

A listing of all technical publications of the ESD Association.

Information At Your Fingertips...

Information Resource for the electronics industry on Electrical Overstress/
Electrostatic Discharge Avoidance

About The ESD Association.....

Since its founding in 1982, the ESD Association has grown to 2000 members. This is a testimony to the widespread interest in these subjects and the need for such an organization. The Association is a not-for-profit corporation dedicated to promoting the exchange of technical information and high standards of professionalism among its members. Its primary field of interest is the advancement of the theory and practice of electrical overstress avoidance with emphasis on electrostatic discharge phenomena.

About ESD Association Membership.....

Association members include engineers, production management, quality assurance and reliability, research, sales and marketing, education, purchasing, and a number of other functions. The membership represents electronics manufacturers and users, research laboratories, consultants, universities, manufacturers of ESD products, and other industries affected by ESD. These ESD professionals find the help and resources they need in the membership, activities, and programs of the Association. These benefits and activities include: Educational tutorials and seminars, EOS/ESD Symposium, participation in local chapters, extensive networking, on-line membership roster, standards development, and.....significant savings on ESD Association standards.

For more information on becoming an ESD Association member, contact the ESD Association.

Electrostatic Discharge Association

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Website: www.esda.org

www.esda.org





Electrostatic Discharge Control

McAteer, 1990

ISBN: 0-07-044838-8; 480 Pages

Order#: EP101 Cost: \$85.00

This Book is not only a guide to improved ESD control for the ESD specialist, but offers practical information to engineers, technicians, and managers involved in and way with electronics processing. Factory-tested methods for incorporating and upgrading ESD controls at every level of design, manufacture, quality assurance, and distribution are included. Readers can gain a firm foundation in electrostatic principles to equip them to resolve problems and make rational decisions in the ever-changing world of ESD control practices.

Electrostatic Discharge and Electronic Equipment: A Practical Guide for Designing to Prevent ESD Problems

Boxleitner, 1988

ISBN: 0-87942-244-0; 128 Pages

Order#: EP102 Cost: \$82.00

This book explains how ESD is generated, and how it affects electronic equipment. How to design equipment to prevent ESD problems and explains how they work. Also covered are methods of testing for ESD problems, test hardware, and ways to ensure meaningful results.

ESD Program Management: A Realistic Approach to Continuous, Measurable Improvement in Static Control – 2nd Edition

Dangelmayer, 1990

ISBN: 0-412-13671-6; 436 Pages

Order#: EP103 Cost: \$198.00

A comprehensive book that explains how to develop, implement and manage an ESD control program. It includes changes and additions to auditing techniques, cost benefits data, and materials evaluation. Chapters on common myths, issues related to smaller companies, process controls, ISO 9000, material characterization, and training. New case studies on field-induced failures in the factory, long-distance central office system upsets, and automation-caused failures.

ESD in Silicon Integrated Circuits-

2nd Edition

Amerasekera & Duwury, 2002

ISBN: 0-470-49871-8; 412 Pages

Order#: EP105 Cost: \$165.00

Presents a practical and systematic approach to ESD device physics, modeling and design techniques. Also provides detailed coverage of ESD simulation stress models. Provides the means to design protection circuits for a variety of applications and to diagnose and solve ESD problems in IC products.

ESD: From A To Z – 2nd Edition

Koyler & Watson, 1996

ISBN: 0-412-08381-7; 338 Pages

Order#: EP106 Cost: \$220.00

Revised and expanded edition fully explains the important developments, providing practitioners with state-of-the-art guidance on developing effective static control programs.

High Frequency Measurements and Noise in Electronic Circuits

Smith, 1993

ISBN: 0-442-00636-5; 231 Pages

Order#: EP107 Cost: \$123.00

This ready reference provides electrical engineers with practical information on accurate methods for measuring signals and noise in electronic circuits as well as methods for locating and reducing high frequency noise generated by circuits or external interference. Engineers often find that measuring and mitigating high frequency noise signals in electronic circuits can be problematic when utilizing common measurement methods.



Electrostatics - 2nd Edition

Jonassen, 2002

ISBN: 0-140-207161-2; 185 Pages

Order#: EP108 Cost: \$140.00

A comprehensive and coherent account of static electric phenomena and concepts based on a mathematical-physical approach. It is intended for the non-specialists interested in understanding the electrostatic concepts, and for the specialized engineer who may not be familiar with the basic fundamentals. This work has been updated to include new and expanded material on charge decay, charge neutralization by air ions, breakdown between conductors with different electrode geometry and a chapter on electrostatic measurements with special emphasis put on showing the difficulty in relating the voltage of a conductor with a measured field strength.

