

PRODUCT DATA SHEET

ESD CLEANROOM FOOTWEAR

ESD Cleanroom Footwear is designed to provide effective electrostatic discharge control in cleanroom and controlled environments where static electricity may pose a risk to sensitive components and processes. This product range includes four eye-hole ESD shoes, ESD coverall shoes, and ESD cleanroom boots, all manufactured using conductive and dissipative materials to ensure consistent grounding and static dissipation. These footwear types are intended to support ESD protection programs while maintaining cleanliness, safety, and user comfort.

**ESD Four Eye Holes Shoe****ESD Coverall Shoe**

ESD Cleanroom Footwear

The **ESD Cleanroom Footwear** range is suitable for use in electronics manufacturing, semiconductor facilities, laboratories, and cleanroom operations. Each design offers specific coverage and protection levels to meet different operational needs, from basic indoor ESD control to enhanced coverage for cleanroom compliance. When used and maintained in accordance with recommended procedures, these footwear products help reduce electrostatic risks and support compliance with cleanroom and ESD control requirements. Proper selection of footwear type should be based on the work environment, required cleanliness level, and ESD protection standards.

**ESD Cleanroom Boots****Disclaimer / Customer Use Notice:**

This document is provided solely for the information and use of our customers. It is intended to guide safe handling, storage, and use of our ESD garments, caps, footwear, or jumpsuits in cleanroom and ESD-controlled environments. The information contained herein is believed to be accurate at the time of publication. However, BESTO ESD Technology makes no warranty, express or implied, regarding its completeness or accuracy. Users are responsible for determining suitability and compliance with applicable regulations. Do not use this document as a substitute for professional safety advice or as a guarantee of product performance. Improper use of the products may result in personal injury, equipment damage, or contamination.


SECTION 2: Cleanroom Footwear System Standards

2.1 Fabric Typical Standards Specifications (Cont.)

BESTO ESD Technology Footwear is engineered to meet stringent cleanroom and ESD control standards. Constructed from low-lint, anti-static materials, the footwear ensures reliable static dissipation while minimizing particle contamination. Lightweight and breathable, it provides comfort for extended wear, and its conductive components maintain continuous grounding to protect sensitive electronic equipment. Designed for cleanroom environments, this footwear supports both operational safety and compliance with established cleanroom clothing system specifications.




Details & Specifications:

Model	: ESD Coverall Shoe
Sizes	: Available in a range of sizes.
Material	: PVC Mesh Fabric
Properties	: Anti-Static, Low-Lint, Breathable, Sterilizable, Lightweight
Performance	: ESD Dissipation, Particle Control, Comfortable Fit, Washable
Colors	:  Upon Request



Details & Specifications:

Model	: ESD Coverall Shoe
Sizes	: Available in a range of sizes.
Material	: PVC Mesh Fabric
Properties	: Anti-Static, Low-Lint, Breathable, Sterilizable, Lightweight
Performance	: ESD Dissipation, Particle Control, Comfortable Fit, Washable
Colors	:  Upon Request

Disclaimer / Customer Use Notice:

This document is provided solely for the information and use of our customers. It is intended to guide safe handling, storage, and use of our ESD garments, caps, footwear, or jumpsuits in cleanroom and ESD-controlled environments. The information contained herein is believed to be accurate at the time of publication. However, BESTO ESD Technology makes no warranty, express or implied, regarding its completeness or accuracy. Users are responsible for determining suitability and compliance with applicable regulations. Do not use this document as a substitute for professional safety advice or as a guarantee of product performance. Improper use of the products may result in personal injury, equipment damage, or contamination.

SECTION 2: Cleanroom Footwear System Standards

2.1 Fabric Typical Standards Specifications (Cont.)



Details & Specifications:

Model	: ESD Cleanroom Sleeve Shoes
Sizes	: Available in size range from 36 to 50.
Fabric	: 99% Polyester + 1% Carbon : Conductive Filament
Properties	: Anti-Static, Low-Lint, Breathable, : Sterilizable, Lightweight
Application Industry	: Electronics, Semiconductor, : Pharmaceuticals, Cleanrooms
Performance	: ESD Dissipation, Particle Control, : Comfortable Fit, Industrial Washable
Production Standard	: ANSI/ESD S20.20, IEC 61340, ISO 14644-1
Colors	:   Upon Request



CLEANROOM PERFORMANCE

Low-lint materials minimize particle shedding, making it ideal for controlled environments.



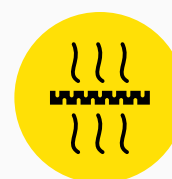
STERILIZABLE & WASH-RESISTANT

Designed to withstand cleaning procedures while maintaining material integrity.



ELECTROSTATIC DISCHARGE

Specially engineered conductive and dissipative, making it ideal for controlled environments.



