

1.0 Purpose

This procedure describes the process used for ElectroStatic Discharge (ESD) controls, monitoring, auditing, scheduling and reviewing information for all operational areas.

Scope for ESD

ESD training and use is shared among all Xmultiple employees and personnel who come in contact with ESD-sensitive equipment used in any of our manufacturing facilities, packaging, and shipping areas or for any employee coming in contact with our products before they are delivered to our customers. ESD protective packaging is used for all our products. The Electrostatic Discharge Control EPA sign is displayed in our facilities.

Xmultiple ESA Protection Area (EPA) includes the following six groups which are controlled, monitored and maintained in all of our facilities.

1. **ESD environment:** Flooring, grounding, ionizers, and humidifiers.
2. **ESD products:** ESD products including: Static shielding bags, bins, boxes, organizers, carts, shelving, IC tubes and other ESD packaging for components.
3. **ESD workbench and ancillaries:** The use of an ESD workbench with ESD straps, ESD seats, etc., to ensure our personnel are grounded via a high resistance dissipative rather than conductive path for safety reasons.
4. **ESD tools:** A variety of tools come into this category including ESD soldering irons.
5. **ESD clothing:** The use of ESD clothing. Normal clothing can generate and carry static.
6. **ESD storage and transport:** Our connectors and components are ESD protected before and during shipping to our customers.

2.0 Responsibilities

- 2.1 Quality Control Managers are responsible for implementing and maintaining the ElectroStatic Discharge system in their plant and to train and determine personnel are performing the proper controls and procedures for ESD.

- 2.2 Production Supervisors and Managers are responsible for communicating with Quality Control Managers to keep them informed as to the ESD controls and monitoring in their areas.
- 2.3 Employees are responsible for ESD controls in their areas.

3.0 Definitions

- 3.1 ANSI/ESD S20.20 provides a collective resource for ESD recommended constraints on product performance. MIL-HDBK-263K has a suggested checklist to use in performing an ESD audit.

4.0 Equipment/Software

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| 1. Grounded wheels | 12. Ground point of trolley and carts |
| 2. Grounded surfaces | 13. Toe and heel strap (footwear) |
| 3. Wrist Strap testers | 14. Ionizer |
| 4. Footwear plate | 15. Working surfaces |
| 5. Footwear tester | 16. Seating and grounded pads |
| 6. Wrist Cord and Wrist Band | 17. Antistatic Floor |
| 7. Ground Cord | 18. Garments |
| 8. Shipping trays, box, tape | 19. Shelving with grounded surfaces |
| 9. Earth bonding point (EBP) | 20. ESD bins, box, organizers |
| 10. Antistatic Caps | 21. Chairs |
| 11. Antistatic Tools | 22. EPA Sign |

5.0 Instructions

Anti-static procedures for connector manufacturing include four elements of control.

- 1. Anti-Static Mats
 - 2. Wrist Bands for Grounding
 - 3. Storage and Handling
 - 4. Packaging Material
- 1. The first control procedure is the use of anti-static mats on all work benches, tables and storage shelves throughout the production factories.
 - 2. The second element of control is the procedure which requires all employees to wear grounding wrist bands. The grounding wrist band is attached to the employee's wrist and a cord from the wrist band attaches to a metal ground on the work bench or anti-static mat. The grounding wrist band provides anti-static

grounding for the employees who handle the connectors and the connector's parts. This procedure eliminates static from the connector.

3. Anti-static plastic bags and trays are used to store all parts and finished goods. During each phase of production, anti-static plastic bags are used to move parts from one production phase to another.

4. The fourth element of ESD control is the packaging used in shipping connectors to our customer. This element of ESD control is addressed by the use of anti-static packaging material in the packaging.

Employee feedback:

Production Supervisors receive employee feedback. All employee feedback is recorded in the ESD feedback database.

6.0 Forms and Records

- 6.1 F-334-A ESD Checklist
- 6.2 F-335-002 ESD Logs
- 6.3 F-336-003 ESD Audit Reports

7.0 Attachments

- 7.1 None

8.0 Related Documents

- 8.1 QP-850 Corrective Preventive Action

9.0 References

- 9.1 None

10.0 Revisions

Revision	Date	Section	Paragraph	Summary of change	Authorized by
A	8/08/09			Initial issue	MB