Basic ESD and I/O Design

Dabral and Maloney, 1998

ISBN: 0-471-25359-6; 305 Pages

Order#: EP109 Cost: \$120.00

The first comprehensive guide to ESD protection and I/O design. Addressing the growing demand in industry for high-speed I/O designs, it bridges the gap between ESD research and current VLSI design practices and provides a much-needed reference for practicing engineers. This volume presents an integrated treatment of ESD, I/O, and process parameter interactions. It examines key factors in I/O and ESD design and testing, and helps the reader consider ESD and reliability issues up front when making I/O choices.

On-Chip ESD Protection for Integrated Circuits

Albert S.Z. H. Wang, 2002

ISBN: 0-7923-7647-1, 303 Pages

Order#: EP110 Cost \$123.00

This comprehensive and insightful book discusses ESD protection circuit design problems from an IC designer's perspective. An IC Design Perspective provides both fundamental and advanced materials needed by a circuit designer for designing ESD protection circuits. Many real world ESD protection circuit design examples are provided.

ESD Design & Analysis Handbook

Vinson, Bernier, Croft, Liou, 2002

ISBN: 1-402-07350-X; 207 Pages

Order#: EP111 Cost: \$127.00

ESD Design and Analysis Handbook presents an overview of ESD as it effects electronic circuits and provides a concise introduction for students, engineers, circuit designers and failure analysts. This handbook presents many of the most important areas of the ESD problem and suggests methods for improving them. The key topics covered include the physics of the event, failure analysis, protection, characterization, and simulation techniques.

ESD Physics and Devices

Steven H. Voldman, 2004

ISBN: 0-470-84753-0; 398 Pages

Order#: EP112 Cost: \$130.00

This volume is the first in a series of three books addressing Electrostatic Discharge (ESD) physics, devices, circuits and design across the full range of integrated circuit technologies. ESD Physics and Devices provides a concise treatment of the ESD phenomenon and the physics of devices operating under ESD conditions. The book Covers ESD testing, failure criteria and scaling theory for CMOS, SOI (silicon on insulator), BiCMOS and BiCMOS SiGe (Silicon Germanium) technologies. In addition it also addresses ESD in advanced CMOS with discussions on shallow trench isolation (STI), Copper and Low K materials.

ESD Circuits and Devices

Steven H. Voldman, 2006

ISBN: 0-470-84754-9; 379 Pages

Order#: EP113 Cost: \$139.00

The scaling of semiconductor devices from sub-micron to nanometer dimensions is driving the need for understanding the design of electrostatic discharge (ESD) circuits, and the response of these integrated circuits (IC) to ESD phenomena. ESD Circuits and Devices provides a clear insight into the layout and design of circuitry for protection against electrical overstress (EOS) and ESD



Contamination and ESD Control in High Technology Manufacturing

R. Welker, R. Nagarajan, C. Newberg, 2006
ISBN: 0-471-41452-2; 498 Pages

Order#: EP114 Cost: \$128.00

A practical “how to” guide that effectively deals with the control of both contamination and ESD. This book offers effective strategies and techniques for contamination and electrostatic discharge (ESD) control that can be implemented in a wide range of high-technology industries, including semiconductor, disk drive, aerospace, pharmaceutical, medical device, automobile, and food production manufacturing. The authors set forth a new and innovative methodology that can manage both contamination and ESD, often considered to be mutually exclusive challenges requiring distinct strategies.

ESD RF Technology and Circuits

Steven H. Voldman, 2006
ISBN: 0-470-84755-7; 398 Pages

Order#: EP115 Cost: \$109.00

Electrostatic Discharge (ESD) within RF devices can result in the malfunctioning of nearby electronic equipment. This volume is designed as the third in a series of three books addressing Electrostatic Discharge (ESD) physics, devices, circuits and design. It will be the first book to address the increasingly important area of ESD within RF devices and circuits.

Advanced Simulation Methods for ESD Protection Development

K. Esmark, H. Gossner & W. Stadler, 2003
ISBN: 0-08-044147-5; 291 Pages

Order#: EP116 Cost: \$290.00

Simulation Methods for ESD Protection Development looks at the integration of new techniques into a comprehensive development flow, which is now available due advances made in the field during the recent years. These findings allow for an early, stable ESD concept at a very early stage of the technology development, which is essential now development cycles have been reduced. The book also offers ways of increasing the optimization and control of the technology concerning performance.

