.



## Part Bins

Product Code: DY2006

Static dissipative part bins are ideal for storing electrostatic sensitive devices. They can be used with assembly racks to create an organized grounded storage system.

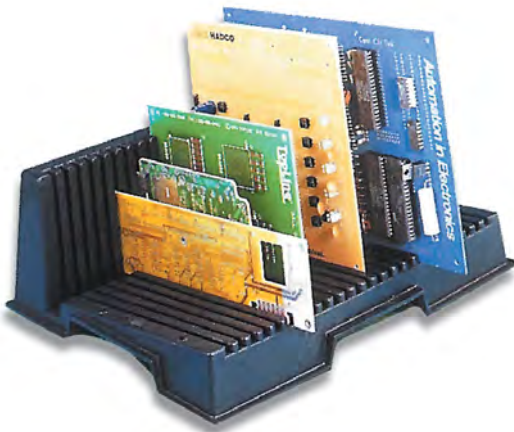
- Surface resistance:  $< 10^6 \Omega$
- Sizes available



## Conductive PCB Racks

Product Code: DY2005

Our Conductive PCB Racks are made for handling, clinched, SMD, soldered and bare boards of any sizes with no adjustments required. Different sizes and design are available for a wide variety of applications.



WEZ PCB Holder



Static dissipative PCB Holder

## PCB Storage Solutions

Product Code: DY2007

PCB of all sizes are held simply and safely with WEZ circuit board holders. There are various sizes available to suit different BlackLine containers, ensuring good protection in a visible and organized manner throughout production, testing and storage.



WEZ Blackline Containers



Nikko Rack

## Conductive Containers

Product Code: DY2007 - WEZ



With the growing need to protect complex printed circuits from ESD, the only sensible policy to adopt is one of prevention. WEZ BlackLine Conductive Injection Molded Containers cater to protection from ESD throughout all phases of manufacturing and logistic.

- Storage box/ carrying cases available
- Surface resistance:  $< 10^4 \Omega$
- High impact strength and high loading (15kg to 65 kg)
- Continuous operating temperature from  $-20^{\circ}\text{C}$  to  $80^{\circ}\text{C}$



★ Contact our Douyee team to start planning for your storage solution.

## Small Lid Boxes

Product Code: DY2007



Static dissipative boxes come with lids, suitable for storage and transportation of small electronic components. Each size can come with foam inserts, closed cell foam insets and chip boxes with film hinge.

- Surface resistance:  $< 10^6 \Omega$



★ Various container sizes and configurations available. Please contact us for more details.

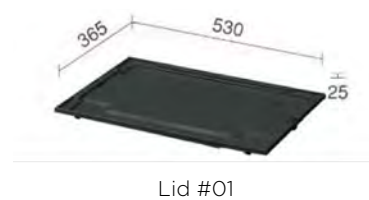


## Foldable Containers

Product Code: DY2007 SEK

These foldable containers are made of special conductive material that prevents dust from attaching to the surface. Suitable for storage and transporting electronic components such as MOS-IC/ LSI and LCD.

- Made of polypropylene (PP) that contains a special conductive material, as strong as any conventional product.
- Surface Resistance:  $< 1 \times 10^6 \Omega$
- Volume Resistance:  $< 1 \times 10^4 \Omega$
- Lighter and more economical than metal containers.



OC-30B - 30L	
Upper Inside Dimensions	492 mm x 333 mm x H194 mm
Usable Dimensions	492 mm x 333 mm x H187 mm
Material	PP
Lid	#01
Card Rack	Welded Type

OC-40L - 40L	
Upper Inside Dimensions	492 mm x 333 mm x H260 mm
Usable Dimensions	492 mm x 333 mm x H253 mm
Material	PP
Lid	#01
Card Rack	OCK-110

OC-50L - 50L	
Upper Inside Dimensions	492 mm x 333 mm x H309 mm
Usable Dimensions	492 mm x 333 mm x H302 mm
Material	PP
Lid	#01
Card Rack	OCK-110

OC-75L - 75L	
Upper Inside Dimensions	600 mm x 405 mm x H318 mm
Usable Dimensions	600 mm x 405 mm x H310 mm
Material	PP
Lid	#02
Card Rack	OCK-110/MGCCA

### Assembly Instructions

Open the lids on both sides and lift up the upper casing

Tap the short sides from the inside and set in place.



### Folding Instructions

Tap the short sides from the outside.

Lift the upper casing slightly to fold.



## Thermoformed Trays

Product Code: DY5003

Dou Yee has developed customize packaging and shipping thermoformed trays, which are ideal for most internal and external transportation needs for the semiconductor, electronics and medical industries. We control all aspects in terms of the design and manufacturing process, having our own R&D, engineering tooling and QA departments.



### Static Dissipative PETG Trays

Suitable for packing sensitive devices and cleanroom compatible

Thickness: 0.5mm - 1.7mm

Surface Resistance:  $10^7 - 10^{10} \Omega$

Maximum tray dimensions: 700 x 500mm

### Carbon Nanotube Trays

Superior Clean material with excellent shielding and ESD features. Ideal for sensitive devices and clean room compatible

Thickness: 0.3mm - 1.2mm

Surface Resistance:  $10^4 - 10^{11} \Omega$

Maximum tray dimensions: 700 x 500mm



### Conductive and Antistatic HIPS / PS Trays

Our most common and competitive material with excellent shielding properties

Thickness: 0.3mm - 2.0mm

Surface Resistance:  $10^4 - 10^{11} \Omega$

Maximum tray dimensions: 1000 x 1000mm

★ Contact our Douyee team to start customizing for your storage solution.



