

**Non-destructive testing - Ultrasonic testing -
Transmission technique (ISO 16823:2012)**

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 16823:2014 sisaldab Euroopa standardi EN ISO 16823:2014 inglisekeelset teksti.	This Estonian standard EVS-EN ISO 16823:2014 consists of the English text of the European standard EN ISO 16823:2014.
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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ICS 19.100

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English Version

**Non-destructive testing - Ultrasonic testing - Transmission
technique (ISO 16823:2012)**

Essais non destructifs - Contrôle par ultrasons - Technique
par transmission (ISO 16823:2012)

Zerstörungsfreie Prüfung - Ultraschallprüfung -
Durchschallungstechnik (ISO 16823:2012)

This European Standard was approved by CEN on 9 February 2014.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

The text of ISO 16823:2012 has been prepared by Technical Committee ISO/TC 135 “Non-destructive testing” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 16823:2014 by 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of an identical text or by endorsement, at the latest by September 2014, and conflicting national standards shall be withdrawn at the latest by September 2014.

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.

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Endorsement notice

The text of ISO 16823:2012 has been approved by CEN as EN ISO 16823:2014 without any modification.

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Introduction

This International Standard is based on EN 583-3:1997, *Non-destructive testing — Ultrasonic examination — Part 3: Transmission technique*.

The following International Standards are linked.

ISO 16810, *Non-destructive testing — Ultrasonic testing — General principles*

ISO 16811, *Non-destructive testing — Ultrasonic testing — Sensitivity and range setting*

ISO 16823, *Non-destructive testing — Ultrasonic testing — Transmission technique*

ISO 16826, *Non-destructive testing — Ultrasonic testing — Examination for discontinuities perpendicular to the surface*

ISO 16827, *Non-destructive testing — Ultrasonic testing — Characterization and sizing of discontinuities*

ISO 16828, *Non-destructive testing — Ultrasonic testing — Time-of-flight diffraction technique as a method for detection and sizing of discontinuities*

Non-destructive testing — Ultrasonic testing — Transmission technique

1 Scope

This International Standard specifies the principles of transmission techniques.

Transmission techniques can be used for:

- detection of imperfections;
- determination of attenuation.

The general principles required for the use of ultrasonic examination of industrial products are described in ISO 16810.

The transmission technique is used for examination of flat products, e.g. plates and sheets.

Further, it is used for examinations e.g.:

- where the shape, dimensions or orientation of possible imperfections are unfavourable for direct reflection;
- in materials with high attenuation;
- in thin products.

2 Normative references

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

ISO 5577, *Non-destructive testing — Ultrasonic inspection — Vocabulary*

EN 1330-4, *Non-destructive testing — Terminology — Part 4: Terms used in ultrasonic testing*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5577 and EN 1330-4 apply.

4 Principles of the examination

4.1 Basic techniques and set-up

In its simplest application two probes, one emitting and the second receiving, are placed so that the receiving probe receives the sound transmitted through the object. This can be achieved with straight beam probes or angle beam probes, see Table 2, e) to h).