SLOVENSKI STANDARD
SIST EN 462-1:1996

01-januar-1996

Neporušitveno preskušanje - Kakovost radiografske slike - 1. del: Indikator kakovosti slike (žični zaznavnik) - Ugotavljanje stopnje kakovosti slike

Non-destructive testing - Image quality of radiographs - Part 1: Image quality indicators (wire type) - Determination of image quality value

Zerstörungsfreie Prüfung - Bildgüte von Durchstrahlungsaufnahmen - Teil 1: Bildgüteprüfkörper (Drahtsteg), Ermittlung der Bildgütezahl

Essais non destructifs - Qualité d'image des radiogrammes - Partie 1: Indicateurs de qualité d'image (a fils), détermination de l'indice de qualité d'image

Ta slovenski standard je istoveten z: **EN 462-1:1994**

ICS:

19.100	Neporušitveno preskušanje	Non-destructive testing

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EUROPEAN STANDARD **EN 462-1**

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English version

Non-destructive testing - Image quality of radiographs - Part 1: Image quality indicators (wire type) - Determination of image quality value

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CEN

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

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Contents list

Foreword

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

EN 462-1 is a part of a series of European Standards; the other parts are the following:

EN 462-2 Non-destructive testing - Image quality of radiographs - Part 2: 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 462-5 Non-destructive testing - Image quality of radiographs - Part 5: Image quality indicators (Duplex wire type) - Determination of total image unsharpness value

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 July 1994, and conflicting national standards shall be withdrawn at the latest by July 1994.

In accordance with 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 and United Kingdom.

1 Scope

This Part of this European Standard specifies a device and a method for the determination of the image quality of radiographs. Other devices are the subject of Parts 2 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 462-2	Non-destructive testing - Image quality of radiographs - Part 2: Image quality indicators (step/hole type), determination of image quality values[1])
EN 462-4	Non-destructive testing - Image quality of radiographs - Part 4: Experimental evaluation of image quality values and image quality tables[1])
EN 462-5	Non-destructive testing - Image quality of radiographs - Part 5: Image quality indicators (Duplex wire type) - Determination of image unsharpness value[1])
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.

3.2 Image quality indicator (IQI)

A device comprising a series of elements of graded dimensions which enable a measure of the image quality to be obtained. The elements of IQI are commonly wires or steps with holes.

3.3 Image quality value

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

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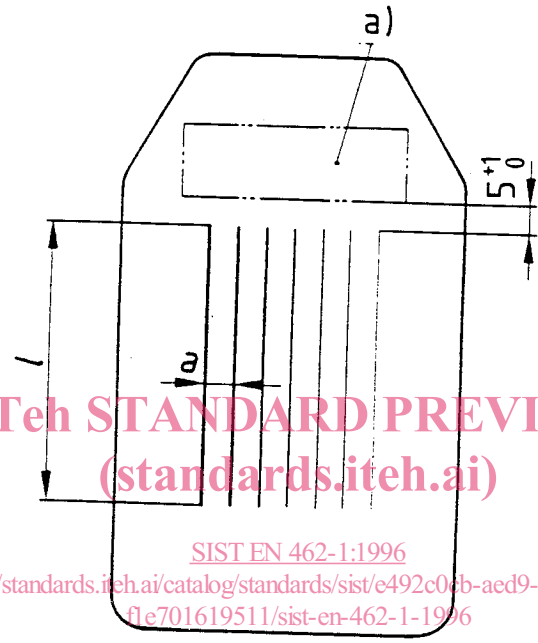
[1]) In preparation

4 Specification for wire type image quality indicators

4.1 Dimension, designation

Figure 1 represents a wire-type image quality indicator.

Dimensions in millimeter



a) Space for identification marking

Figure 1: Image quality indicator (wire type)

The IQI system is based on a series of 19 wires of different diameters which are specified in table 1 together with the relevant tolerances and the wire numbers. This series of wires has been subdivided into four overlapping ranges of 7 consecutive wire numbers, viz. W1 to W7, W6 to W12, W10 to W16 and W13 to W19. The 7 wires in an IQI are arranged parallel to each other. The lengths of the wires, l, are 10 mm, 25 mm or 50 mm.

The written designation of an image quality indicator shall give the symbol IQI, the number of this standard, the wire number of the thickest wire as specified in table 1 (e. g. W 10), the symbol denoting the wire material (e. g. FE) and the length (e. g. 25):

EXAMPLE 1: IQI EN 462 - W 10 FE-25

The full designation may be abbreviated to the wire number of the thickest wire of the IQI (e. g. W 10) and the wire material (e. g. FE) where reference to this standard is clear.

EXAMPLE 2: W 10 FE

4.2 Material

All the wires of an IQI shall consist of the same material and shall be embedded in a protective covering of a material which shall not affect the image quality value. See table 2 for usual wire materials.

4.3 Marking of IQI

The marking applied on the IQI (see figure 1) shall give the following information:

a) The number of the thickest wire (1, 6, 10 or 13); this is located at the side of the thickest wire.

b) The symbol identifying the wire material used, e. g. FE.

c) The EN symbol, example: 10 FE EN.

The radiographic image of the identification shall not cause glare when the film is viewed. It is recommended that the absorption of the marking is not more than twice the absorption of the thickest wire.

4.4 Declaration of conformity

Each IQI shall be delivered with a declaration of conformity according to EN 45 014 or from an accredited laboratory which confirms that the specifications of this standard are fulfilled. For identification, the IQI shall be numbered and marked by the producer.

NOTE: Existing IQI's which conform to the dimensions in 4.1 may be used until 1995.

Table 1: Wire numbers, diameters and limit deviations

(Dimensions in millimeter)

Image quality indicator including				wire			wire centreline spacing a
W 1	W 6	W 10	W 13	wire number	nominal wire diameter	Tolerances	
x				W 1	3,20	± 0,03	$9,6^{+1}_{0}$
x				W 2	2,50		$7,5^{+1}_{0}$
x				W 3	2,00		6^{+1}_{0}
x				W 4	1,60	± 0,02	5^{+1}_{0}
x				W 5	1,25		
x	x			W 6	1,00		
x	x			W 7	0,80		
	x			W 8	0,63		
	x			W 9	0,50	± 0,01	
	x	x		W 10	0,40		
	x	x		W 11	0,32		
	x	x		W 12	0,25		
		x	x	W 13	0,20		
		x	x	W 14	0,16		
		x	x	W 15	0,125	± 0,005	
		x	x	W 16	0,100		
			x	W 17	0,080		
			x	W 18	0,063		
			x	W 19	0,050		