

ESD TR53-01-22

ESD Association Technical Report

ESD TR53-01-22
Revision of ESD TR53-01-18



***For the Protection of Electrostatic
Discharge Susceptible Items***

***Compliance Verification of ESD
Control Items***

EOS/ESD Association, Inc.
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FOREWORD

This technical report¹ describes the compliance verification procedures and test equipment that can be used to verify the performance of electrostatic discharge (ESD) control items (previously, protective equipment and materials) after procedures are established and implemented. These compliance verification procedures should be applied to provide a baseline for comparison with future compliance verification results. The objective of these compliance verification procedures is to identify if significant performance changes in ESD control items have occurred over time and to verify compliance with the Organization's ESD control program.

The wide variety of ESD control items and the environments in which they are used may require compliance verification procedures different from those described in this technical report. Users of this technical report may need to adapt the compliance verification procedures and test equipment (as required) to produce meaningful data for their applications. Organizations that perform these compliance verification procedures must determine sample size requirements and time intervals between compliance verification. These should be based on how critical the ESD control items are to their ESD control program.

Compliance verification procedures in this technical report are based on standards, standard test methods, and standard practices currently published by the EOS/ESD Association Inc.

This technical report was originally designated ESD TR53-01-06 and was published in 2006. ESD TR53-01-15 was a revision of ESD TR53-01-06 and was approved on February 6, 2013. ESD TR53-01-18 is a revision of ESD TR53-01-15 and was approved on May 31, 2018. ESD TR53-01-22 is a revision of ESD TR53-01-18 and was approved on March 25, 2022.

¹ **Technical Report (TR)**. A collection of technical data or test results published as an informational reference on a specific material, system, or process.

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ESD Association Technical Report for the Protection of Electrostatic Discharge Susceptible Items – Compliance Verification of ESD Control Items**1.0 PURPOSE, SCOPE, AND APPLICATION****1.1 Purpose**

The purpose of this document is to provide compliance verification procedures and troubleshooting guidance of test equipment and test setup when used for ESD control items (previously, protective equipment and materials) that have been implemented in ESD control programs, such as those specified in ANSI/ESD S20.20.

The procedures are based on standards, standard test methods, and standard practices currently published by the EOS/ESD Association Inc. and are simplified where necessary.

Organizations may, by reference to this document in their compliance verification plan, adopt the necessary compliance verification procedures described herein without change or addition. Alternatively, compliance verification procedures described in this document may be adapted to match the Organization's ESD control program requirements, provided deviations in test equipment and compliance verification procedures are documented in their compliance verification plan.

1.2 Scope

This document describes compliance verification procedures for the following ESD control items as defined per ANSI/ESD S20.20:

- Grounding/Equipotential Bonding Systems
 - Equipment Grounding Conductor
 - Auxiliary Ground
 - Equipotential Bonding
- Personnel Grounding
 - Wrist Strap System
 - Footwear/Flooring System
 - Groundable Static Control Garment System
- ESD Protected Areas (EPAs)
 - Insulators
 - Isolated Conductors
 - Worksurface
 - Wrist Strap
 - Wristband
 - Personnel Ground Wrist Strap Connection (non-monitored)
 - Continuous Monitors
 - Footwear
 - Foot Grounders
 - Flooring
 - Seating
 - Ionization
 - Shelving (When used to store unprotected ESDS items)
 - Mobile Equipment (Working Surfaces)
 - Electrical Soldering/Desoldering Hand Tools