Australian/New Zealand Standard™

Evaluation and routine testing in medical imaging departments

Part 2.11: Constancy tests—Equipment for general direct radiography (IEC 61223-2-11:1999, MOD)

Standards Australia

STANDARDS NEW ZEALAND Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee HE-008, Diagnostic Ionizing Imaging Equipment. It was approved on behalf of the Council of Standards Australia on 18 March 2002 and on behalf of the Council of Standards New Zealand on 21 March 2002. It was published on 20 May 2002.

The following interests are represented on Committee HE-008:

Australasian College of Physical Scientists and Engineers in Medicine
Australian Dental Association
Australian Institute of Radiography
Australian Radiation Protection and Nuclear Safety Agency
Australian and New Zealand Society of Nuclear Medicine
Department of Defence (Australia)
Department of Health, W.A.
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee HE-008, Diagnostic Ionizing Imaging Equipment.

This Standard has been reproduced, with national modifications, from IEC 61223-2-11:1999, *Evaluation and routine testing in medical departments,* Part 2.11*: Constancy tests — Equipment for general direct radiography*.

Appendix ZZ lists the variations between this Standard and IEC 61223-2-11. These changes are indicated by a rule in the margin against each Clause affected.

In the text of this Standard, the following print types are used:

(a) Requirements, compliance with which can be tested and definitions
……in large roman type

(b) Explanations, advice, introductions, general statements, exceptions and references
……in smaller roman type

(c) Headings of sub-clauses and text specifications
……*in italic type*

(c) Terms used throughout the Standard, which have been defined in Clause 3 or the Index of Defined Terms (see Annex A)
……IN SMALL CAPITALS

As this publication has been reproduced from an international Standard, the following modifications apply:

(i) Its number does not appear on each page and its identity is shown on the cover and title page.

(ii) The words 'this Australian/New Zealand Standard' should replace the words 'this part of IEC 61223' wherever they appear.

(iii) The substitution of a full point (.) for a comma (,) where it appears as a decimal marker.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex or appendix to which they apply. A 'normative' annex or appendix is an integral part of a Standard, whereas an 'informative' annex or appendix is for information and guidance only.

The references to international Standards should be replaced by references to the following Australian or Joint Australian/New Zealand Standards:

Reference to International Standard or other publication [*]		*Australian/New Zealand Standard*	
IEC		AS/NZS	
60601	Medical electrical equipment	3200	Medical electrical equipment
60601-1-3	Part 1: General requirements for safety 3. Collateral standard: General requirements for radiation protection in diagnostic X-ray equipment	3200.1.3	Part 1.3: General requirements for safety Collateral Standard: Requirements for radiation protection in diagnostic X-ray equipment
61223	Evaluation and routine testing in medical imaging departments	4184	Evaluation and routine testing in medical imaging departments
61223-1	Part 1: General aspects	4184.1	Part 1: General aspects
61223-2-1	Part 2-1: Constancy tests – Film processors	4184.2.1	Part 2.1: Constancy tests – Film processors

[*] Any international Standards not listed do not have an Australian/New Zealand equivalent.

IEC		AS/NZS	
61223-2-2	Part 2-2: Constancy tests – Radiographic cassettes and film changers – Film-screen contact and relative sensitivity of the screen-cassette assembly	4184.2.2	Part 2.2: Constancy tests – Radiographic cassettes and film changers – Film-screen contact and relative sensitivity of the screen-cassette assembly
61223-2-3	Part 2-3: Constancy tests – Darkroom safelight conditions	4184.2.3	Part 2.3: Constancy tests – Darkroom safelight conditions

CONTENTS

AUSTRALIAN/NEW ZEALAND STANDARD

Evaluation and routine testing in medical imaging departments

Part 2.11:
Constancy tests—Equipment for general direct radiography
(IEC 61223-2-11:1999, MOD)

1 Scope and object

1.1 Scope

This part of IEC 61223 applies to those components of X-RAY EQUIPMENT which

– generate, influence the propagation of, and detect X-RADIATION; and
– process, present and store radiographic information in RADIOLOGICAL INSTALLATIONS with diagnostic X-ray systems using RADIOGRAPHIC FILM in DIRECT RADIOGRAPHY.

This standard is a part of a series of Particular Publications (international standards and technical reports), which define methods of testing the constancy of operation of various subsystems of diagnostic X-RAY EQUIPMENT.

This standard does not apply to equipment for special applications such as mammographic X-RAY EQUIPMENT or dental X-RAY EQUIPMENT; see complete list of all parts 2 of IEC 61223 in the foreword.

This standard gives methods of tests for the constancy of properties of diagnostic X-RAY EQUIPMENT as described in IEC 61223-1 (see clause 2).

This part of IEC 61223 is designed to be applicable to equipment for general direct radiography without digital imaging devices.

1.2 Object

This standard defines

– the essential parameters which describe or affect the performance of the above components of X-RAY EQUIPMENT;
– methods of checking that variations in measured quantities related to those parameters are within acceptable limits, in order to maintain adequate standards of imaging whilst reducing unnecessary IRRADIATION of the PATIENT.

The methods are based upon assessments of RADIOGRAMS of appropriate TEST DEVICES.

The purpose of the methods is

– to establish a reference level of performance when such equipment is accepted;
– to detect and verify any significant variation in performance which may require corrective action.

Because RADIOLOGICAL INSTALLATIONS differ widely from each other, it is not possible in this standard to specify target values and tolerances for the parameters which would be generally applicable as criteria of acceptable performance. Guidance is given, however, as to the degree of variation in single measurements which might require appropriate action.