ESD Association Standard

ANSI/ESD S6.1-2014

ANSI/ESD S6.1-2014
Revision of ANSI/ESD S6.1-2009

For the Protection of Electrostatic Discharge Susceptible Items

Grounding

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

An American National Standard
Approved October 10, 2014

ESD Association Standard for the Protection of Electrostatic Discharge Susceptible Items -

Grounding

Approved September 24, 2013
ESD Association

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FOREWORD

The single most important concept in the field of static control is grounding. Attaching all electrically conductive and dissipative items in the workplace to ground allows built-up electrostatic charges to equalize with ground potential. A grounded conductor (includes dissipative items) cannot hold a static charge.

Electrically interconnecting all electrically conductive and dissipative items (bonding) allows charge to equalize across these items without actual contact to ground. This provides static control in areas where an actual connection to ground may not be accessible, such as in a field service environment. Electrically bonded conductors and dissipative items share stored electrical charge and therefore have no difference in electrical potential between them. Many types of Electrostatic Discharge (ESD) susceptible parts can be handled within a bonded system without causing damage.

Grounding of conductors for static control purposes may not provide sufficient grounding for Electromagnetic Interference (EMI) reduction or control. Low impedance electrical connections are required for EMI grounding and bonding while static grounding can be accomplished with relatively high resistance in connection points as well as along the discharge path.

Users of this document need to consider the National Electric Code or other applicable laws and electrical system designs and specifications in the country where an ESD control program plan is being implemented.

This standard[1] was originally approved on September 24, 1991 and was designated EOS/ESD-S6.1-1991. ANSI/ESD S6.1-1999 was a reaffirmation, re-designation of EOS/ESD-S6.1-1991 and approved on May 16, 1999. ANSI/ESD S6.1-2005 was a reaffirmation of ANSI/ESD S6.1-1999 and approved on June 12, 2005. ANSI/ESD S6.1-2009 was a reaffirmation of ANSI/ESD S6.1-2005 and was approved on May 18, 2009. Two editorial changes were made in ANSI/ESD S6.1-2009: edited one sentence removing the word “ground” from “groundable point ground”; and added a clarification sentence in paragraph 7.2.2 to reinforce the point that the AC equipment grounding conductor needs to be measured while evaluating systems with both AC equipment ground and Auxiliary ground. ANSI/ESD S6.1-2014 is a revision of ANSI/ESD S6.1-2009 and was approved on September 24, 2013.

At the time ANSI/ESD S6.1-2014 was prepared, the 6.0 Grounding Subcommittee had the following members:

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The following individuals contributed to the development of ANSI/ESD S6.1-2005:

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[1] **ESD Association Standard (S):** A precise statement of a set of requirements to be satisfied by a material, product, system or process that also specifies the procedures for determining whether each of the requirements is satisfied.

At the time ANSI/ESD S6.1-2009 was prepared, the 6.0 Grounding Subcommittee had the following members:

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