### Antistatic PP Trays

Economical Ideal for trays with good durability and temperature resistance

Thickness: 0.3mm - 1.2mm

Surface Resistance:  $< 10^{11} \Omega$

Maximum tray dimensions: 700 x 500mm

Non-antistatic is available



### Antistatic HDPE Trays

Economical Ideal for commercial and retail packaging and durability

Thickness: 0.3mm - 1.2mm

Surface Resistance:  $< 10^{11} \Omega$

Maximum tray dimensions: 700 x 500mm

Non-antistatic is available



### Antistatic APET Trays

Ideal for trays, lids and blister packs

Thickness: 0.3mm - 1.2mm

Surface Resistance:  $< 10^{11} \Omega$

Maximum tray dimensions: 700 x 500mm

Non-antistatic is available

★ Contact our Douyee team to start customizing for your storage solution.

# WORKSTATION & GROUNDING

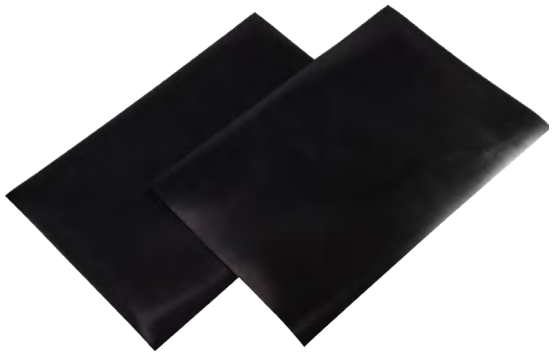
- Black Conductive Rubber Mat
- Static Dissipative Metallized/ Carbon Grid Sheets
- High Temperature Static Dissipative Rubber Mat
- Static Dissipative Vinyl Mat
- Static Dissipative Rubber Mat
- ESD Embossed Foam Table/Floor Mat
- Static Dissipative DC Plate (Perspex)
- Static Dissipative Veneer
- Bench Top Laminates
- Static Control Heel Grounders
- Static Control Wrist Straps
- Grounding Components

## Black Conductive Rubber Mat

Product Code: DY1001

A flexible and durable conductive mat, specially designed for ESD sensitive areas. Can be used as table or floor mat.

- Surface resistance :  $\leq 10^4 \Omega$  (ANSI/ESD S4.1)
- Dimension : 1m (width) x 10m (length) x 1.6mm (thickness)



## High Temperature Static Dissipative Rubber Mat

Product Code: DY1003-HI-TEMP

- Colour Dissipative Upper Layer / Black Conductive Bottom Layer
- Easy to clean, high durability and high temperature resistant
- Dimension : 1.22m (width) x 10m (length) x 2.1mm (thickness)

Temperature Chart	
200°C	OK
250°C	OK
300°C	Slight Discoloured
350°C	Discoloured
400°C	Burnt



## Static Dissipative Metallized/Carbon Grid Sheets

Product Code: DY1006-ME/GD/UV

### Excellent and Permanent Antistatic Performance

Made from polyvinylchloride mixed conductive plasticizer. Surface resistance is  $10^9 - 10^{10}$  that prevents suitably the accumulation of electrostatic charge.

### Excellent Flame Retardant

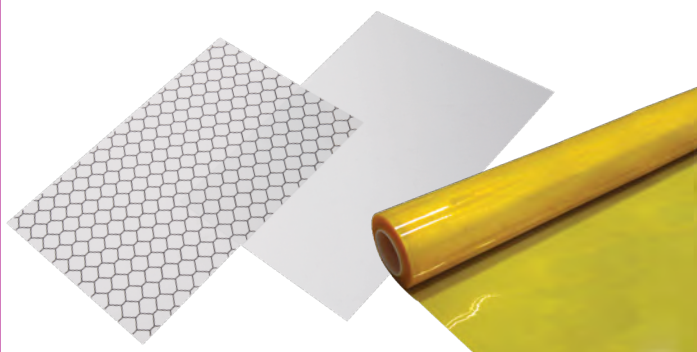
They have self extinguishing performance and they are recognized as flame retardant goods.

### Excellent Transparency and UV protection

Used for blocking ultraviolet radiation or light with anti-static function

### Excellent Fabrication Ability

It is possible to weld easily with high frequency heating welder.

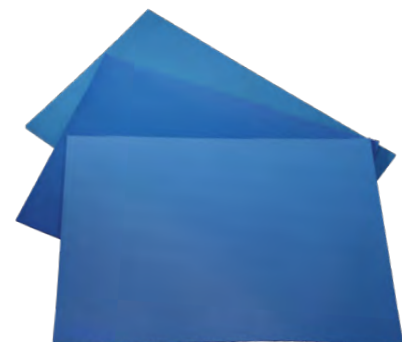


## Static Dissipative Vinyl Mat

Product Code: DY1003-GD12-BLUE

Made of refined high-elastic PVC, this vinyl composite has a tough top and cushioned bottom. It allows energy absorption for components susceptible to physical shock and fatigue resistance.

- Surface Resistance :  $10^7$  to  $10^9 \Omega$  (ANSI/ESD S4.1)
- Thickness : 0.125in (3.2mm)
- Dimension : 1.2m (width) x 10m (length)  
24in (width) x 50ft (length)  
36in (width) x 50ft (length)

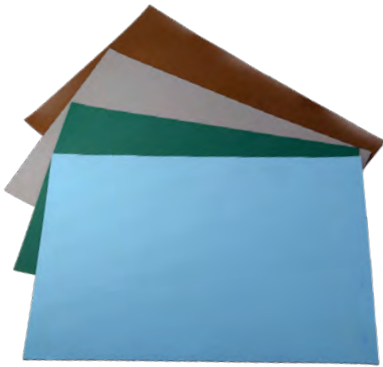


## Static Dissipative Rubber Mat

Product Code: DY1003

These static dissipative mats consist of two laminated layers.

- Colour Top Layer : provides static-free surface for highly ESD sensitive operations (Static Dissipative, Surface resistance  $\leq 10^9 \Omega$ ) (ANSI/ESD S4.1)
- Black Bottom Layer : allows static charge to be drained away effectively (Conductive, Surface resistance  $\leq 10^4 \Omega$ ) (ANSI/ESD S4.1)
- Dimension : 610x10,000mm and 1,000x10,000mm (2mm thickness)



## ESD Embossed Foam Table/Floor Mat

Product Code: DY1003-EMBOSS

Superior and good cushioning by Eco-friendly PVC foam material mixed with carbon free ESD agent. Heat treated embossed surface look luxurious, and it will be durable and less deterioration by abrasion.

