

**Keevisõmbluste mittepurustav kontrollimine.
Keevisliidete radiograafiline uurimine**

Non-destructive examination of welds -
Radiographic examination of welded joints

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1435:1999 sisaldab Euroopa standardi EN 1435:1997 ingliskeelset teksti.

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EUROPEAN STANDARD

EN 1435

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 1997

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Descriptors: welded joints, fusion welding, butt welds, quality control, non destructive tests, radiographic analysis, setting-up conditions

English version

**Non-destructive examination of welds -
Radiographic examination of welded joints**

Contrôle non destructif des assemblages soudés
- Contrôle par radiographie des assemblages
soudés

Zerstörungsfreie Prüfung von
Schweißverbindungen - Durchstrahlungsprüfung
von Schmelzschweißverbindungen

This European Standard was approved by CEN on 1997-08-02. 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.

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CEN

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

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS.

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of an identical text or by endorsement, at the latest by February 1998, and conflicting national standards shall be withdrawn at the latest by February 1998.

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European 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 recognized practice and fundamental theory of the subject.

This standard applies to the radiographic examination of fusion welded joints in metallic materials.

It applies to the joints of plates or pipes. Besides its conventional meaning, "pipe" as used in this standard should be understood to cover other cylindrical bodies such as tubes, penstocks, boiler drums and pressure vessels. This standard complies with EN 444.

This standard does not specify acceptance levels of the indications.

If contracting parties apply lower test criteria, the quality achieved may be significantly lower than when this standard is strictly applied.

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.

EN 444	Non-destructive testing - General principles for the radiographic examination of metallic materials using X- and gamma-rays
EN 462-1	Non-destructive testing - Image quality of radiographs - Part 1 : Concepts, image quality indicators (wire type), determination of image quality value
EN 462-2	Non-destructive testing - Image quality of radiographs - Part 2 : Concepts, image quality indicators (step hole type), determination of image quality value
EN 462-3	Non-destructive testing - Image quality of radiographs - Part 3 : Image quality classes for ferrous metals
EN 462-4	Non-destructive testing - Image quality of radiographs - Part 4 : Experimental evaluation of image quality values and image quality tables
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 radiography
EN 584-2	Non-destructive testing - Industrial radiographic film - Part 2 : Control of film processing by means of reference value

EN 25580

Non-destructive testing - Industrial radiographic illuminators - Minimum requirements (ISO 5580:1985)

3 Definitions

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

3.1 nominal thickness, t

The nominal thickness of the parent material only. 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 is 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 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.

3.7 diameter, D_e

The nominal external diameter of the pipe.