
Neporušitvene preiskave - Splošna načela za radiografske preglede kovinskih materialov z rentgenskimi in gama žarki (prevzet standard EN 444:1994 z metodo platnice)

Non-destructive testing - General principles for radiographic examination of metallic materials by X- and gamma-rays

Essais non destructifs - Principes généraux de l'examen radiographique à l'aide de rayons X et gamma des matériaux métalliques

Zerstörungsfreie Prüfung - Grundlagen für die Durchstrahlungsprüfung von metallischen Werkstoffen mit Röntgen- und Gammastrahlen

Deskriptorji: metalurški izdelki, neporušitvene preiskave, radiografski pregled, rentgenski žarki, sevanje gama, napake, radiografski film, arhiviranje

ICS 77.040.20

Referenčna številka
SIST EN 444:1996 (en)

Nadaljevanje na straneh od II do III in od 1 do 15

UVOD

Standard SIST EN 444, Neporušitvene preiskave - Splošna načela za radiografske preglede kovinskih materialov z rentgenskimi in gama žarki, prva izdaja, 1996, ima status slovenskega standarda in je z metodo platnice prevzet evropski standard EN 444, Non-destructive testing - General principles for radiographic examination of metallic materials by X- and gama-rays, 1994-02, v angleškem jeziku.

NACIONALNI PREDGOVOR

Standard EN 444:1994 je pripravil tehnični odbor Evropske organizacije za standardizacijo CEN/TC 138 Neporušitvene preiskave.

Odločitev za prevzem tega standarda po metodi platnice je dne 1996-04-16 sprejel tehnični odbor USM/TC PKG Preskušanje kovinskih gradiv.

Ta slovenski standard je dne 1996-05-30 odobril direktor USM.

ZVEZE S STANDARDI

S prevzemom tega evropskega standarda veljajo poleg standardov, navedenih v izvirniku, še naslednje zveze:

SIST EN 462-1	Neporušitvene preiskave - Kakovost radiografske slike - 1. del: Indikator kakovosti slike (žični zaznavnik) - Ugotavljanje stopnje kakovosti slike
SIST EN 462-2	Neporušitvene preiskave - Kakovost radiografske slike - 2. del: Indikator kakovosti slike (stopničasti zaznavnik z luknjami) - Ugotavljanje stopnje kakovosti slike
SIST EN 462-4	Neporušitvene preiskave - Kakovost radiografske slike - 4. del: Eksperimentalno ugotavljanje stopnje kakovosti slike in tabel kakovosti slike
SIST EN 584-1	Neporušitvene preiskave - Film za industrijsko radiografijo - 1. del: Klasifikacija sistemov filmov za industrijsko radiografijo
SIST EN 473	Kvalificiranje in certificiranje osebja za neporušitvene preiskave - Splošna načela
SIST EN 25580	Neporušitvene preiskave - Osvetljevalne naprave za industrijsko radiografijo - Minimalne zahteve

OSNOVA ZA IZDAJO STANDARDARDA

- Prevzem standarda EN 444:1994.

OPOMBI

- Povsod, kjer se v besedilu standarda uporablja izraz "evropski standard", to pomeni v SIST EN 444:1996 "slovenski standard".
- Uvod in nacionalni predgovor nista sestavni del standarda.

VSEBINA	Stran
Predgovor	3
Uvod	4
1 Področje uporabe	4
2 Zveze s standardi	4
3 Definicije	4
4 Klasifikacija tehnike radiografskega pregleda	5
5 Splošno	5
6 Priporočene tehnike za izdelavo radiogramov	6
7 Poročilo o pregledu	14

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SIST EN 444:1996

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Po mnenju Ministrstva za informiranje Republike Slovenije z dne 18. februarja 1992, številka 23/96-92, spada ta publikacija med proizvode informativne narave iz 13. točke tarifne številke 3, za katere se plačuje 5-odstotni prometni davek.