Latchup

Steven H. Voldman, 2007
ISBN: 970-0-470-01642; 450 Pages

Order#: EP117 Cost: \$112.00

This book describes CMOS and BiCMOS semiconductor technology and their sensitivity to present day latchup phenomena, from basic over-voltage and over-current conditions, single event latchup (SEL) and cable discharge events (CDE), to latchup domino phenomena.

Physics of Semiconductor Devices

S.M. Sze & Kwok K. Ng, 2007
ISBN: 978-0-471-14323-9; 815 Pages

Order#: EP118 Cost: \$127.00

Organized to reflect the tremendous advances in device concepts and performance, this Third Edition contains information on important semiconductor devices. It gives readers detailed descriptions of the underlying physics and performance characteristics of all major bipolar, field-effect, microwave, photonic, and sensor devices.

Printed Circuit Board Design Techniques for EMC Compliance – 2nd Edition

Mark I. Montrose, 2000
ISBN: 978-0-7803-5376-3; 307 Pages

Order#: EP119 Cost: \$105.00

The simplified approach to PCB design and layout is based on real-life experience, training, and knowledge. Printed Circuit Board Techniques for EMC Compliance, Second Edition will help prevent the emission or reception of unwanted RF energy generated by components and interconnects, thus achieving acceptable levels of EMC for electrical equipment. It prepares one for complying with stringent domestic and international regulatory requirements. Also, it teaches how to solve complex problems with a minimal amount of theory and math.

Noise Reduction Techniques in Electronic Systems – 2nd Edition

Henry W. Ott, 1988
ISBN: 0-471-85068-3; 426 Pages

Order#: EP120 Cost: \$133.00

This updated and expanded version of the very successful first edition offers new chapters on controlling the emission from electronic systems, especially digital systems, and on low-cost techniques for providing electromagnetic compatibility (EMC) for consumer products sold in a competitive market. There is also a new chapter on the susceptibility of electronic systems to electrostatic discharge. There is more material on FCC regulations, digital circuit noise and layout, and digital circuit radiation. Virtually all the material in the first edition has been retained. Contains a new appendix on FCC EMC test procedures.

Grounding and Shielding Circuits and Interference – Fifth Edition

Ralph Morrison, 2007
ISBN: 978-0-470-09772-4; 193 Pages

Order#: EP121 Cost: \$76.00

The fifth edition of Grounding and Shielding has been revised throughout. Material has been added on transmission lines, radiation and printed circuit design, all of which are of great current interest because of the smaller dimensions of electronic devices.

ESD: Failure Mechanisms and Models

Dr. Steven H. Voldman, 2009
ISBN: 978-0-470-51137-4; 408 pages

Order#: EP122 Cost: \$120.00

This book studies electrical overstress, ESD, and latchup from a failure analysis and case-study approach. It provides a clear insight into the physics of failure from a generalist perspective, followed by investigation of failure mechanisms in specific technologies, circuits, and systems. The book is unique in covering both the failure mechanism and the practical solutions to fix the problem from either a technology or circuit methodology.

Transient - Induced Latchup in CMOS Integrated Circuits – 1st Edition

Ming-Dou Ker and Sheng-Fu Hsu, 2009
ISBN: 978-0-470-82407-8; 249 Pages

Order#: EP123 Cost: \$140.00

This book on Transient Latchup is very basic in that it can also be used by non-ESD design engineers. It addresses all (about 6) of the widely known pulse sources of transients which have been known to cause/trigger latchup using a wide range published material. The book compares these sources, and includes any related standards which addresses transient latchup. The book details the mechanism associated with the transient mode and failure. It compares the component-level TLU measurement setup and testing to the system-level test, which also causes latchup. The book then describes how certain/specific designs can reduce latchup to a minimum and possible elimination for certain technologies. There are examples from the field and simulations to confirm field failures, and the book concludes by showing (with examples) how following design rules is critical to preventing latchup.



Glossary of Terms

Defines and explains various terms used in Association Standards and documents. It also covers other terms commonly used in the electronics industry.

30 Pages; Available

Order #: ESD ADV1.0-2009

Cost: \$17.50 List/\$10.00 Members

Triboelectric Charge Accumulation Testing

Provides guidance in understanding the triboelectric phenomenon and relates current information and experience regarding tribocharge testing as used in static control for electronics.

