

ESD COORDINATOR I

Part 1 Introduction

ESD Basics for the ESD program manager/ESD coordinator

Educational objective:

Based on the trainings **ESD Basics I** and **ESD Basics II** as well as the training **ESD Standards** a further education for ESD Coordinators or ESD representatives follows. The ESD seminar is updated incessantly, so the parameters are on the newest stand.

The assumption for these seminars **ESD Coordinator I** and **II** are the seminars, which were mentioned previously. (A repetition of the content won't follow.)

Part 2 ESD Standard – basics for the EPA

Educational objective:

An overview about the actual standards will be given and which standards should be used for which area. Additional the future standards will be pointed out.

Part 3 Construction of ESD workstations and areas (EPA) Development of an ESD control program (ECP) and evaluation

Educational objective:

Equipments and requirements will be introduced and discussed by means of the actual standards. The technical requirements to the different materials will be explained. Based on the requirements and the analysis of the manufacture (compare 5 steps for the introduction of an „ESD Control Program“) a program will be developed. The single steps and requirements will be discussed.

Part 4 Behavior of the employees, handling guide lines, in-house trainings

Educational objective:

The biggest problems are the persons, which charge itself everywhere and every time. The employees can be equipped with the existing possibilities, so they can charge itself less. The content of an in-house training will be developed.

Part 5 ESD control program plan, check, audit and certification

Part 6 Packaging, requirements and principals for ESD manager, measurement methods

Educational objective:

After having equipped the manufactures, the deliveries entrances, the storages etc., they have to be checked. The check has to be repeated regularly, normally once in the year. The tasks of the ESD coordinator will be introduced and discussed.

Part 7 Measurements in the manufacture: survey, evaluation and interpretation of the measurements

Educational objective:

The necessary measurement methods for the part 3 will be introduced. The possible improvements, which results in the standards will be discussed.

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Content:

Measurement of the parameters

- Electrostatic charges, electrical field
- Surface resistance and resistance to ground
- Problems at the measurement of electrostatic parameters

Further on actual measurement methods will be discussed (i.e. Walking Test/Body Voltage, system resistance, shielding behavior and test of packaging materials)

ESD COORDINATOR II

Part 8 Air ionization Basics, methods, test of ionizing devices

Educational objective:

The fundamental construction of the various ionization principals will be introduced and compared. The different methods and their application will be explained and shown at special examples. An additional part describes the test methods with a Charge Plate Monitor or similar devices.

Part 9 Devices, technologies and fault analysis - overview

Educational objective:

The first knowledge for device constructions, which should guarantee a better ESD protection, will be discussed. Solution possibilities and suggestions will be developed. A comparison between ESD requirements for ESDS and devices will be discussed as well as fault models for ESDS and devices (EMC).

Part 10 Electrostatic calculations for the ESD program manager/ESD coordinator

Educational objective:

The ESD coordinator or the ESD program manager will learn to realize basic calculations on his own. The calculation of charges, electrostatic fields, potentials, voltages and the different resistances will be explained. They will be practiced on different examples.

Part 11 Clean room requirements for the ESD program manager/ESD coordinator

Educational objective:

Part 1 deals with the basic ESD requirements in clean room areas.

Part 2 treats the necessary clean room requirements for the SMD manufactures for the future.

Part 12 Test

After having visited all seminars/trainings (ESD Basics 1 and 2, ESD Standards as well as ESD Coordinator 1 and 2), a test can be realized. 90 % of the questions have to be answered correctly.

The contents of the seminars can be added with the American Standards **JEDEC ANSI/EIA-625A**, **MIL-STD-1686A**, **ANSI/ESD-S20.20-2007**, if it's desired.

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