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EUROPEAN STANDARD

EN 444

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 1994

UDC 620.179.152:669.1

Descriptors: Metallurgical products, nondestructive tests, radiographic analysis, X rays, gamma radiation, defects, radiographic film, filing

English version

**Non-destructive testing - General principles for
radiographic examination of metallic materials by
X- and gamma-rays**

Essais non destructifs - Principes généraux de
l'examen radiographique à l'aide de rayons X et
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Zerströrungsfreie Prüfung - Grundlagen für die
Durchstrahlungsprüfung von metallischen
Herkstoffen mit Röntgen- und Gammastrahlen

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SIST EN 444:1996

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This European Standard was approved by CEN on 1994-02-07. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents list	Page
Foreword	3
Introduction	4
1 Scope	4
2 Normative references	4
3 Definitions	4
4 Classification of radiographic techniques	5
5 General	5
6 Recommended techniques for making radiographs	6
7 Test report	14

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Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 138 "Non-destructive testing", the secretariat of which is held by AFNOR.

It was submitted for Formal Vote, and the result was positive.

This European Standard has been prepared under a mandate given to CEN by the Commission of the European Communities and the European Free Trade Association, and supports essential requirements of EC Directive(s).

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 August 1994, and conflicting national standards shall be withdrawn at the latest by August 1994.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

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Introduction

This standard specifies fundamental techniques of radiography with the object of enabling satisfactory and repeatable results to be obtained economically. The techniques are based on generally accepted practice and the fundamental theory of the subject.

1 Scope

This European standard outlines the general rules for industrial X- and gamma-radiography for flaw detection purposes, using film techniques, applicable to the inspection metallic materials.

The examination shall be carried out by competent personnel qualified and certified according to EN 473 where applicable.

It does not lay down acceptance criteria of the imperfections.

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 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.

SIST EN 444:1996

- <https://standards.ich.ai/catalog/standards/sist/eda1ad1f-a7d6-4b34-acc3-42a3e24c99/sist-en-444-1996>
- EN 462-1 Non-destructive testing - Image quality of radiographs - Part 1: Image quality indicators (wire type), determination of image quality value
- EN 462-2 Non-destructive testing - Image quality of radiographs - Part 2: Image quality indicators (step/hole type), determination of image quality value¹⁾
- EN 462-3 Non-destructive testing - Image quality of radiographs - Part 3: Image quality classes for ferrous metals¹⁾
- EN 462-4 Non-destructive testing - Image quality of radiographs - Part 4: Experimental evaluation of image quality values and image quality tables¹⁾
- EN 473 Qualification and certification of non-destructive personnel - General principles
- EN 584-1 Non-destructive testing - Industrial radiographic film - Part 1: Classification of film systems for industrial radiography¹⁾
- EN 25 580 Non-destructive testing - Industrial radiographic illuminators - Minimum requirements (ISO 5580:1985)

¹⁾ In preparation

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 Nominal thickness, t

The nominal thickness of the material in the region under examination.
Manufacturing tolerances do not have to be taken into account.

3.2 Penetrated thickness, w

The thickness of material in the direction of the radiation beam calculated on basis of the nominal thickness.

For multiple wall techniques the penetrated thickness shall be calculated from the nominal thickness.

3.3 Object-to-film distance, b

The distance between the radiation side of the test object and the film surface measured along the central axis of the radiation beam.

3.4 Source size, d

The size of the source of radiation.

3.5 Source-to-film distance (SFD)

The distance between the source of radiation and the film measured in the direction of the beam.

3.6 Source-to-object distance, f

The distance between the source of radiation and the source side of the test object measured along the central axis of the radiation beam.

4 Classification of radiographic techniques

The radiographic techniques are divided into two classes:

Class A: basic techniques;

Class B: improved techniques.

Class B techniques will be used when class A may be insufficiently sensitive.

Better techniques compared with class B are possible and may be agreed between the contracting parties by specification of all appropriate test parameters.

The choice of radiographic technique shall be agreed between the parties concerned.