Evaluation and routine testing in medical imaging departments - Part 2-4: Constancy tests - Hard copy cameras

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 61223-2-4:2016 sisaldab Euroopa standardi EN 61223-2-4:1994 ingliskeelset teksti.	This Estonian standard EVS-EN 61223-2-4:2016 consists of the English text of the European standard EN 61223-2-4:1994.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.06.1994.	Date of Availability of the European standard is 09.06.1994.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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ENGLISH VERSION

Evaluation and routine testing in medical imaging departments
Part 2-4: Constancy tests - Hard copy cameras
(IEC 1223-2-4:1994)

Essais d'évaluation et de routine dans les services d'imagerie médicale
Partie 2-4: Essais de constance
Reprographes

(CEI 1223-2-4:1994)

Bewertung und routinemäßige Prüfung in Abteilungen für medizinische Bildgebung
Teil 2-4: Konstanzprüfungen
Bilddokumentationssysteme
(IEC 1223-2-4:1994)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

European Committee for Electrotechnical Standardization
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FOREWORD

The text of document 62B(CO)105, as prepared by Sub-Committee 62B: Diagnostic imaging equipment, of IEC Technical Committee 62: Electrical equipment in medical practice, was submitted to the IEC-CENELEC parallel vote in May 1993.

The reference document was approved by CENELEC as EN 61223-2-4 on 8 March 1994.

The following dates were fixed:

- latest date of publication of an identical national standard	(dop)	1995-03-01
- latest date of withdrawal of conflicting national standards	(dow)	2000-03-01

Annexes designated "normative" are part of the body of the standard. Annexes designated "informative" are given only for information. In this standard, annexes A and ZA are normative and annexes B, C, D and E are informative.

ENDORSEMENT NOTICE

The text of the International Standard IEC 61223-2-4:1994 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

Some provisions or statements in the body of this part of IEC 1223 require additional information. Such information is presented in annex D, Rationale. An asterisk in the left margin of a clause or subclause indicates the presence of such additional information.

EVALUATION AND ROUTINE TESTING IN MEDICAL IMAGING DEPARTMENTS –

Part 2-4: Constancy tests – Hard copy cameras

1 Scope and object

1.1 *Scope*

This part of IEC 1223 applies to HARD COPY CAMERAS producing images on monochrome continuous tone material (such as photographic films and materials sensitive to infrared radiation), and comprising types of cameras using a cathode ray tube, laser beam, or a thermoprinting system, as used in diagnostic imaging systems such as:

- digital radiography;
- digital subtraction angiography;
- imaging in COMPUTED TOMOGRAPHY;
- magnetic resonance imaging;
- ultrasound imaging;
- imaging in NUCLEAR MEDICINE.

* The test methods are based on the use of test patterns.

This standard does not apply to x-y (analogue) recording systems used in NUCLEAR MEDICINE.

This standard is a part of a series of Particular Publications (standards and technical reports) which give methods of tests for the constancy of properties of diagnostic imaging systems as described in IEC 1223-1 (see clause 2).

*1.2 *Object*

This part of IEC 1223 describes a method to check, in terms of functional parameters, the constancy of the quality of images produced by HARD COPY CAMERAS in order to ensure that the required conditions for producing consistent hard copies are maintained after the calibration and adjustment have been carried out.

The aims of the method are:

- to establish a reference level of performance for the HARD COPY CAMERA when such equipment has been accepted;
- to detect and verify any significant variation in functional parameters which may then require corrective actions.

With regard to the measurements, reference is made to methods described in related publications, which for practical reasons should be carried out prior to the application of the method described in this standard (see clause 2).

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 1223. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 1223 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 788: 1984, *Medical radiology – Terminology*

IEC 1223-1: 1993, *Evaluation and routine testing in medical imaging departments – Part 1: General aspects*

IEC 1223-2-1: 1993, *Evaluation and routine testing in medical imaging departments – Part 2-1: Constancy tests – Film processors*

IEC 1223-2-2: 1993, *Evaluation and routine testing in medical imaging departments – Part 2-2: Constancy tests – Radiographic cassettes and film changers – Film-screen contact and relative sensitivity of the screen-cassette assembly*

IEC 1223-2-3: 1993, *Evaluation and routine testing in medical imaging departments – Part 2-3: Constancy tests – Darkroom safelight conditions*

IEC 1223-2-5: 1994, *Evaluation and routine testing in medical imaging departments – Part 2-5: Constancy tests – Image display devices*

IEC 1223-2-12: 19XX, *Evaluation and routine testing in medical imaging departments – Part 2-12: Constancy tests - Film illuminators* (under consideration)

3 Terminology

3.1 *Degree of requirements*

In this part of IEC 1223 the verbal form:

"shall"	implies that compliance with a requirement is mandatory for compliance with the standard;
"should"	implies that compliance with a requirement is strongly recommended but is not mandatory for compliance with the standard;
"may"	implies that compliance with a requirement is permitted to be accomplished in a particular manner, for compliance with the standard.

The term:

"specific"	when used with parameters or conditions: refers to a particular value or standardized arrangement, usually to those required in an IEC publication or a legal requirement;
"specified"	when used with parameters or conditions: refers to a value or arrangement to be chosen for the purpose under consideration and indicated usually in ACCOMPANYING DOCUMENTS.