

ESD TR53-01-18

ESD Association Technical Report

ESD TR53-01-18
Revision of ESD TR53-01-15

*for the Protection of Electrostatic
Discharge Susceptible Items*

*Compliance Verification of ESD Protective
Equipment and Materials*



*Electrostatic Discharge Association
7900 Turin Road, Bldg. 3
Rome, NY 13440*

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FOREWORD

This technical report describes the test procedures and instrumentation that can be used to periodically verify the performance of ESD protective equipment and materials. After ESD protective equipment and materials are installed and in their actual use locations, these compliance verification test procedures are recommended to provide a baseline for comparison with future compliance verification tests. The objective of these test methods is to identify if significant performance changes in ESD equipment and materials have occurred over time and to verify the compliance of ESD protective items within the ESD Control Plan.

The wide variety of ESD protective equipment and materials, and the environment in which they are used may require test setups different from those described in this technical report. Users of this technical report may need to adapt the test procedure and setups (as required) to produce meaningful data for their own application. Organizations who perform these tests will also need to determine the time interval between compliance verification and sample size based on how critical the ESD protective equipment and materials are to their static control program.

All test procedures in this document are based on current standards, standard test methods, and standard practices currently published by the ESD Association.

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 for publication on May 31, 2018.

At the time ESD TR53-01-18 was prepared, the 53.0 Compliance Verification subcommittee had the following members:

	Kevin Duncan, Chair Seagate Technology	
Nate Ashworth Julie Industries, Inc./StaticSmart Flooring	Mary Kay Botkins ACL Staticide, Inc.	Cheryl Checketts Estatec
David Girard Honeywell Aerospace	Ginger Hansel Dangelmayer Associates, LLC	John Kinnear, TAS Rep IBM
Charles McClain Micron Technology, Inc.	Rachel Reinstra Lockheed Martin	James Roberts Continental Automotive
Jeff Salisbury Finisar Corporation	Matt Strickland, Vice-Chair L-3 Communications	Wolfgang Stadler Intel Deutschland GmbH

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The following individuals contributed to the development of ESD TR53-01-15 and/or ESD TR53-01-06:

Eugene Chase
Electro-Tech Systems, Inc.

Cheryl Checketts

Melissa Feeney-Jolliff
Aerospace Corp.

Gene Felder
Desco Industries, Inc.

Jay Hamlin
Medtronic

Timothy Jarrett
Boston Scientific

John Kinnear
IBM

Gregory Manning
NASA/ARES Technical
Services

Tom Pelc
Oracle

Tim Prass
Raytheon

Brian Retzlaff
Plexus Corporation

Bill Ricker
Ricker Engineering Services

Jeff Salisbury
Seagate Technology

Jose Sancho
NASA/GSFC/Honeywell TSI

Sarah Smith
Walker Forge

Fred Tenzer
Desco Industries, Inc.

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ESD Association Technical Report for the Protection of Electrostatic Discharge Susceptible Items – Compliance Verification of ESD Protective Equipment and Materials

1.0 PURPOSE

The purpose of this technical report is to provide compliance verification test procedures and troubleshooting guidance for ESD protective equipment and materials. Test results may be used for the compliance verification plan requirements of ANSI/ESD S20.20 or those of the user.

2.0 SCOPE

This document describes compliance verification testing for the following ESD Protective Equipment and Materials:

- Grounding / Bonding Systems
- Worksurfaces
- Wrist Straps
- Footwear
- Flooring
- Seating
- Air Ionizers
- Mobile Equipment
- Electrical Soldering/Desoldering Hand Tools
- Constant (Continuous) Monitors
- Garments
- Packaging
- Process Required Insulators
- Isolated Conductors

3.0 PERSONNEL SAFETY

THE PROCEDURES AND EQUIPMENT DESCRIBED IN THIS DOCUMENT MAY EXPOSE PERSONNEL TO HAZARDOUS ELECTRICAL CONDITIONS. USERS OF THIS DOCUMENT ARE RESPONSIBLE FOR SELECTING EQUIPMENT THAT COMPLIES WITH APPLICABLE LAWS, REGULATORY CODES AND BOTH EXTERNAL AND INTERNAL POLICY. USERS ARE CAUTIONED THAT THIS DOCUMENT CANNOT REPLACE OR SUPERSEDE ANY REQUIREMENTS FOR PERSONNEL SAFETY.

GROUND FAULT CIRCUIT INTERRUPTERS (GFCI) AND OTHER SAFETY PROTECTION SHOULD BE CONSIDERED WHEREVER PERSONNEL MIGHT COME INTO CONTACT WITH ELECTRICAL SOURCES.

ELECTRICAL HAZARD REDUCTION PRACTICES SHOULD BE EXERCISED AND PROPER GROUNDING INSTRUCTIONS FOR EQUIPMENT SHALL BE FOLLOWED.

THE RESISTANCE MEASUREMENTS OBTAINED THROUGH THE USE OF THIS TEST METHOD SHALL NOT BE USED TO DETERMINE THE RELATIVE SAFETY OF PERSONNEL EXPOSED TO HIGH AC OR DC VOLTAGES.

4.0 TEST EQUIPMENT

If user defined required limits are outside the specifications of the test equipment, the user should define test equipment that will measure their specific requirements. Test equipment should be used and calibrated according to the manufacturer's recommendations.