ISBN: 1-878303-63-5; 60 Pages; Available

Order #: ESD ADV11.2-1995

Cost: \$105.00 List/\$75.00 Members

PDF Copy \$130.00 - List / \$100.00 - Member

ESD Protective Workstations

Defines the minimum requirements for a basic ESD protective workstation used in ESD sensitive areas, and provides a test method for evaluating and monitoring workstations. It defines workstations as having the following components: support structure, static dissipative work surface, a means of grounding personnel and, if appropriate, any attached shelving or drawers.

ISBN: 1-878303-56-2; 12 Pages; Available

Order #: ESD ADV53.1-1995

Cost: \$105.00 List/\$75.00 Members

PDF Copy \$130.00 - List / \$100.00 - Member

All documents listed below are available at the cost of:

Hard Copy \$105.00 - List / \$75.00 - Member

PDF Copy* \$130.00 - List / \$100.00 - Member

Two Point Resistance Measurement

This standard test method measures the resistance between two points on a material's surface without consideration of the material's means of achieving conductivity. This test method was established for measuring resistance where the concentric ring electrodes of ESD Standard Test Method 11.11 cannot be used.

ISBN: 1-58537-174-2; 8 Pages; Available

Order#: ESD DSTM11.13-2009

*All electronic documents must be delivered directly to the intended person for use on only one computer. The document may not be forwarded to any additional users or accessed on multiple computers.



All documents listed below are available at the cost of:

Hard Copy \$105.00 - List / \$75.00 - Member

PDF Copy* \$130.00 - List / \$100.00 - Member

ANSI/ESD S20.20-2007 Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)

Provides administrative and technical requirements as well as guidance for establishing, implementing and maintaining an ESD Control Program.

ISBN: 1-58537-121-1; 13 Pages; Available

ORDER#: ANSI/ESD S20.20-2007 English

ORDER#: ANSI/ESD S20.20-2007 Chinese Traditional

ORDER#: ANSI/ESD S20.20-2007 Chinese Simplified

ORDER#: ANSI/ESD S20.20-2007 Japanese

ORDER#: ANSI/ESD S20.20-2007 Spanish

ORDER#: ANSI/ESD S20.20-2007 Thai

Wrist Straps

Establishes test methods for evaluating the electrical and mechanical characteristics of wrist straps. It includes improved test methods and performance limits for evaluation, acceptance, and functional testing of wrist straps.

ISBN: 1-58537-107-6; 18 Pages; Available

Order#: ANSI/ESD S1.1-2006

Garments – Resistive Characterization

Provides test methods for measuring the electrical resistance of garments. It covers procedures for measuring sleeve-to-sleeve resistance and point-to-point resistance.

ISBN: 1-878303-85-6; 13 Pages; Available

Order#: ANSI/ESD STM2.1-1997

NOTE: A recently published article indicated ESDA has released ANSI/ESD STM2.1-2009. While our Garments committee is working on updates to our current 1997 standard, there has not been any new release of this document.

Ionization

Provides test methods and procedures for evaluating and selecting air ionization equipment and systems. It establishes measurement techniques to determine ion balance and charge neutralization time for ionizers.

ISBN: 1-58537-108-4; 34 Pages; Available

Order#: ANSI/ESD STM3.1-2006

Periodic Verification of Air Ionizers

Provides test methods and procedures for periodic verification of the performance of air ionization equipment and systems (ionizers).

ISBN: 1-58537-118-1; 15 Pages; Available

Order#: ANSI/ESD SP3.3-2006

Worksurfaces - Resistance Measurements

Provides test methods for evaluating and selecting worksurface materials, testing of new worksurface installations & the testing of previously installed worksurfaces.

ISBN: 1-58537-103-3; 17 Pages; Available

Order#: ANSI/ESD S4.1-2006

ESD Protective Worksurfaces - Charge Dissipation Characteristics

Aids in determining the ability of ESD protective worksurfaces to dissipate charge from a conductive test object placed on them.

ISBN: 1-58537-104-1; 17 Pages; Available

Order#: ANSI/ESD STM4.2-2006

*All electronic documents must be delivered directly to the intended person for use on only one computer. The document may not be forwarded to any additional users or accessed on multiple computers.



