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INTERNATIONAL STANDARD

Metallic cables and other passive components test methods – Part 4-6: Electromagnetic compatibility (EMC) - Surface transfer impedance – Line injection method

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METALLIC CABLES AND OTHER PASSIVE COMPONENTS TEST METHODS –

Part 4-6: Electromagnetic compatibility (EMC) – Surface transfer impedance – Line injection method

FOREWORD

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International Standard IEC 62153-4-6 has been prepared by subcommittee 46A: Coaxial cables, of IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories cables, wires, waveguides, r.f. connectors and accessories for communication and signalling.

This second edition cancels and replaces the first edition, published in 2006.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
46/650/FDIS	46/654/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62153 series, published under the general title *Metallic communication cable test methods*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

METALLIC CABLES AND OTHER PASSIVE COMPONENTS TEST METHODS –

Part 4-6: Electromagnetic compatibility (EMC) – Surface transfer impedance – Line injection method

1 Scope

This part of IEC 62153 determines the screening effectiveness of a shielded metallic communication cable by applying a well-defined current and voltage to the screen of the cable and measuring the induced voltage in order to determine the surface transfer impedance.

Measurements in the frequency range from a few kHz up to and above 1 GHz can be made with the use of normal high frequency instrumentation.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
inner circuit
circuit consisting of the conductor(s) and the screen of the CUT and is denoted by the subscript 2

3.2
outer circuit (line injection circuit)
circuit consisting of the screen surface of CUT and the injection wire and is denoted by the subscript 1

3.3
transfer impedance
Z_T
quotient of the longitudinal voltage induced in the inner circuit of the electrically short cable under test to the current in the outer circuit (line injection circuit) – or vice versa – related to unit length

4 Physical background

One important element in the determination of the screening effectiveness of cables is the transfer impedance Z_T of its screen.