- Colour : Brown and Grey provide
- Thickness : 8mm ( $\pm 5\%$ )
- Dimension : 1m (width) x 10m (length)



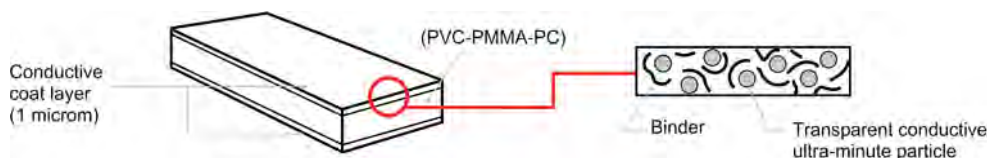
## Static Dissipative DC Plate (Perspex)

Product Code: DY1005

Our static dissipative Perspex has excellent metal coating strength which meets the JLS-K 5400 standard. It has permanent static dissipative characteristics with low triboelectrical charge generation and resistance to most cleaning solvents. It does not attract dust or floating particles and it is most suitable for clean room application.

- Standard size : 1000 x 2000 mm & 1212 x 2424 mm
- Thickness : 1, 2, 3, 4, 5, 6, 8, 10 & 15 mm
- Colour : clear, smoke-brown, orange, yellow
- Surface Resistance :  $10^6 - 10^8$  (EOS/ESD S11.11)
- Application : Cleanroom Partitions, Apparatus, Equipment Cover, Work Station Materials and Draft Chamber etc

Eslon DC Plate has a conductive surface coating on both sides of base plastic plate.



Material Code	Description	Feature
U	$\mu$ PVC	General Application
P	PMMA	Excellent Optical Property
C	Polycarbonate	Excellent Heat & Mechanical Property, Low Outgassing
HC	Hard Coat	Improved Scratch Resistant



**SEKISUI**



## Static Dissipative Veneer

Product Code: DY1008-VENEER

Material: Static Dissipative Veneer (Green / Gray)

This product offers ESD protection to workstation surfaces for sensitive products. Easy to install and they are suitable for post-forming applications on workstations and tables in ESD Protected Areas.

### Part Number:

DY1008-VENEER, Green, 1.2mX20mX0.7mm

DY1008-VENEER, GREY, 1.2mX20mX0.7mm

### Permanent Static Dissipative Veneer

- Colour Dissipative Top Layer (Grey/Green)
- Black Conductive Bottom Layer



Physical Properties	
Material	PS, EVA, PE (Synthesized)
Width	1.2m
Length	20m
Thickness	0.7mm
Minimum Tolerable Temperature	-12°C
Maximum Tolerable Temperature	100°C (Applicable to Indoor workshop)

Benefits	
Intrinsic Property	The resistance readings of the product is not humidity and/or temperature dependent
Permanent Property	Static dissipative property is permanent
Environment Friendly	Non-toxic, odorless and tasteless
Engineering & Chemical	Abrasion, oil, acid (weak) and alkaline resistant
Flexible	Come in roll form, easy to handle and to post-form

## Bench Top Laminates

Product Code: DY1008

Material: Static Dissipative Wood Laminates (Various Colours)

The unique characteristics of Nevamar's Static Dissipative Laminates make them ideally suited for a variety of electrostatic sensitive applications. This product meets or surpasses all standards of electrical properties, even at low humidity levels. The product also practically eliminates surface shedding to provide a tough, durable work surface that outperform and outlast competitive materials.



## Static Control Heel Grounders

Product Code: DY7006

This reusable heel grounder is made of conductive rubber with adjustable hook and loop strap and conductive polyester ribbon for body contact. It provides safe and reliable grounding between mobile personnel and conductive flooring.

- For the use of mobile personnel when wrist straps are not practical.
- Heel grounder must be used with properly grounded floors.
- Use heel grounders on both feet for proper grounding.
- Disposable heel grounds are also available
- Surface Resistance :  $10^6 - 10^7 \Omega$



## Static Control Wrist Straps

Product Code: DY7000

A wide range of high quality wrist straps designed to meet various requirements. All models come with one mega-ohm resistor to ensure fast and safe discharge of body charges.

- Strong yet flexible for long service life
- Snap fastener on all models with molded-in one mega-ohm current limiting resistor for operator safety
- Stretch and retract memory
- Banana plug as standard; alligator clip included for alternate connection to ground
- Standard coiled wire length: 6ft / 10ft / 12ft / 16ft / 20ft

### Elastic Woven Wrist Strap (DY7010)

- Comfortable and stretchable
- Economical



### Anti-Allergy Wrist Strap (DY7060)

- Suitable for sensitive skin
- Fabric Woven



### Metal Wrist Strap (DY7007)

- Anti-corrosion
- Stainless steel wrist strap



### Dual Wire Wrist Strap (DY7008)

- Dual wire wrist strap
- Comes in elastic woven only

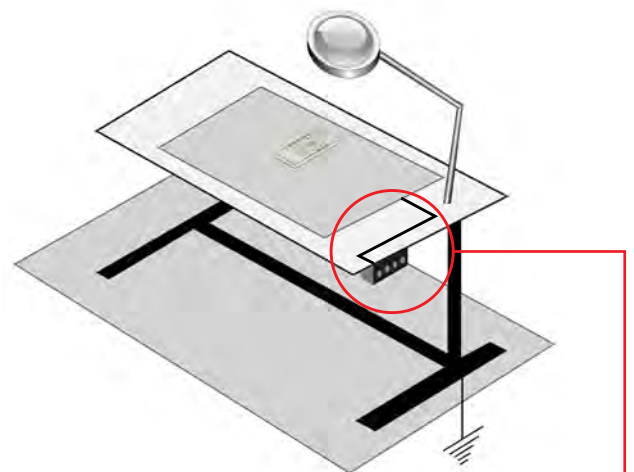


## Grounding Components

Product Code: DY7000

These universal ground connectors are used at workstations and machines for human grounding through wrist strap. Its unique design allow versatility with various designs wrist strap.