BREATHABLE & COMFORTABLE

Lightweight construction allows airflow, keeping feet comfortable during extended wear.

In summary, **ESD Cleanroom Footwear** offers full coverage, comfort, and dependable anti-static protection, making it ideal for controlled environments where static-sensitive operations are conducted. Constructed from conductive and dissipative materials, the footwear safely dissipates static electricity while minimizing particle contamination. Its lightweight, breathable design ensures comfort during long working hours, and features like easy donning and secure fit support efficient workflow.

By maintaining consistent ESD performance and cleanroom compliance, this footwear plays a critical role in protecting both personnel and sensitive electronic equipment, ensuring operational safety and reliability.

Disclaimer / Customer Use Notice:

This document is provided solely for the information and use of our customers. It is intended to guide safe handling, storage, and use of our ESD garments, caps, footwear, or jumpsuits in cleanroom and ESD-controlled environments. The information contained herein is believed to be accurate at the time of publication. However, BESTO ESD Technology makes no warranty, express or implied, regarding its completeness or accuracy. Users are responsible for determining suitability and compliance with applicable regulations. Do not use this document as a substitute for professional safety advice or as a guarantee of product performance. Improper use of the products may result in personal injury, equipment damage, or contamination.

SECTION 3: Garment Care, Storage & Risk Management

3.1 Risk Reduction

Proper use and maintenance of ESD cleanroom footwear are essential to minimize electrostatic discharge risks in controlled environments. Users shall ensure that the footwear is worn correctly and remains in good condition to maintain effective grounding and static dissipation. Damaged, worn-out, or contaminated footwear may compromise ESD performance and should be replaced promptly. Regular inspection and adherence to established ESD control procedures will further reduce the risk of static-related incidents.

In addition, ESD cleanroom footwear shall only be used in designated ESD-protected areas and in accordance with site-specific cleanroom protocols. Mixing ESD footwear with non-ESD surfaces or improper grounding systems may reduce effectiveness. Periodic performance checks, including visual inspection and conductivity verification where applicable, are recommended to ensure continuous protection and compliance with ESD standards.

3.2 Storage

ESD cleanroom footwear should be stored in a clean, dry, and well-ventilated area when not in use. Storage locations shall be free from excessive heat, moisture, direct sunlight, and sources of contamination that may affect material integrity or ESD properties. Proper storage helps preserve the footwear's conductive performance, cleanliness level, and service life, ensuring continued compliance with cleanroom and ESD requirements.

Furthermore, footwear should be stored separately from non-cleanroom items to prevent cross-contamination. Where applicable, footwear may be kept in designated cleanroom lockers or protective packaging. Clear labeling and controlled storage practices support effective inventory management and help ensure that only compliant ESD cleanroom footwear is issued for use.

3.3 Washing & Care Instruction

Washing Method	: Machine wash or cleanroom laundry.
Washing Temperature	: Cold to warm water ($\leq 40^{\circ}\text{C}$).
Fabric	: 98% Polyester + 2% Carbon Conductive Filament.
Properties	: Anti-Static, Low-Lint, Breathable, Sterilizable.
Application Industry	: Electronics, Semiconductor, Pharmaceutical, and others.

By following proper care, storage, and usage procedures, ESD cleanroom footwear maintains its protective and cleanroom performance over time. Consistent adherence to these practices ensures effective risk reduction, prolonged service life, and compliance with ESD and cleanroom standards, supporting both product integrity and workplace safety.

Disclaimer / Customer Use Notice:

This document is provided solely for the information and use of our customers. It is intended to guide safe handling, storage, and use of our ESD garments, caps, footwear, or jumpsuits in cleanroom and ESD-controlled environments. The information contained herein is believed to be accurate at the time of publication. However, BESTO ESD Technology makes no warranty, express or implied, regarding its completeness or accuracy. Users are responsible for determining suitability and compliance with applicable regulations. Do not use this document as a substitute for professional safety advice or as a guarantee of product performance. Improper use of the products may result in personal injury, equipment damage, or contamination.

SECTION 4: Safety, Handling & Protective Measures

4.1 General Measures

First-Aid Measures

- **Skin Contact:** Generally safe; remove footwear if irritation occurs from prolonged wear or material sensitivity.
- **Inhalation:** No known hazard.
- **Ingestion:** Not applicable.

Fire-Fighting Measures

- **Extinguishing Media:** Water spray, foam, dry chemical, CO₂.
- **Special Hazards:** Burning fabric may release smoke, carbon monoxide.
- **Protective Equipment:** Use SCBA and protective clothing.

Accidental Release Measures

- **Skin Contact:** Generally safe; remove if irritation occurs.
- **Eye Contact:** Rinse with water if fibers or dust enter eyes.
- **Inhalation:** No known hazard.
- **Ingestion:** Not applicable.