All documents listed below are available at the cost of:

Hard Copy \$105.00 - List / \$75.00 - Member

PDF Copy* \$130.00 - List / \$100.00 - Member

ESDA/JEDEC Joint Standard for Electrostatic Sensitivity Testing – Human Body Model (HBM) – Component Level

Establishes the procedure for testing, evaluating, and classifying the electrostatic discharge sensitivity of components to the defined human body model (HBM).

ISBN: 1-58537-181-5; 34 pages; Available

Order#: ANSI/ESDA/JEDEC JS-001-2010

Human Body Model (HBM) and Machine Model (MM)

Alternative Test Method: Supply Pin Ganging Component Level

This standard practice defines an alternative test method to perform Human Body Model or Machine Model component level ESD tests when the component or device pin count exceeds the number of ESD simulator tester channels.

ISBN: 1-58537-122-X; 10 Pages; Available

Order#: ANSI/ESD SP5.1.1-2006

Human Body Model (HBM) and Machine Model (MM) Alternative Test Method: Split Signal Pin-Component Level

This standard practice defines an alternative test method to perform Human Body Model or Machine Model component level ESD tests when the component or device pin count exceeds the number of ESD simulator tester channels.

ISBN: 1-58537-123-8; 11 Pages; Available

Order#: ANSI/ESD SP5.1.2-2006

Machine Model (MM) – Component Level

Establishes the procedure for testing, evaluating and classifying the ESD sensitivity of components to the defined MM.

ISBN: 1-58537-178-5; 23 Pages; Available

Order#: ANSI/ESD S5.2-2009

Charged Device Model (CDM) – Component Level

Establishes the procedure for testing, evaluating and classifying the ESD sensitivity of components to the defined CDM.

ISBN: 1-58537-179-3; 28 Pages; Available

Order#: ANSI/ESD S5.3.1-2009

Sensitivity Testing Socketed Device (SDM) Component Level

This standard practice provides a test method for generating a “Socketed Device Model” (SDM) test on a component integrated circuit (IC) device.

ISBN: 1-58537-162-9, 20 Pages; Available

Order#: ANSI/ESD SP5.3.2-2008

Transient Latch-up Testing – Component Level Supply Transient Stimulation

This standard practice was developed to instruct the reader on the methods and materials needed to perform Transient Latch-Up Testing.

ISBN: 1-58537-161-0, 44 Pages; Available

Order#: ANSI/ESD SP5.4-2008

Electrostatic Discharge Sensitivity Testing – Transmission Line Pulse (TLP) – Component Level

This document is a redesignation and revision of ANSI/ESD SP5.5.1-2004 and pertains to transmission line pulse (TLP) testing techniques of semiconductor components. The purpose of this document is to establish a methodology for both testing and reporting information associated with TLP testing.

ISBN: 1-58537-151-3; 17 Pages

Order#: ANSI/ESD STM5.5.1-2008

*All electronic documents must be delivered directly to the intended person for use on only one computer. The document may not be forwarded to any additional users or accessed on multiple computers.



All documents listed below are available at the cost of:
Hard Copy \$105.00 - List / \$75.00 - Member
PDF Copy* \$130.00 - List / \$100.00 - Member

Electrostatic Discharge Sensitivity Testing - Very Fast Transmission Line Pulse (VF-TLP) - Component Level

This document pertains to very fast transmission line pulse (VF-TLP) testing techniques of semiconductor components. It establishes guidelines and standard practices presently used by development, research, and reliability engineers in both universities and industry for VF-TLP testing. This document explains a methodology for both testing and reporting information associated with VF-TLP testing.

ISBN: 1-58537-144-0; 38 pages; Available
Order#: ANSI/ESD SP5.5.2-2007

Human Metal Model (HMM) – Component Level

Establishes the procedure for testing, evaluating and classifying the ESD sensitivity of components to the defined HMM.

ISBN: 1-58537-166-1; 26 Pages; Available
Order#: ANSI/ESD SP5.6-2009

Grounding

Specifies the parameters, materials, equipment and test procedures necessary to choose, establish, verify and maintain an Electrostatic Discharge Control grounding system for use within an ESD Protected Area for protection of ESD susceptible items, and specifies the criteria for establishing ESD Bonding

ISBN: 1-58537-163-7; 20 Pages; Available
Order#: ANSI/ESD S6.1-2009

Resistive Characterization of Materials – Floor Materials

Covers measurement of the electrical resistance of various floor materials, such as, floor coverings, mats and floor finishes. It provides test methods for qualifying floor materials before installation or application and for evaluating and monitoring materials after installation or application.