Connection Type	Product code
Banana plug to snap	N
Banana plugs to snap	GD101
2 Banana plug input to ring/banana snap	GD124
4 Banana jacks input to ring/banana snap	GD125



# APPARELS & FOOTWEAR

- ESD Control Garment Materials
- ESD Control Garments
- ESD Shoes/ Booties
- ESD Safety Shoes
- ESD Insole

## ESD Control Garment Materials

Product Code: DY6000

DY6000 Static Dissipative Fabric is made from 100% polyester continuous filament yarns, with electrical conductive fibers interwoven in striped or checked pattern at regular intervals. The cloth material is designed and engineered to exceed cleanroom and ESD requirements. It is durable with excellent washability and comfortable with superior ventilation.

### Function

- To suppress human contamination in the cleanroom
- To minimize static charge generation
- To eliminate the possibility of arcing from worker to sensitive electronic products

### Applications

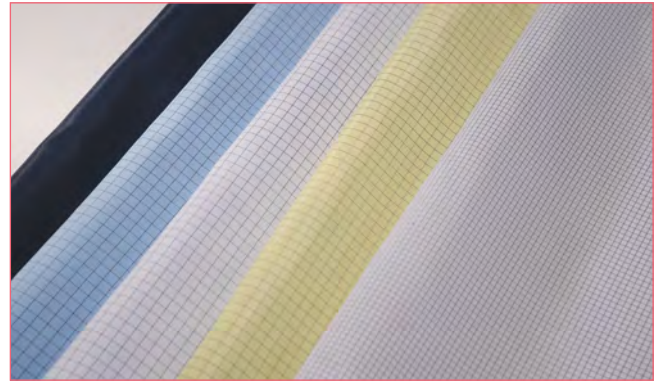
- Data storage, Semiconductors, Electronics, Precision Instruments, Aerospace, Pharmaceutical and Petroleum



### Conductive Thread

Length: 5190m /Cone

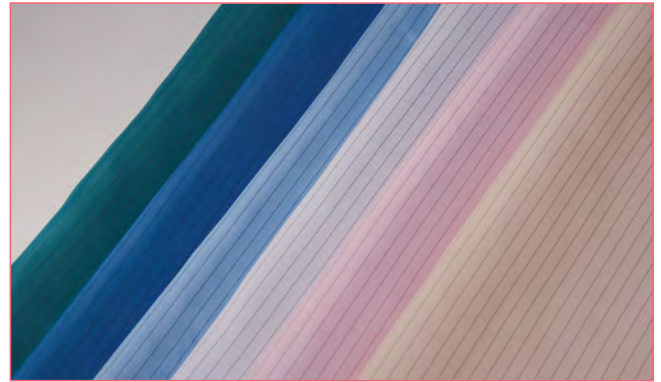
Surface Resistance:  $10^3$  to  $10^4 \Omega$



### Static Dissipative Fabric

- GD 5mm Material / GD 2.5mm Material

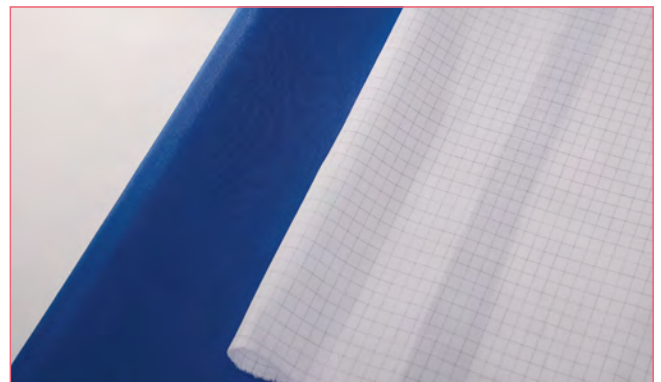
Surface Resistance:  $10^5$  to  $10^6 \Omega$



### Static Dissipative Fabric

- ST Material

Surface Resistance:  $10^8$  to  $10^{10} \Omega$



### Static Dissipative Cotton

- Polyester Mixed Material

Surface Resistance:  $10^5$  to  $10^8 \Omega$

★ Detail specifications available upon request

## ESD Control Garments

Product Code : DY6001

We provide a wide range of Static Dissipative garments available in different designs to suit all kinds of applications. These garments are made with excellent workmanship from our high quality DY6000 garment material. They serve you with the best electrical and physical properties at the most reasonable price.

Customized designs are welcomed

Sizes: XS, S, M, L, XL, 2XL, 3XL, 4XL



Jumpsuits



Metal Snap Buttons



Conductive Cuff



Standard Hood



ESD Shoe Cover Booties with Velcro



Cap



Cap



Round Collar



Standard Collar



Labcoats



Smocks



## Conductive / Static Dissipative PVC Shoes

Product Code : DY6002

Static control footwear provides the most effective and reliable way to remove static charges from personnel. When used in conjunction with proper flooring, it gives superior control of ESD compared to other grounding methods like wrist straps, which may be less durable and cumbersome to the user.

Function:

- Sizes : 220 - 300mm
- RTG < 35M $\Omega$
- To Minimize Static Charge Generation
- To Drain Human Static Charge Away Through Conductive / Static Dissipative Flooring
- Machine Washable

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>7</sup> $\Omega$ (COND, Conductive)	< 1.0 x 10 <sup>7</sup> $\Omega$ (COND, Conductive)
< 1.0 x 10 <sup>9</sup> $\Omega$ (SD, Static Dissipative)	< 3.5 x 10 <sup>7</sup> $\Omega$ (SD, Static Dissipative)



SH-2T-SD-REV A



SH-2T-SD-DB



SH-2T-COND



SH-4E-II-SD-REV A



SH-4E-SD-DB



SH-4E-II-COND

## Econ Grade - Static Dissipative PVC Shoes

Product Code : DY6002

This shoe has a two-piece construction of PVC upper material and a unique one piece molded static dissipative PVC sole.

