



National Standards Authority of Ireland

IRISH STANDARD

**I.S. EN 14096-2:2003**

ICS 19.100  
37.040.25

**NON-DESTRUCTIVE TESTING -  
QUALIFICATION OF RADIOGRAPHIC FILM  
DIGITISATION SYSTEMS -  
PART 2: MINIMUM REQUIREMENTS**

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EUROPEAN STANDARD  
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**EN 14096-2**

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English version

**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

Zerstörungsfreie Prüfung - Qualifizierung von Röntgenfilm-  
Digitalisierungssystemen - Teil 2: Mindestanforderungen

This European Standard was approved by CEN on 14 February 2003.

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## EN 14096-2:2003 (E)

### Contents

	page
Foreword .....	3
1     Scope .....	4
2     Normative references .....	4
3     Terms and definitions.....	4
4     Digitisation quality classes.....	6
5     Minimum requirements for film digitisation quality classes .....	6

## Foreword

This document (EN 14096-2:2003) has been prepared 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of an identical text or by endorsement, at the latest by October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.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.

## EN 14096-2:2003 (E)

# 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.

## 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 14096-1:2003, *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.*

## 3 Terms and definitions

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

### 3.1 radiographic film digitisation system

digitiser

sequential application of the two functions below:

- a) detection of the diffuse transmittance of a small unit area of the film (pixel, picture element) by means of an optical detector, giving an electric output signal (geometrical digitisation);
- b) conversion of the above electrical signal into a numerical value (densitometrical digitisation)

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