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Ikke-destruktiv prøvning – Kvalificering af digitale røntgenfilmsystemer – Del 2: Minimumkrav

Non-destructive testing – Qualification of radiographic film digitisation systems – Part 2: Minimum requirements (ISO 14096-2:2005)

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EUROPÄISCHE NORM

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English Version

Non-destructive testing - Qualification of radiographic film digitisation systems - Part 2: Minimum requirements (ISO 14096-2:2005)

Essais non destructifs - Qualification des systèmes de numérisation des films radiographiques - Partie 2: Exigences minimales (ISO 14096-2:2005)

Zerstörungsfreie Prüfung - Qualifizierung von Röntgenfilm-Digitalisierungssystemen - Teil 2: Mindestanforderungen (ISO 14096-2:2005)

This European Standard was approved by CEN on 6 January 2020.

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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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European foreword

The text of [ISO 14096-2:2005](#) has been prepared by Technical Committee ISO/TC 135 "Non-destructive testing" of the International Organization for Standardization (ISO) and has been taken over as [EN ISO 14096-2:2020](#) by Technical Committee CEN/TC 138 "Non-destructive testing" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes [EN 14096-2:2003](#).

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of [ISO 14096-2:2005](#) has been approved by CEN as [EN ISO 14096-2:2020](#) without any modification.

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Non-destructive testing — Qualification of radiographic film digitisation systems —

Part 2: Minimum requirements

*Essais non destructifs — Qualification des systèmes de numérisation
des films radiographiques —*

Partie 2: Exigences minimales



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

[ISO 14096-2](#) was prepared by the European Committee for Standardization (CEN) (as EN 14096-2:2003) and was adopted, under a special "fast-track procedure", by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 5, *Radiation methods*, in parallel with its approval by the ISO member bodies.

[ISO 14096](#) consists of the following parts, under the general title *Non-destructive testing — Qualification of radiographic film digitisation systems*:

- *Part 1: Definitions, quantitative measurements of image quality parameters, standard reference film and qualitative control*
- *Part 2: Minimum requirements*

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This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

EN 14096 comprises a series of European Standards for radiographic film digitisation systems which is made up of the following:

EN 14096-1, *Non-destructive testing — Qualification of radiographic film digitisation systems — Part 1: Definitions, quantitative measurements of image quality parameters, standard reference film and qualitative control*

EN 14096-2, *Non-destructive testing — Qualification of radiographic film digitisation systems — Part 2: Minimum requirements*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

Radiographic film systems are used for industrial inspection by X- and gamma rays. To apply modern means of computer support for analysis, transmission and storage the information stored in the radiographic film should be converted into digital data (digitisation). This European Standard defines minimum requirements to ensure that the relevant information for evaluation of the digital data is preserved during the film digitisation process.

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Non-destructive testing — Qualification of radiographic film digitisation systems —

Part 2: Minimum requirements

1 Scope

This European Standard specifies three film-digitisation quality classes for the requirements of non-destructive testing. The selected class depends on the radiation energy, penetrated material thickness and the quality level of the original radiographic film. This European Standard does not address signal processing, display and storage of the digitised data.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

[EN 444](#), *Non-destructive testing — General principles for radiographic examination of metallic materials by X- and gamma-rays.*

[EN 1435](#), *Non-destructive examination of welds — Radiographic examination of welded joints.*

[EN 12681](#), *Founding — Radiographic examination.*

[EN 14096-1](#), *Non-destructive testing — Qualification of radiographic film digitisation systems — Part 1: Definitions, quantitative measurements of image quality parameters, standard reference film and qualitative control.*

[ISO 5579](#), *Non-destructive testing — Radiographic examination of metallic materials by X- and gamma rays — Basic rules.*