- Sizes: 220 - 300mm
- RTG < 35M $\Omega$
- Low Cost
- Single Piece Molded Sole
- Excellent Electrical Properties
- Non-Marking, Non-Slip Sole
- Machine Washable

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> $\Omega$ (SD, Static Dissipative)	< 3.5 x 10 <sup>7</sup> $\Omega$ (SD, Static Dissipative)



EC-4E-SD



EC-2T-SD

## Static Dissipative PU Shoes

Product Code : DY6002

These PU shoes offer superb comfort and they are suitable for operations that require long hours of standing.

- Sizes : 220 - 300mm
- RTG < 35MΩ
- Single Piece Molded Sole
- Excellent Electrical Properties
- Non-Marking, Non-Slip Sole
- Machine Washable
- Better cushion at insole and heel portion

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω (SD, Static Dissipative)	< 3.5 x 10 <sup>7</sup> Ω (SD, Static Dissipative)



29-WH-PU-2T-SD



SH-PU-4E-SD-REV A

## Static Dissipative EPVC (SPU) Clog

Product Code : DY6002

This shoe has a single piece molded design using Expandable PVC (EPVC/SPU) material.

- Sizes : 220 - 295mm
- RTG < 35MΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω (SD, Static Dissipative)	< 3.5 x 10 <sup>7</sup> Ω (SD, Static Dissipative)

23-BL-4E-SD



23-WH-4E-SD

## Static Dissipative EPVC (SPU) Shoes

Product Code : DY6002

This shoe has a two-piece construction of PVC upper and a single piece molded design using Expandable PVC (EPVC/SPU) material.

- Sizes : 220 - 295mm
- RTG < 35MΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω (SD, Static Dissipative)	< 3.5 x 10 <sup>7</sup> Ω (SD, Static Dissipative)

25-BL-4E-SD



25-WH-4E-SD

## Static Dissipative EPVC (SPU) Slippers

Product Code : DY6002

This is a single piece molded static dissipative Expandable PVC (EPVC/SPU) slipper.

- Sizes : 34/35 - 47/48
- RTG < 35MΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 3.5 x 10 <sup>7</sup> Ω



18-BL

18-WH

## Static Dissipative Insole

Product Code : DY6002

These static dissipative insoles provides extra cushioning for humans wearing conductive or static dissipative footwear, while offering superb resistance to ground.

- Sizes : 220 - 300 mm
- RTG < 35MΩ
- Excellent Electrical Properties

Resistance of Insole (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 3.5 x 10 <sup>7</sup> Ω



SH-PU-INSOLE-SD-35M

SH-INSOLE 2SIDE  
A/S CANVAS

## Static Dissipative PVC Booties

Product Code : DY6002

These booties have a three-piece construction of static dissipative polyester fabric, a PVC upper and a unique one piece molded static dissipative PVC sole. This one-piece sole design allows human body static charges to dissipate via the insole to the ESD safe floor.

- Sizes : 220 - 300mm
- RTG < 35MΩ
- Single Piece Molded Sole
- Excellent Electrical Properties
- Non-Marking, Non-Slip Sole

Fabric Surface Resistance (-GD, 5mm checked)	Fabric Surface Resistance (-ST, 5mm parallel)
10 <sup>5</sup> to 10 <sup>6</sup> Ω	10 <sup>5</sup> to 10 <sup>10</sup> Ω

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω (SD, Static Dissipative)	< 3.5 x 10 <sup>7</sup> Ω (SD, Static Dissipative)



SH-08-SD-GD

SH-08-SD-ST



## Static Dissipative Safety Shoes (PU) - S1 SRC

Product Code : DY6002



These safety shoes are made of either microfiber PU or leather upper. They come with a mesh lining, steel toe cap, PU outsole and a silver fiber PU insole.

- Steel Toe Cap
- Sizes : 220 - 300mm
- RTG < 35MΩ
- Excellent Electrical Properties
- Non-Marking, Non-Slip Sole
- Anti-Fatigue, Anti-Odour Removable Insole

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 3.5 x 10 <sup>7</sup> Ω



SH-09P-SD-35M-BK

SH-13P-SD-35M-BK



SH-09P-SD-35M-MW

SH-13P-SD-35M-MW

## Static Dissipative Safety Booties (PU)

Product Code : DY6008 - SF8036

- Steel Toe Cap
- Sizes : 220 - 300mm
- RTG < 35MΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Surface Resistance of fabric (ESD STM2.1)
< 1.0 x 10 <sup>9</sup> Ω	10 <sup>5</sup> to 10 <sup>6</sup> Ω

Resistance to Ground (ANSI/ESD STM97.1)
< 3.5 x 10 <sup>7</sup> Ω



White



Grey



Light Yellow



Navy Blue



Pink



Sky Blue

## Static Dissipative Safety Shoes (PU/PU) - S1 SRC

Product Code : DY6008



- Composite Toe Cap
- Metal Detector Friendly
- Sizes : 36 - 47
- RTG < 35MΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 3.5 x 10 <sup>7</sup> Ω



HS-354C-BLACK



HS-354C-NAVY BLUE



HS-354C-WHITE

## Static Dissipative Safety Shoes (PU/RUBBER) - S1P SRC

Product Code : DY6008



- Steel Toe Cap
- Steel Midplate
- Sizes : 37 - 47
- RTG < 35MΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 3.5 x 10 <sup>7</sup> Ω



SF025



HS139



SF037

## Static Dissipative Safety Shoes (PU/PU) - S1P SRC / S3 SRC

Product Code : DY6008



- Composite Toe Cap
- Composite Midplate
- Metal Detector Friendly
- Sizes : 36 - 48 (HS-523-35M)
- Sizes : 37 - 47 (HS-015-35M)\*
- RTG < 35MΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 3.5 x 10 <sup>7</sup> Ω