ISBN: 1-58537-094-0; 10 Pages; Available
Order#: ANSI/ESD S7.1-2005

Symbols - ESD Awareness

Establishes three types of ESD awareness symbols. The first one is to be used on a device or assembly to indicate that it is susceptible to electrostatic charge. The second is to be used on items and materials intended to provide electrostatic protection. The third symbol indicates the common point ground.

ISBN: 1-58537-143-2; 10 Pages; Available
Order#: ANSI/ESD S8.1-2007

Footwear - Resistive Characterization

Defines a test method for measuring the electrical resistance of shoes used for ESD control in the electronics environment (not to include heel straps and toe grounders).

ISBN: 1-58537-117-3; 6 Pages; Available
Order#: ANSI/ESD STM9.1-2006

Footwear – Foot Grounders Resistive Characterization (not to include static control shoes)

This standard practice was developed to provide test methods for evaluating foot grounders and foot grounder systems used to electrically bond or ground personnel as part of an ESD Control Program. Static Control Shoes are tested using ESD STM 9.1.

ISBN: 1-58537-083-5; 9 Pages; Available
Order#. ESD SP9.2-2003

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Hard Copy \$105.00 - List / \$75.00 - Member

PDF Copy* \$130.00 - List / \$100.00 - Member

Automated Handling Equipment (AHE)

Provides test procedures for evaluating the electrostatic environment associated with automated handling equipment.

ISBN: 1-58537-138-6; 20 Pages; Available

Order#: ANSI/ESD SP10.1-2007

Surface Resistance Measurement of Static Dissipative Planar Materials

Defines a direct current test method for measuring electrical resistance, replacing ASTM D257-78. The Standard is designed specifically for static dissipative planar materials used in packaging of ESD sensitive devices and components.

ISBN: 1-58537-124-6; 11 Pages; Available

Order#: ANSI/ESD STM11.11-2006

Volume Resistance Measurement of Static Dissipative Planar Materials

Provides test methods for measuring the volume resistance of static dissipative, planar materials used in the packaging of ESD sensitive devices and components.

ISBN: 1-58537-137-8; 14 Pages; Available

Order#: ANSI/ESD STM11.12-2007

Bags

Provides a method for testing and determining the shielding capabilities of electrostatic shielding bags.

ISBN: 1-58537-125-4; 7 Pages; Available

Order#: ANSI/ESD STM11.31-2006

Seating - Resistive Measurement

Provides test methods for measuring the electrical resistance of seating used for the control of electrostatic charge or discharge. It contains test methods for the qualification of seating prior to installation or application, as well as, test methods for evaluating & monitoring seating after installation or application.

ISBN: 1-58537-102-5; 13 Pages; Available

Order#: ANSI/ESD STM12.1-2006

Electrical Soldering/Desoldering Hand Tools

Provides electric soldering/de-soldering hand tool test methods for measuring electrical leakage and tip to ground reference point resistance and provides parameters for EOS safe soldering operation

ISBN: 1-58537-024-X; 15 Pages; Available

Order#: ESD STM13.1-2000

System Level Electrostatic Discharge (ESD) Simulator Verification

This standard practice was developed to provide guidance to designers, manufacturers, and calibration facilities for verification and specification of the systems and fixtures used to measure simulator discharge currents.

ISBN: 1-58537-088-6; 19 Pages; Available

Order#: ANSI/ESD SP14.1-2004

In-Use Resistance Testing of Gloves and Finger Cots

This standard practice provides test procedures for measuring the intrinsic electrical resistance of gloves and finger cots.

ISBN: 1-58537-101-7; 9 Pages; Available

Order#: ANSI/ESD SP15.1-2005

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Hard Copy \$105.00 - List / \$75.00 - Member
PDF Copy* \$130.00 - List / \$100.00 - Member

**Floor Materials and Footwear
– Resistance Measurement in
Combination with a Person**

Provides test methods for measuring the electrical system resistance of floor materials in combination with person wearing static control footwear.

ISBN: 1-58537-105-X; 14 Pages; Available
Order#: ANSI/ESD STM97.1-2006

**Floor Materials and Footwear – Voltage
Measurement in Combination with a
Person**

Provides test methods for the measurement of the voltage on a person in combination with static control floor materials and static control footwear.

