
Neporušitveno preskušanje - Kakovost radiografske slike - 2. del: Indikator kakovosti slike (stopničasti zaznavnik z luknjami) - Ugotavljanje stopnje kakovosti slike

Non-destructive testing - Image quality of radiographs - Part 2: Image quality indicators (step/hole type) - Determination of image quality value

Zerstörungsfreie Prüfung - Bildgüte von Durchstrahlungsaufnahmen - Teil 2: Bildgüteprüfkörper (Stufe/Loch Typ) - Ermittlung der Bildgütezahl

Essais non destructifs - Qualité d'image des radiogrammes - Partie 2: Indicateurs de qualité d'image (a trous et a gradins) - Détermination de l'indice de qualité d'image

Ta slovenski standard je istoveten z: EN 462-2:1994

ICS:

19.100 Neporušitveno preskušanje Non-destructive testing

SIST EN 462-2:1996**en**

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EUROPEAN STANDARD

EN 462-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 1994

UDC 620.179.152:771.537:001.4

Descriptors: Non-destructive tests, industrial radiography, photographic images, quality, image quality indicators, dimensions, designation, manufacturing, utilisation, marking

English version

**Non-destructive testing - Image quality of
radiographs - Part 2: Image quality indicators
(step/hole type) - Determination of image quality
value**

Essais non destructifs - Qualité d'image des radiogrammes - Partie 2: Indicateurs de qualité d'image (à trous et à gradins) - Détermination de l'indice de qualité d'image
Zerstörungsfreie Prüfung - Bildgüte von Durchstrahlungsaufnahmen - Teil 2: Bildgüteprüfkörper (Stufe/Loch Typ) - Ermittlung der Bildgütezahl

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This European Standard was approved by CEN on 1994-04-01. 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
1 Scope	4
2 Normative references	4
3 Definitions	4
4 Specification for step/hole type image quality indicators	5
5 Use of image quality indicators	8
6 Determination of image quality value	9

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Foreward

This European standard has been produced by CEN/TC 138 "Non-destructive testing", the secretariat of which is held by the French Association for Standardization (AFNOR).

EN 462-2 is a Part of a series of European Standards; the other parts are the following:

- EN 462-1 Non-destructive testing - Image quality of radiographs - Part 1: Image quality indicators (wire type) - Determination of image quality value
- pr EN 462-3 Non-destructive testing - Image quality of radiographs - Part 3: Image quality classes for ferrous metals
- pr EN 462-4 Non-destructive testing - Image quality of radiographs - Part 4: Experimental evaluation of image quality values and image quality tables
- pr EN 462-5 Non-destructive testing - Image quality of radiographs - Part 5: Image quality indicators (Duplex wire type) - Determination of total image unsharpness value

CEN/TC 138 has decided to submit the final draft for formal vote by its resolution 19/1992. The result was positive.

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

page 4
EN 462-2:1994

1 Scope

This standard specifies a device and a method for the determination of the image quality of radiographs. Other devices are the subject of parts 1 and 5 of the standard.

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 462-1 Non-destructive testing - Image quality of radiographs - Part 1: Image quality indicators (wire type) - Determination of image quality values
- pr EN 462-4 Non-destructive testing - Image quality of radiographs - Part 4: Experimental evaluation of image quality values and image quality tables
- pr EN 462-5 Non-destructive testing - Image quality of radiographs - Part 5: Image quality indicators (Duplex wire type) - Determination of image unsharpness value
- EN 25 580 Non-destructive testing - Industrial radiographic illuminators - Minimum requirements (ISO 5580:1985)
- EN 45 014 General criteria for suppliers, declaration of conformity

3 Definitions

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

3.1 Image quality

That characteristic of a radiographic image which determines the degree of detail which it shows [EN 462-1].

3.2 Image quality indicator (IQI)

A device that consists of an arrangement of steps of different thicknesses and holes of different diameters. The hole diameters correspond to the step thicknesses (see figure 1).

3.3 Image quality value

A measure of the image quality required or achieved and is equal to the number given in table 1 for the smallest hole which can be detected on the radiograph.