Composite Midplate (Anti-Puncturing)



HS-523-35M (S1P SRC)



HS-015-35M (S3 SRC)\*

## Static Dissipative Safety Shoes (PU/RUBBER) - S1P SRC / S3 SRC

Product Code : DY6008



- Steel or Composite Toe Cap
- Steel or Composite Midplate
- Sizes : 37 - 47
- RTG < 1GΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 1.0 x 10 <sup>9</sup> Ω



HS-022 (S1P SRC) Steel



HS-034C (S3 SRC) Composite



HS-033C (S3 SRC) Composite

## Static Dissipative Safety Shoes (PU/PU) - S3 SRC

Product Code : DY6008



- Steel Toe Cap
- Steel Midplate
- Sizes : 36- 47
- Sizes : 39- 47 (HS-3101A)
- RTG < 1GΩ

Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 1.0 x 10 <sup>9</sup> Ω



HS-1102



HS-003



HS-3101A

## Static Dissipative Slip-Resistant Safety Shoes (PU/RUBBER) - S1 SRC

Product Code : DY6003

- Steel Toe Cap
- Sizes : 37 - 47
- RTG < 1GΩ



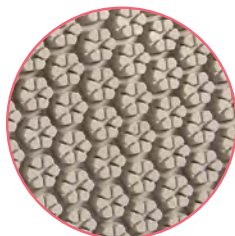
Resistance of Shoes (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 1.0 x 10 <sup>9</sup> Ω



HS-232A



HS-094



## Static Dissipative Insole

Product Code : DY6008

These static dissipative insoles provide an extra cushion for human wearing a conductive or static dissipative safety footwear for better comfort and yet achieving a good resistance to ground.

- Sizes : 36- 47 (Eurostat PU Insole)
- Sizes : 35- 40 (Pink PU Insole, Lady)
- RTG < 35MΩ
- Excellent Electrical Properties
- Machine Washable

Resistance of Insole (ANSI/ESD STM9.1)	Resistance to Ground (ANSI/ESD STM97.1)
< 1.0 x 10 <sup>9</sup> Ω	< 3.5 x 10 <sup>7</sup> Ω



EUROSTAT PU INSOLE

PINK PU INSOLE, LADY

## Basic Safety Shoes (PU/PU) - SB SRC

Product Code : DY6008

- Steel Toe Cap
- Sizes : 36- 47



HS-1102



HS-003

# FLOORING

- Static Dissipative Anti-Slip Floor Mat
- Anti-Fatigue Floor Mat
- ESD Anti-Fatigue Mat
- Conductive Vinyl Tiles Product
- Premium ESD Paint
- 4030 Staticide® Neutral Cleaner
- ESD Safe Floor Coating System

## Static Dissipative Anti-Slip Floor Mat

Product Code: DY1003-AS

This anti-slip mat comes with either small diamond or big circle shape pattern to meet different requirements. Rubber or PVC material available.

- Thickness: 2mm and 3mm
- Dimension: 1m or 1.2m (width) and 10m (length)
- Surface Resistance:  $10^7$  to  $10^9 \Omega$



★ Highly recommended for use in conjunction with Dou Yee ESD SAFE Shoes

## Anti-Fatigue Floor Mat

Product Code: DY1003-SH-BK/YW

Coming in standardized sizes, it allows this floor mat to be strategically placed at individual workstations. It is made of durable static dissipative surface laminated with thick rubber foam base. The foam base provides relief for the feet without compromising on ESD protection requirements. Diamond- patterned embossed surface offers excellent traction. A yellow safety border is highly visible with the ESD logo embedded at corners to alert workers of ESD controlled areas. All edges are tapered for safety to prevent tripping.

### Physical Properties

Length x Width	910 mm x 610 mm 1840 mm x 610 mm
Thickness	20 mm
Colour	Safety Yellow / Black
Surface	Diamond Embossed (Anti Slip)
Grounding Cord	10 ft with Cord with Alligator Clip and Banana Jack



★ Highly recommended for use in conjunction with Dou Yee ESD SAFE Shoes

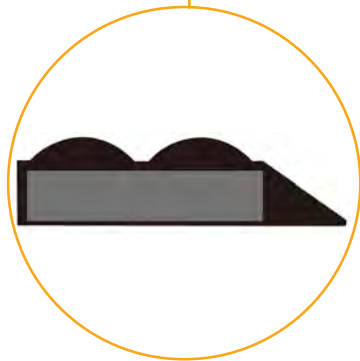
### ESD Anti-Fatigue Mat

Product Code: DY1003-ESD-ANTIFATIGUE MAT

Conductive NBR material and high elasticity expanded PU provides perfect cushioning and excellent anti fatigue, high resistant to chemical abrasion and heat resistance function.

Relieving foot and back pain from standing for long time.

Physical Properties	
Length x Width	600 mm x 450 mm 900 mm x 600 mm
Thickness	16 mm
Colour	Black
Surface Resistance	$\leq 10^6 \Omega$



### ESD Anti-Fatigue Mat

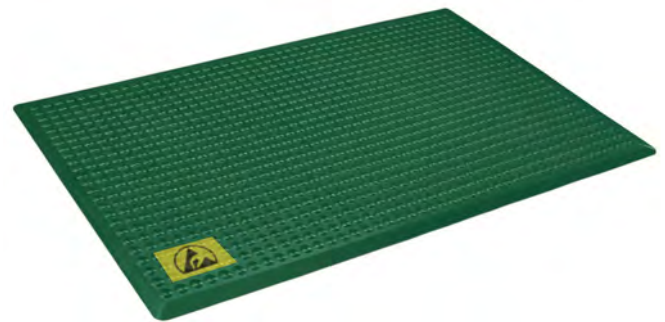
Product Code: DY1003-ESD-ANTIFATIGUE MAT(PU+TPU)

- Relieving fatigue and stress from long time standing.
- Increasing work quality and productivity.
- Reducing defectiveness, prevent safety-accident

#### PU Foam & TPU

- Preventing particle generation by using non carbon
- Permanent antistatic performance
- Material : ESD expanded PU/Thermoplastic Polyurethane

Physical Properties	
Length x Width	600 mm x 450 mm
Thickness	16 mm
Colour	Green
Surface Resistance	$\leq 1 \times 10^{10} \Omega$



## Conductive Vinyl Tiles Product

Product Code: DY1007-FT

The Flexco ESD Flooring is renowned in various industries for its high quality and durable conductive vinyl tiles. The high standards in manufacturing and strict quality testing enable us to provide lifetime warranty for the electrical properties of the tiles.