ISBN: 1-58537-106-8; 19 Pages; Available
Order#: ANSI/ESD STM97.2-2006

**Packaging Materials for ESD Sensitive
Items**

This standard describes the packaging material properties needed to protect electrostatic discharge (ESD) sensitive electronic items, and references the testing methods for evaluating packaging and packaging materials for those properties. Where possible, performance limits are provided guidance for selecting the types of packaging with protective properties appropriate for specific applications is provided. Other considerations for protective packaging are also provided.

ISBN: 1-58537-050-9; 17 Pages; Available
Order#: ANSI/ESD S541-2008

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 Each of the documents listed below are also available for purchase in hard-copy format.
 The cost for each document is \$ 10.00 - List/ \$5.00 - Member

Survey of Constant (Continuous) Monitors for Wrist Straps

Authors: B. Beamer, Static Control Components; D. Boehm, Novx Corporation; J. Brodbeck, USAF; L. Burich, Lockheed Martin; C. Checketts, Motorola; S. Koehn, 3M; J. Mann, Protective Solutions; J. Salisbury, Semtronics
 11 Pages; Available

Order#: ESD TR1.0-01-01 (formerly TR12-01)

Consideration for Developing ESD Garment Specifications

Author: G. Baumgartner, ESD West Consulting
 30 Pages; Available

Order#: ESD TR2.0-01-00 (formerly TR05-00)

Static Electricity Hazards of Triboelectrically Charged Garments

Author: M. Manders, United States Air Force
 8 Pages; Available

Order#: ESD TR2.0-02-00 (formerly TR06-00)

Alternate Techniques for Measuring Ionizer Offset Voltage and Discharge Time

Authors: Richard Rodrigo, Simco; Arnold Steinman, Ion Systems; Merle Weight, Unisys; Donn Bellmore, Universal Instruments; Tim Jarrett, Guidant (CPI); Carl Newberg, River's Edge; Dale Parkin, IBM; Donn Pritchard, Trek; Jeff Salisbury, Semtronics; Julius Turangan; Western Digital
 11 Pages; Available

Order#: ESD TR3.0-01-02 (formerly TR13-02)

Selection and Acceptance of Air Ionizers

Authors: Rick Rodrigo, Simco; Donn Bellmore, Universal Instruments Corp.; Timothy Jarrett, Guidant Corporation, Niels Jonassen, Technical University of Denmark; Carl Newberg, MicroStat Laboratories; Maciej Noras, Trek, Inc.; Dale Parkin, IBM; Jeff Salisbury, Seagate Technology; Arnold Steinman, Ion Systems, Inc; Julius Tureangan, Western Digital
 17 pages; Available

Order#: ESD TR3.0-02-05 (formerly ADV3.2-1995)

Survey of Worksurfaces and Grounding Mechanisms

Authors: Dale Parkin, IBM; Ryne Allen, Desco; Brent Beamer, Static Control Components; Julius Brodbeck, USAF; Larry Burich, Lockheed Martin; Tim Jarrett, Guidant Corp.; Steve Koehn, 3M; Mike Manders, USAF; Dennis Rivers, Denclare Technologies; Bill Ricker, Kewaunee Scientific

16 pages; Available

Order#: ESD TR4.0-01-02 (formerly TR15-02)

Machine Model (MM) Electrostatic Discharge (ESD) Investigation – Reduction in Pulse Number and Delay Time

Authors: M. Kelly, Delphi Delco Electronics; J. Mick, Intel Corporation; M. Chaine, Micron Technology; B. Carey, Agere Systems
 27 Pages; Available

Order#: ESD TR5.2-01-01 (formerly TR10-01)

Socket Device Model (SDM) Tester

Authors: Working Group 5.3.2, Socket Device Model; ESD Association
 22 Pages; Available

Order#: ESD TR5.3.2-01-00 (formerly TR08-00)

Transient Induced Latch-Up (TLU)

Authors: Working Group 5.4, Transient Latch-Up; ESD Association
 27 Pages; Available

Order#: ESD TR5.4-01-00 (formerly TR09-00)

Determination of CMOS Latch-up Susceptibility - Transient Latch-up - Technical Report No. 2

Authors: Working Group 5.4, Transient Latch-Up; ESD Association
 65 pages; Available

Order#: ESD TR5.4-02-08

Transmission Line Pulse (TLP)

Authors: Working Group 5.5, Transmission Line Pulse; ESD Association
 39 pages; Available

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