

# SVENSK STANDARD

## SS-EN ISO 19232-2:2013

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### **Oförstörande provning – Bildkvalitet hos radiogram – Del 2: Bildkvalitetsindikatorer av trappstegs/håltyp – Bestämning av bildkvalitetsnivå (ISO 19232-2:2013)**

### **Non-destructive testing – Image quality of radiographs – Part 2: Determination of the image quality value using step/hole- type image quality indicators (ISO 19232-2:2013)**

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Europastandarden EN ISO 19232-2:2013 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 19232-2:2013.

Denna standard ersätter SS-EN 462-2, utgåva 1.

The European Standard EN ISO 19232-2:2013 has the status of a Swedish Standard. This document contains the official version of EN ISO 19232-2:2013.

This standard supersedes the Swedish Standard SS-EN 462-2, edition 1.

**Förhållandet till övriga delar under samma huvudtitel - Utdrag ur Förord i ISO 19232-2:2013/  
Relations to other parts under the same general title - Extract from the Foreword of  
ISO 19232-2:2013**

ISO 19232 consists of the following parts under the general title *Non-destructive testing — Image quality of radiographs*:

- *Part 1: Determination of the image quality value using wire-type image quality indicators*
- *Part 2: Determination of the image quality value using step/hole-type image quality indicators*
- *Part 3: Image quality classes*
- *Part 4: Experimental evaluation of image quality values and image quality tables*
- *Part 5: Determination of the image unsharpness value using duplex wire-type image quality indicators*

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EUROPEAN STANDARD

**EN ISO 19232-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2013

ICS 19.100

Supersedes EN 462-2:1994

English Version

**Non-destructive testing - Image quality of radiographs - Part 2:  
Determination of the image quality value using step/hole-type  
image quality indicators (ISO 19232-2:2013)**

Essais non destructifs - Qualité d'image des radiogrammes  
- Partie 2: Détermination de l'indice de qualité d'image à  
l'aide d'indicateurs à trous et à gradins (ISO 19232-2:2013)

Zerstörungsfreie Prüfung - Bildgüte von  
Durchstrahlungsaufnahmen - Teil 2: Bildgüteprüfkörper  
(Stufe/Loch-Typ) - Ermittlung der Bildgütezahl (ISO 19232-  
2:2013)

This European Standard was approved by CEN on 15 May 2013.

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 CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Foreword

This document (EN ISO 19232-2:2013) has been prepared by Technical Committee ISO/TC 135 "Non-destructive testing" in collaboration with 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 December 2013, and conflicting national standards shall be withdrawn at the latest by December 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 462-2:1994.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 19232-2:2013 has been approved by CEN as EN ISO 19232-2:2013 without any modification.

# Non-destructive testing — Image quality of radiographs —

## Part 2:

# Determination of the image quality value using step/hole-type image quality indicators

## 1 Scope

This part of ISO 19232 specifies a device and a method for the determination of the image quality of radiographs using step/hole-type image quality indicators.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5580, *Non-destructive testing — Industrial radiographic illuminators — Minimum requirements*

ISO/IEC 17050-1, *Conformity assessment — Supplier's declaration of conformity — Part 1: General requirements*

ISO 19232-4, *Non-destructive testing — Image quality of radiographs — Part 4: Experimental evaluation of image quality values and image quality tables*

## 3 Terms and definitions

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

### 3.1

#### **image quality**

characteristic of a radiographic image which determines the degree of detail it shows

### 3.2

#### **image quality indicator**

#### **IQI**

device comprising a series of elements of graded dimensions which enable a measure of the image quality to be obtained

Note 1 to entry: The elements of IQI are commonly wires or steps with holes.

### 3.3

#### **image quality value**

measure of the image quality required or achieved and is equal to the thinnest element which can be detected on the radiograph

Note 1 to entry: For step/hole-type IQIs, the element numbers are the hole numbers as given in [Table 1](#).

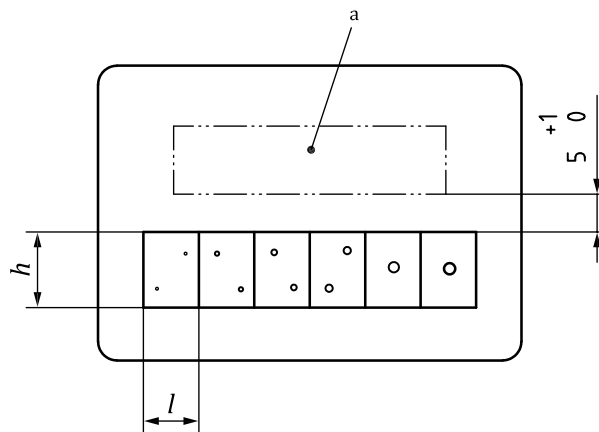
## 4 Specification for step/hole-type image quality indicators

### 4.1 Dimensions, manufacture, designation

#### 4.1.1 Dimensions

The IQI system is based on a series of 18 steps of different thicknesses and holes of corresponding 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 six consecutive hole numbers, viz. H 1 to H 6, H 5 to H 10, H 9 to H 14, and H 13 to H 18.

Dimensions in millimetres



#### Key

	IQI No.			
	H 1	H 5	H 9	H 13
<i>h</i>	10 mm	10 mm	10 mm	15 mm
<i>l</i>	5 mm	7 mm	7 mm	15 mm
<i>a</i>	Space for identification marking.			

**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.

#### 4.1.3 Designation

The written designation of an image quality indicator shall be labelled with the letters IQI, the number of this part of ISO 19232, the number of the smallest hole as specified in [Table 1](#) (e.g. H 5), and the symbol denoting the IQI material (e.g. FE).

EXAMPLE IQI ISO 19232-2-H 5 FE

IQIs with the designation EN 462-2[1] are considered to be identical to IQIs with the designation ISO 19232-2.