Applications:

- Electronics manufacturing, clean rooms, stores/warehouses, assembly, test and inspection, wafer or fiber optics fabrication
- Hospital surgeries, intensive care units, radiological facilities
- Computer/data processing installations, hard disk drive industries, access panels
- Explosive environments, munitions facilities, chemical processing
- Pharmaceutical, medical device manufacturing

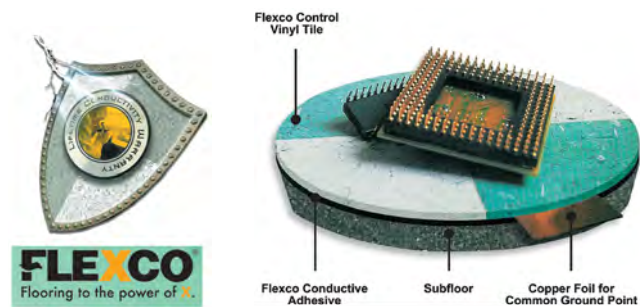
**Material:** Conductive Vinyl

**Available Sizes:** 1ft X 1ft / 2ft X 2ft / 3ft X 3ft

**Available Thickness:** 2mm / 3mm

**Accessories:** Conductive 2-part Epoxy Adhesives/ Welding Bead/Copper Grounding Foil

**Electrical Resistance:** 25KΩ to 1MΩ



★ Detail Specifications and ESD Flooring consultation and Certification services available upon request.

## Premium ESD Paint

Product Code: DY1007-ACL

This single-part system is an economical alternative to ESD epoxy or ESD tile that will save you money in material and labor related expenses. Trouble-free to install and maintain, this full-bodied paint allows for effortless mixing and application. Its rich viscosity ensures even distribution of conductive material and supreme coverage that leaves a nice sheen.

Staticide® Premium ESD Paint

You will have reliable static control with durability and alternative colors. Designed for interior concrete floors, this series of water-based polyurethane paints offers a bright color palette. The paints are perfectly suited for electronics manufacturing, assembly, and ESD protected areas (EPAs) where static control is of high importance.

This selected grade of ESD paint is formulated with the finest high-tech materials for consistent static protection, quality control, industrial toughness, and beauty with the following features:

- Water-based polyurethane
- Non-hazardous
- Non-flammable
- Biodegradable
- Static dissipative
- Conforms to ANSI/ESD S20.20-2007 Standard

**Material:** Water-based Polyurethane

**Electrical Resistance:** 10<sup>6</sup> to 10<sup>8</sup> Ω (Average)

**Coverage:** 250-300 sqft per gallon at 2mils



ACL Staticide®

★ Detail specifications available upon request



## 4030 Staticide® Neutral Cleaner

Product Code: DY1007-NEUTRAL  
CLEANER-4030

### Versatile and Economical

Staticide® Neutral Cleaner is a low-foaming, multi-purpose maintenance cleaner. There is no filming or streaking when cleaning with this unique formula, making it the perfect product for any type of facility, including ESD-safe areas.

This non-abrasive cleaner contains no silica and will not degrade the anti-static properties of production environments. It is ideal for use on ESD tiles, conductive floors, 4700SS Diamond Polyurethane ESD paint, and 5700 Staticide® Premium ESD Paint.

Environmentally friendly, this neutral formula is safe for septic and sewage systems. It is non-toxic and biodegradable, has a neutral pH, and contains no phosphates or alkalis.

Staticide® Neutral Cleaner is available in two formulas: 4020 Concentrate or 4030 Ready to Use.

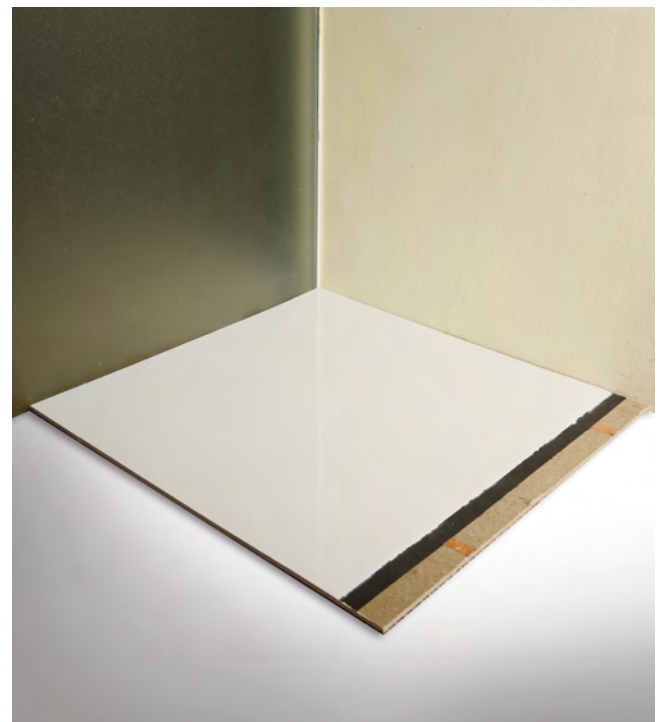


## ESD Safe Floor Coating System

**Product Code: DY1007-EPOXY-SD/COND FLOOR** Our solvent free Epoxy Resin Based Conductive / Static Dissipative Floor coating system is suitable for concrete or cementitious floors. It protects electrostatic sensitive devices in ESD safe areas and meets the ANSI/ESD Industrial Standards for flooring. It is durable and it has good chemical resistance against a wide range of chemicals. It provides seamless and smooth finishes to your flooring, thus, minimizing any contamination in your production environment and vibrations to your products when transporting around the production area. It also has a low odor to minimize out-gassing issue. The surface resistance of the floor system with the conductive epoxy coating is typically below  $1 \times 10^6 \Omega$ , and for dissipative coating, it will be below  $1 \times 10^9 \Omega$ .