Handling and Storage

- Wear as instructed in cleanroom or ESD-controlled areas.
- Avoid contact with sharp objects.
- Store in a clean, dry area away from sunlight or chemicals.

Warning: Use ESD Cleanroom Footwear only in designated ESD-controlled and cleanroom areas. Improper use may reduce electrostatic protection.

In conclusion, **ESD Cleanroom Footwear** must be used strictly in designated ESD-controlled and cleanroom areas to ensure proper electrostatic discharge protection. Users should follow all handling instructions, avoid sharp objects and hazardous chemicals, and store the footwear in clean, dry conditions away from direct sunlight. Regular inspection for wear, damage, or loss of anti-static performance is essential to maintain both user safety and cleanroom compliance.

Additionally, proper maintenance, first-aid awareness, and fire safety measures are critical. In case of fire, footwear may release smoke or toxic fumes from the synthetic materials, so appropriate protective equipment should be used. Accidental contamination or damage should be addressed according to cleanroom protocols, and disposal must follow local environmental regulations. Adhering to these guidelines ensures that ESD cleanroom footwear continues to provide effective protection, comfort, and reliability throughout its service life.

Disclaimer / Customer Use Notice:

This document is provided solely for the information and use of our customers. It is intended to guide safe handling, storage, and use of our ESD garments, caps, footwear, or jumpsuits in cleanroom and ESD-controlled environments. The information contained herein is believed to be accurate at the time of publication. However, BESTO ESD Technology makes no warranty, express or implied, regarding its completeness or accuracy. Users are responsible for determining suitability and compliance with applicable regulations. Do not use this document as a substitute for professional safety advice or as a guarantee of product performance. Improper use of the products may result in personal injury, equipment damage, or contamination.

SECTION 6: Exposure Control & Protection

6.1 Exposure Controls / Personal Protection

- **Proper Use:** Wear only in ESD-controlled areas.
- **Avoid Hazards:** Avoid sharp objects, chemicals and heat.
- **Cleanroom Integrity:** Keep clean to maintain anti-static performance.

SECTION 7: Maintenance & User Responsibility

7.1 Maintenance, Inspection & Disposal

- **Inspection:** Regularly check footwear for wear, damage, cracks, worn soles, or any loss of ESD performance. Replace or repair as necessary.
- **Maintenance:** Follow recommended cleaning procedures to preserve anti-static and low-lint properties. Avoid sharp objects, chemicals, and excessive heat.
- **End-of-Life Disposal:** Dispose of damaged or worn-out footwear according to local environmental and safety regulations. Do not burn or incinerate, as harmful smoke or gases may be released.
- **Record Keeping:** Maintain logs of usage and cleaning to track the lifespan of footwear and ensure compliance with ESD and cleanroom standards.
- **Recycling:** Where possible, segregate materials for recycling to reduce environmental impact.

7.2 Training And User Responsibility

Users should be trained to correctly wear, handle, and store BESTO ESD cleanroom footwear. Proper use ensures anti-static performance, cleanroom compliance, and user safety. Key responsibilities include:

- Inspect footwear before and after use; report any damage.
- Follow cleanroom and ESD protocols at all times.
- Keep simple usage and cleaning logs to maintain ESD performance.

Disclaimer / Customer Use Notice:

This document is provided solely for the information and use of our customers. It is intended to guide safe handling, storage, and use of our ESD garments, caps, footwear, or jumpsuits in cleanroom and ESD-controlled environments. The information contained herein is believed to be accurate at the time of publication. However, BESTO ESD Technology makes no warranty, express or implied, regarding its completeness or accuracy. Users are responsible for determining suitability and compliance with applicable regulations. Do not use this document as a substitute for professional safety advice or as a guarantee of product performance. Improper use of the products may result in personal injury, equipment damage, or contamination.

BESTO ESD TECHNOLOGY

CLEANROOM FOOTWEAR

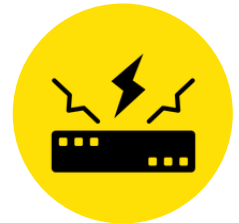
**SGS****CTI**CENTRE TESTING
INTERNATIONAL

High-quality cleanroom footwear from BESTO ESD Technology, proven and certified by SIRIM, SGS, and CTILab Tested.



Critical Connectivity Points for Grounding & Continuity

1. Coverall to Boot Interface
2. Heel & Toe Areas
3. Insole & Conductive Inserts
4. Boot Sole



Key points on ESD footwear, including the boot sole, heel, toe, and internal conductive inserts, ensure continuous grounding and safe static dissipation. Proper fit, maintenance, and alignment with garments are essential to maintain effective ESD protection and safeguard sensitive equipment.