4 Specification for step/hole type image quality indicators

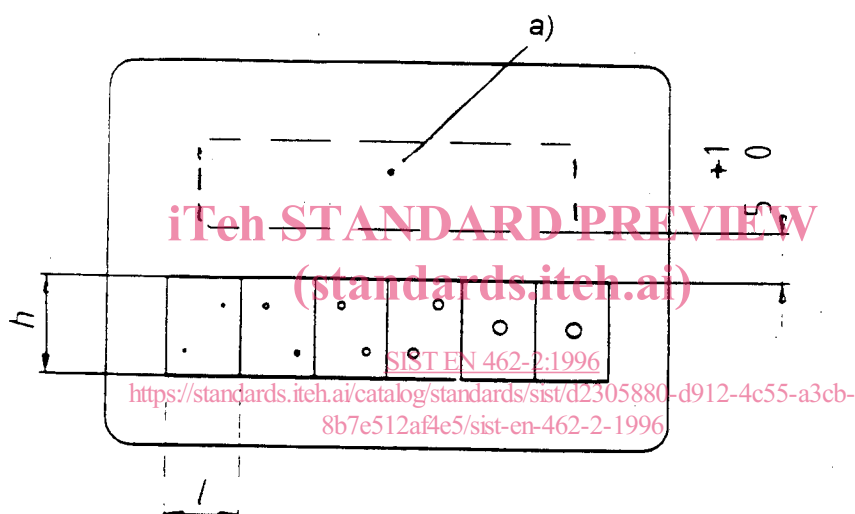
4.1 Dimension, manufacture, designation

4.1.1 Dimension

The IQI system is based on a series of 18 steps and holes of different thicknesses and diameters which are specified in table 1 along with the relevant tolerances and the hole numbers. These steps and holes have been subdivided into four overlapping ranges of 6 consecutive hole numbers, viz. H1 to H 6, H5 to H10, H9 to H14 and H13 to H18.

Figure 1 represents a step/hole type image quality indicator.

Dimensions in millimeters



a) Space for identification marking

$h = 10$ mm for IQI number H1, H5 and H9
 15 mm for IQI number H13

$l = 5$ mm for IQI number H1
 7 mm for IQI number H5 and H9
 15 mm for IQI number H13

Figure 1: Step/hole type image quality indicator

4.1.2 Manufacture

The steps of thicknesses lower than 0,8 mm shall contain two holes of the same diameter. The steps of thicknesses equal or higher than 0,8 mm shall contain one hole. The minimum distance from the centre of a hole to the edge of the step, or to the edge of the second hole in that step, shall be the hole diameter plus 1 mm. The holes shall be perpendicular to the surface and shall not have a bevelled edge.

page 6
EN 462-2:1984

4.1.3 Designation

The written designation of an image quality indicator shall give the symbol IQI, the number of this EN standard, the number of the smallest hole as specified in table 1 (e. g. H5) and the symbol denoting the IQI material (e. g. FE).

EXAMPLE: IQI EN 462-H5 FE

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Table 1: Hole numbers, hole diameters, step thicknesses and limit deviations of the range of IQIs

(dimensions in millimeters)

Range of image quality indicators				Hole/step		
H1	H5	H9	H13	Hole number	Nominal hole diameter and step thickness	Tolerances
X				H1	0,125	+ 0,015
X				H2	0,160	0
X				H3	0,200	
X				H4	0,250	
X	X			H5	0,320	
X	X			H6	0,400	
	X			H7	0,500	
	X			H8	0,630	+ 0,020
	X	X		H9	0,800	0
	X	X		H10	1,000	
		X		H11	1,250	+ 0,025
		X		H12	1,600	0
		X	(1)	H13	2,000	
		X	(1)	H14	2,500	
			(1)	H15	3,200	+ 0,030
			(1)	H16	4,000	0
			(1)	H17	5,000	
			(1)	H18	6,300	+ 0,036 0

¹⁾ These values may be used for special applications by agreement between contracting parties.