

STN	Nedeštruktívne skúšanie Skúšanie ultrazvukom Zisťovanie necelistvostí kolmých na povrch (ISO 16826: 2025)	STN EN ISO 16826 01 5019
------------	--	--

Non-destructive testing - Ultrasonic testing - Testing for discontinuities perpendicular to the surface (ISO 16826:2025)

Táto norma obsahuje anglickú verziu európskej normy.

This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/25

Obsahuje: EN ISO 16826:2025, ISO 16826:2025

Oznámením tejto normy sa ruší

STN EN ISO 16826 (01 5019) zo septembra 2014

140471

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2025

Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 16826

March 2025

ICS 19.100

Supersedes EN ISO 16826:2014

English Version

**Non-destructive testing - Ultrasonic testing - Testing for
discontinuities perpendicular to the surface (ISO
16826:2025)**

Essais non destructifs - Contrôle par ultrasons -
Contrôle des discontinuités perpendiculaires à la
surface (ISO 16826:2025)

Zerstörungsfreie Prüfung - Ultraschallprüfung -
Prüfung auf Inhomogenitäten senkrecht zur Oberfläche
(ISO 16826:2025)

This European Standard was approved by CEN on 1 March 2025.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 16826:2025 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 16826:2025) 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 September 2025, and conflicting national standards shall be withdrawn at the latest by September 2025.

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

This document supersedes EN ISO 16826:2014.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 16826:2025 has been approved by CEN as EN ISO 16826:2025 without any modification.



International Standard

ISO 16826

Non-destructive testing — Ultrasonic testing — Testing for discontinuities perpendicular to the surface

*Essais non destructifs — Contrôle par ultrasons — Contrôle des
discontinuités perpendiculaires à la surface*

**Second edition
2025-03**

ISO 16826:2025(en)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

ISO 16826:2025(en)**Contents**

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Test equipment and test personnel	1
5 Tandem technique	2
5.1 General	2
5.2 Probe movement	3
5.3 Time base setting	3
5.4 Sensitivity setting	3
5.5 Determination of test zones	4
5.6 Depth-gain diagram for tandem technique	5
5.7 Corrections of sensitivity	6
5.8 Test objects with concentric surfaces	6
5.8.1 General	6
5.8.2 Scanning on a concave surface	7
5.8.3 Scanning on a convex surface	7
6 Longitudinal-longitudinal-transverse wave technique	8
6.1 General	8
6.2 Time base setting and determination of depth of a discontinuity	9
6.3 Sensitivity setting	10
6.4 Determination of the depth of the intersection of the beam axes	10
6.5 Sensitivity diagram for LLT technique	11
6.6 Correction of sensitivity	11
Annex A (informative) Nomograms for tandem distances for convex and concave surfaces	12
Bibliography	15

ISO 16826:2025(en)**Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 3, *Ultrasonic testing*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 138, *Non-destructive testing*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 16826:2012), which has been technically revised.

The main changes are as follows:

- revised figures and formulae;
- editorial revisions.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

ISO 16826:2025(en)**Introduction**

The following documents on ultrasonic testing 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 — Through-transmission technique*

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

1 Scope

This document specifies principles for the tandem technique and the longitudinal-longitudinal-transverse wave (LLT) technique for detection of discontinuities perpendicular to the surface or almost perpendicular to the surface.

The general principles for ultrasonic testing of industrial products are described in ISO 16810.

The tandem or LLT techniques can be used for the detection of embedded planar discontinuities.

This document gives guidelines for the testing of metallic materials with a thickness between 40 mm and 500 mm with parallel or concentric surfaces.

The procedures provided in this document can be used for testing of other materials or smaller thickness if special measures are taken according to a written testing procedure.

Phased array techniques can also be applied for the tandem technique and the LLT technique, but additional steps or verifications can be needed.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 testing — Vocabulary*

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

koniec náhľadu – text ďalej pokračuje v platenej verzii STN