ESD Basics

ESD Association

Effective ESD Control Programs

Putting basic ESD principles into practice starts at the top.

Starting and maintaining an ESD control program is similar to many other business activities and projects. Although each company is unique, at least six elements are critical to successfully developing and implementing an effective ESD control program.

1. Establish an ESD coordinator and ESD teams. ESD problems and solutions cross various functions, departments, divisions and even suppliers. Team composition includes line employees as well as department heads or other management personnel. ESD teams or committees help ensure a variety of viewpoints, the availability of the needed expertise and commitment to success. Include representation from engineering, manufacturing, field service, training and quality. The ESD coordinator is responsible for developing, budgeting and administering the program. The coordinator also serves as the company's internal ESD consultant to all areas.

2. Assess your organization, facility, processes and losses. Gain a thorough understanding of your environment and its impact on ESD. Armed with loss and sensitivity data, evaluate your facility, looking for areas and procedures that may be contributing to defined ESD problems. Be on the lookout for static-generating materials and personnel handling procedures for ESD-sensitive items. Document processes. Observe the movement of people and materials, noting areas that have the greatest potential for ESD problems (don't forget the warehouse). Then conduct a thorough facility survey or audit. Measure personnel, equipment and materials to identify the presence of electrostatic fields in your environment.

Before seeking solutions to problems, determine the extent of losses to ESD. These losses may be reflected in receiving reports, QA and QC records, customer returns, in-plant yields, failure analysis reports and other data that you may already have or that you need to gather. This information identifies the problem's magnitude and helps pinpoint and prioritize areas that need attention.

Document actual and potential ESD losses in terms of DOA components, rework, customer returns and failures during final test and inspection. Use data from outside sources or the results of your pilot program for additional support. Develop estimates of the savings to be realized from implementing an ESD control program.

Identify ESD-sensitive components, assemblies and finished products and the level of their sensitivity. You can test these items yourself, use data from suppliers or rely on published data.

3. Establish and document your ESD control program plan. After completing your assessment, begin to develop and document your ESD control program plan. The plan should cover the scope of the program and include the tasks, activities and procedures necessary to protect ESD-sensitive items at or above the sensitivity level chosen for the plan. Prepare and distribute written procedures and specifications. Fully documented procedures will help meet ANSI ESD S20.20 and ISO 9000 certification.

4. Get management support. A successful ESD program requires the support of management at the highest level possible. To obtain commitment, build justification for the plan. Emphasize quality and reliability, the costs of ESD damage, and the impact of ESD on customer service and product performance. You may need to conduct a pilot program if the experience of other companies is not sufficient to help prove your point. Prepare a short corporate policy statement on ESD control. Have top management co-sign it with the ESD coordinator. Periodically, reaffirm the policy statement and management's commitment to it.

5. Define a training plan. Train and retrain personnel about ESD and your company's program and procedures. Proper training for line personnel is especially important since they live with the procedures on a day-to-day basis.

6. Develop and implement a compliance verification plan. Developing and implementing the program itself is obvious. What might not be so obvious is the need to continually review, audit, analyze, gather feedback and improve. Auditing is essential to ensuring an ESD control program's success. You will be asked to continually identify the return on investment of the program and to justify the savings realized. Technology changes will dictate improvements and modifications. Feedback to employees and top management is essential. Management commitment will need reinforcement. Be sure to conduct periodic evaluations of your program and plant audits. ■

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