

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Radiation protection instrumentation – Cargo/vehicle radiographic inspection system

Instrumentation pour la radioprotection – Système radiographique d'inspection de cargaison/véhicule



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CONTENTS

FOREWORD.....	4
1 Scope and object.....	6
2 Normative references	6
3 Terms and definitions	7
4 General characteristics of cargo/vehicle radiographic inspection system	9
4.1 General.....	9
4.2 Emergency stop devices.....	9
4.3 Software.....	9
4.4 Markings.....	9
4.5 Ambient dose equivalent rate isodose contour.....	9
4.6 Radioactive sources	10
4.7 Safety interlocks.....	10
4.8 Status indicators	10
4.9 Monitoring system.....	10
5 Inspection system classification.....	10
6 General test procedures	10
6.1 Nature of tests.....	10
6.2 Reference conditions and standard test conditions	10
6.3 Other conditions of the test	11
7 Imaging performance tests	11
7.1 Steel penetration.....	11
7.2 Wire detection	12
7.3 Contrast sensitivity.....	13
7.4 Spatial resolution	14
7.5 Material discrimination capability.....	15
8 Radiological safety tests.....	16
8.1 General.....	16
8.2 Ambient dose equivalent rate isodose contour.....	16
8.3 Ambient dose equivalent rate on the system boundary	17
8.4 Ambient dose equivalent rate at the operating positions	18
8.5 Ambient dose equivalent to the driver.....	18
8.6 Ambient dose equivalent to the object being inspected.....	19
9 Electrical safety tests	19
9.1 Equipment ground protection.....	19
9.2 Insulation resistance	19
9.3 Voltage test.....	19
9.4 Electric shock protection	20
10 Electromagnetic compatibility	20
10.1 Requirements.....	20
10.2 Test method	20
11 Environmental requirements	21
11.1 Requirements.....	21
11.2 Test method	21
12 Documentation	21
Bibliography.....	22

Figure 1 – Steel penetration testing apparatus	12
Figure 2 – Wire detection testing apparatus	13
Figure 3 – Contrast indicator test apparatus.....	14
Figure 4 – Spatial resolution test apparatus	15
Figure 5 – A test sample for material discrimination capability test.....	16
Figure 6 – Layout of an example ambient dose equivalent rate isodose contour.....	17
Table 1 – Reference conditions and standard test conditions	11
Table 2 – Thicknesses for each material	15
Table 3 – Test voltage	20

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIATION PROTECTION INSTRUMENTATION – CARGO/VEHICLE RADIOGRAPHIC INSPECTION SYSTEM

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International Standard IEC 62523 has been prepared by subcommittee 45B: Radiation protection instrumentation, of IEC technical committee 45: Nuclear instrumentation.

The text of this standard is based on the following documents:

FDIS	Report on voting
45B/638/FDIS	45B/652/RVD

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

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

RADIATION PROTECTION INSTRUMENTATION – CARGO/VEHICLE RADIOGRAPHIC INSPECTION SYSTEM

1 Scope and object

This International Standard applies to radiographic inspection systems with photon radiation energy of at least 500 keV for inspection of cargo, vehicles and cargo containers.

Such inspection systems generally consist of radiation source(s), detectors, control system, image processing system, radiation safety system and other auxiliary devices/facilities.

The object of this standard is to define the tests and the relevant testing methods for determining the performance characteristics of the radiographic inspection systems.

This standard is not applicable to those cargo/vehicle inspection systems using neutron source radiography, computed tomography or backscatter technology.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-393:2003, *International Electrotechnical Vocabulary (IEV) – Part 393: Nuclear instrumentation – Physical phenomena and basic concepts*

IEC 60050-394:2007, *International Electrotechnical Vocabulary (IEV) – Part 394: Nuclear instrumentation – Instruments, systems, equipment and detectors*

IEC 60204-1:2005, *Safety of machinery – Electrical equipment of machines – Part 1: General requirements*

IEC 61000-6-2:2005, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments*

IEC 61000-6-4, *Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments*

IEC 61010-1:2001, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements*

ISO 4948-1, *Steels – Classification – Part 1: Classification of steels into unalloyed and alloy steels based on chemical composition*

ISO 9978:1992, *Radiation protection – Sealed radioactive sources – Leakage test methods*

IAEA Safety Guide No.RS-G-1.10, *Safety of Radiation Generator and Sealed Radioactive Sources*

IAEA Safety Guide No.TS-R-1, *Regulations for the Safe Transport of Radioactive Material*