

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

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Part 4: Experimental evaluation of image quality values
and image quality tables (ISO 19232-4:2013)**

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NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 19232-4:2013 sisaldab Euroopa standardi EN ISO 19232-4:2013 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 19232-4:2013 consists of the English text of the European standard EN ISO 19232-4:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

**Non-destructive testing - Image quality of radiographs - Part 4:
Experimental evaluation of image quality values and image
quality tables (ISO 19232-4:2013)**

Essais non destructifs - Qualité d'image des radiogrammes
- Partie 4: Évaluation expérimentale des indices de qualité
d'image et des tables de qualité d'image (ISO 19232-
4:2013)

Zerstörungsfreie Prüfung - Bildgüte von
Durchstrahlungsaufnahmen - Teil 4: Experimentelle
Ermittlung von Bildgütezahl und Bildgütetabellen (ISO
19232-4:2013)

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

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Foreword

This document (EN ISO 19232-4:2013) 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of an identical text or by endorsement, at the latest by December 2013, and conflicting national standards shall be withdrawn at the latest by December 2013.

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Endorsement notice

The text of ISO 19232-4:2013 has been approved by CEN as EN ISO 19232-4:2013 without any modification.

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Non-destructive testing — Image quality of radiographs —

Part 4:

Experimental evaluation of image quality values and image quality tables

1 Scope

This part of ISO 19232 gives instructions for the determination of image quality values and image quality tables.

If the IQI requirements specified in ISO 19232-3 cannot be used because, for example, the absorption coefficients of the IQI material and the inspected material differ by more than 30 %, test exposures are necessary to determine acceptance of image quality values. The image quality values achieved by the test exposures are required for all exposures made under the same radiographic conditions.

2 Terms and definitions

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

2.1

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.

2.2

image quality

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

2.3

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

2.4

image quality table

table of minimum required image quality values versus the penetrated thickness ranges

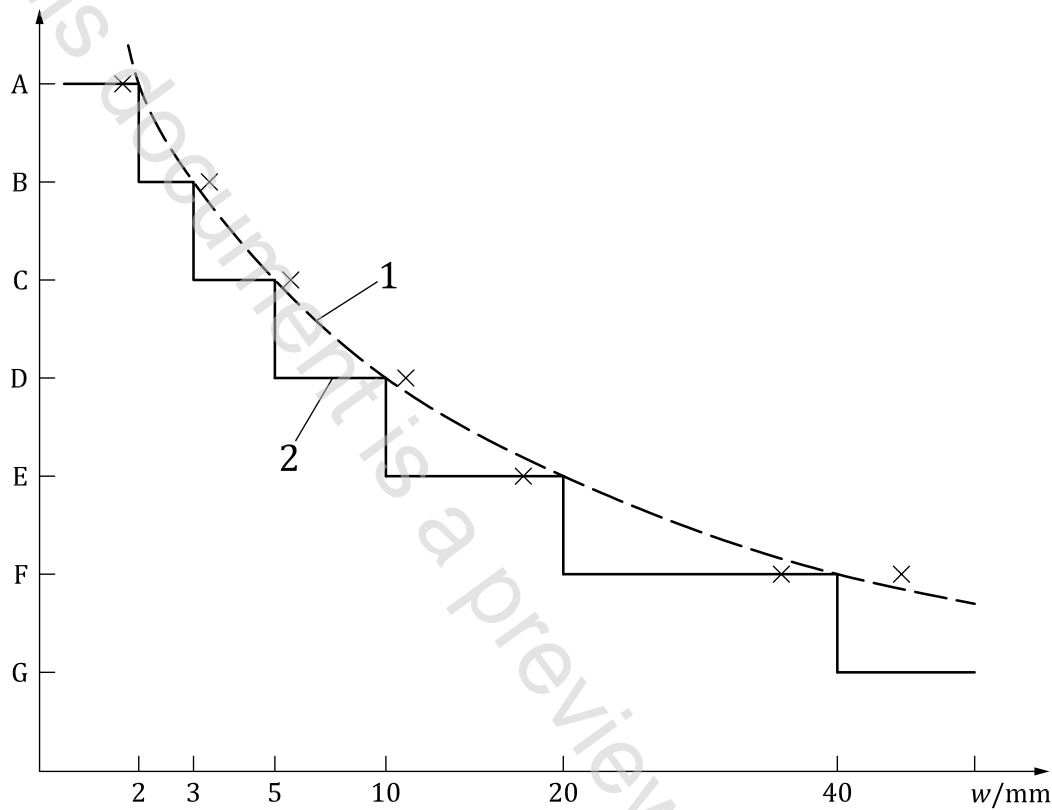
3 Experimental evaluation of image quality values

For the experimental determination of image quality values, the same radiographic conditions and IQI shall be used as specified for the subsequent examination.

Two test exposures shall be made under the specified conditions. If the image quality values read from these two exposures are identical, this value shall be accepted as the required image quality value. If the image quality values from the two test exposures are different, the procedure shall be repeated.

4 Determination of image quality tables

If different thicknesses of the same material are radiographed, an image quality table shall be established. An example of the image quality values for different penetrated thicknesses is shown in [Figure 1](#). The step curve below the experimental values defines the image quality values and penetrated thickness steps of the image quality table. For an example, see [Table 1](#).



- Key**
- A ... G image quality value
 - w penetrated thickness
 - 1 interpolated experimental curve
 - 2 resulting step curve corresponding to [Table 1](#)
 - × image quality determined, material e.g. steel

Figure 1 — Example for the determination of an image quality table

Table 1 — Example of an image quality table

Penetrated thickness w mm	Image quality value
$w \leq 2$	A
$2 < w \leq 3$	B
$3 < w \leq 5$	C
$5 < w \leq 10$	D
$10 < w \leq 20$	E
$20 < w \leq 40$	F
$w > 40$	G