### Product Code: DY1007-PAINT-SD FLOOR

Static Dissipative Acrylic paint is a high specification method of grounding personnel and preventing static build up at an inexpensive price. It is easy to apply by brush or roller and it has excellent chemical resistance capability. It can also be easily cleaned and it is highly durable. It comes with an attractive satin finish and has a low odor. The surface resistance of the floor system with the dissipative paint is typically in the range of  $10^6 \Omega$  to  $10^9 \Omega$ .



# ACCESSORIES

- Antistatic Laminating Pouch
- Antistatic Page Holders / Card Holders
- Static Dissipative Document Holders
- ESD Safe Stationaries
- ACL Staticide Ultra Floor Finish
- Staticide Mat & Table Top Cleaner
- ACL Staticide Hi Tech Hand Lotion
- ACL Staticide Spray General Purpose
- ESD Safe Chemical Bottle
- ESD Safe Hand Tools

## Antistatic Laminating Pouch

Product Code : DY3007

Laminating pouch is constructed using high quality pretrimmed polyester/ Permanent antistatic EVA material. Simply laminate your documents/ work instructions, calibration certificates/ ESD signs between the pouch for ESD sensitive work area usage.

- Surface Resistance:  $10^9 - 10^{11} \Omega$



Laminating pouch

## Static Dissipative Document Holders

Product Code : DY3007

Static dissipative A4 ring binder is ideal for ESD control environments for records management and document control.

- Various size/thickness are available
- Surface Resistance:  $10^6 - 10^9 \Omega$



A4 Ring Binder

## Antistatic Page Holders / Card Holders

Product Code : DY3007

Antistatic page protectors / cardholder contains stable properties and non-contaminating surface, making it suitable for stringent cleanroom environment.

- Rigid and flexible holder available
- ESD clip for Badge holder available
- All designs come with permanent ESD logo
- Surface Resistance:  $10^6 - 10^{11} \Omega$



Card / Badge Holder

Page holder

## ESD Safe Stationeries

Product Code : DY5004 -ESD Pen / DY3007-SD

Standard office stationeries are often made using materials that generates static and unintentionally becomes source for ESD damage. Static dissipative grade stationeries are used in EPA environment to ensure

- Pen colours available in black/ blue/ red.
- Surface Resistance:  $10^6 - 10^9 \Omega$



## ACL Staticide Ultra Floor Finish

Product Code : DY5400-ACL-4600

Staticide® Ultra Floor Finish for electrical properties, physical longevity, and gloss. This urethane-enhanced formula feature superior abrasion resistance and durability, fortifying floors with a long-lasting protective layer that is shiny and ESD-safe for 12 to 24 months.

- Coverage: 1,500-2,000 square feet per gallon
- Non-toxic
- Biodegradable
- Strip cycle: 12-24months
- Suitable to use on vinyl, linoleum, and ceramic tiles
- Surface resistivity:  $10^7-10^9 \Omega$



## ACL Staticide Mat & Table Top Cleaner

Product Code : DY5400-ACL6001/6002

ACL Mat & Table Top Cleaner is a multi-purpose neutral cleaner that is designed for production areas. It is the ideal cleaner for areas in which static-sensitive devices are assembled, tested, and handled, but can also be used in areas that require a mild but effective cleaner. This non-abrasive formula is safe to use on workstations, tabletops and anti-static mats (rubber and vinyl). It effectively removes flux residues, oily fingermarks, grease, nicotine, dirt, grime and inorganic contaminants. It also removes dirt on table mats and other antistatic mats without degrading the surface's antistatic properties.



## ACL Staticide Hi Tech Hand Lotion

Product Code: DY5400

Long working hours in controlled environments and prolong exposure to chemical/ gloves often result in skin irritation, dryness and flaking.

Moisture on the skin is also vital to ensure performance of personal grounding, especially on the bonding between the skin and wrist strap.

Hi Tech Hand location is suitable to reduce hand dryness, improves contact between wrist strap and skin and on top of it all minimize contamination in ESD control environment.

- Scent free
- No Glycerin/Silicone/lanolin or mineral oil
- Quick absorption to skin with minimal contamination to work surface



## ACL Staticide Spray General Purpose

Product Code : DY5400-ACL-2001/2003

ACL Staticide® is an inexpensive, easy-to-use topical antistatic solution and it is a highly-effective method for long-term static control. It is widely used in a broad range of industries, as well as in the office. Available in several different formulations, Staticide is packaged in gallons or ready-to-use quart bottles with spray nozzles. It is easily applied on walls, ceilings, floors, carpets, fixtures, work surfaces, tools and equipment, conveyor belts, clothing and other materials. On a hard surface, one gallon of Staticide will cover several thousand square feet, and last from weeks to months, depending on the application.



## ESD Safe Chemical Bottle

Product Code : DY6009-S038048

Chemical bottle with capacity of 150ml, is suitable for storage of solvents such as TCE or alcohol.

- Stainless steel lid with hinge
- Anti-corrosion



## ESD Safe Hand Tools

Product Code: DY6009

Antistatic TPE handles safely discharge any electrostatic energy, reducing possibility of damage to sensitive items. These hand tools are suitable for handling ESD sensitive components and trimming circuit boards or plastic burs.



PLCC



Diagonal Cutting Pliers

Notes

A series of 30 horizontal dotted lines for writing notes.

# Notes

A series of horizontal dotted lines for writing notes.

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