

## ANSI/ESD S20.20 – 2014

ESD Association Standard: Provides guidelines to protect electrical and electronic parts, assemblies and equipment from electrostatic discharge.

- **Handles Class-0**  
ANSI 20.20 (< 20 volts) — in addition to compliance with Class-0 protocols
- **Does Not Handle Class-0**  
ANSI 20.20 (100 volt maximum)

## IEC 61340-5-1:2007 IECEE.ORG

The European equivalent to ANSI/ESD S20.20.

See ANSI 20.20 - 2014 (above)

### Applications

- Electronics Manufacturing
- Microelectronics Fabrication
- Circuit Boards Assembly
- Electronics Test and Repair
- Cleanroom
- R&D
- Computer Manufacturing
- Military Base Electronics

## FAA STD 019f

Standard for lightning protection, grounding, bonding and shielding requirements.

## MOTOROLA R56

Public safety and telecommunications standards and guidelines for the installation of equipment, infrastructure, and facilities for communications centers.

## ATIS-0600321

Telecommunications industry standard for applications where people access a computer keyboard while continually wearing a headset.

### Applications

- All network-operator dispatch operations— e.g. 9-1-1 call centers
- Mission-critical Call Centers
- Communications Centers
- Networked Offices
- Government Mission-critical Areas
- Control Rooms
- Flight Towers
- All FAA/flight support areas (and 019e designation)

## DOD 4145.26-M

Safety standards for Department of Defense and private industry ammunition and explosives (AE) operations.

### Applications

- Defense Contractors
- Facilities performing AE work
- AE Services
- Companies Covered Under DoD

## NFPA 99 National Fire Protection Association-Defunct Standard for Conductive Flooring

Establishes criteria for health care services to minimize the hazards of fire, explosion, and electricity.

*In 2015, all references to conductive flooring were removed from this standard.*

### Applications

No longer valid

## Mil STD 1686 (converted to ANSI/ESD S20.20)

The parent document for all ESD Association standards and is the main reference for Auditing an ESD Control Program.

### Applications

Anyone auditing an ESD program

## IBM Data Center Recommendations

IBM-recommended guidelines to minimize static-electricity buildup in a data centers. Safety recommendation: minimum floor resistance >150,000 ohms (1.5 x 10<sup>5</sup>).

### Applications

- Data Centers
- Server Rooms

## ESD Test Methods

### ANSI/ESD STM7.1-2013

Tests resistive properties of flooring materials.

### ANSI/ESD STM97.1-2015

Measures the electrical system resistance of floor materials in combination with persons wearing static-control footwear.

### ANSI/ESD STM97.2-2016

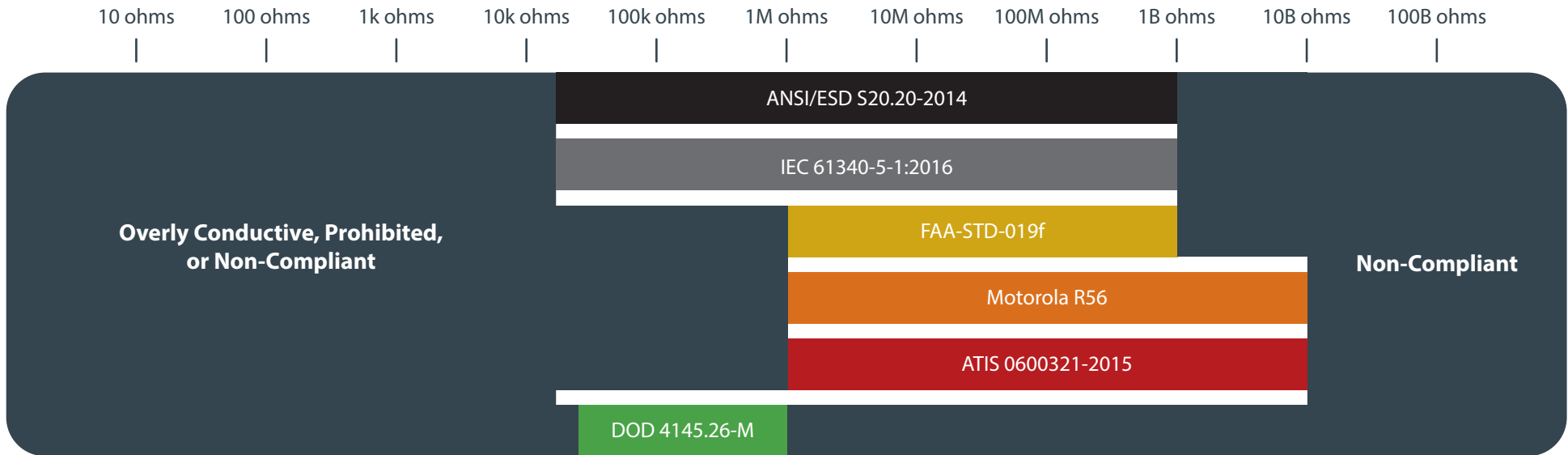
Measures the voltage on a person in combination with floor materials and static control footwear, shoes or other devices.

### ASTM F150-06(2013)

Tests electrical resistance of resilient flooring.

### AATCC 134

Electrostatic Propensity of Carpets. Standard carpet industry test, uses laboratory simulation to assess static generation when a person walks across the carpet.



Standard	Minimum Resistance (ohms)	Maximum Resistance (ohms)
<b>ANSI/ESD S20.20-2014</b>	25,000	1,000,000,000
<b>IEC 61340-5-1:2016</b>	25,000	1,000,000,000
<b>FAA-STD-019f</b>	1,000,000	1,000,000,000
<b>Motorola R56</b>	1,000,000	10,000,000,000
<b>ATIS 0600321-2015</b>	1,000,000	10,000,000,000
<b>DOD 4145.26-M</b>	40,000 (@ 500v)	1,000,000