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**BS EN ISO 17405:2014**



**BSI Standards Publication**

# **Non-destructive testing — Ultrasonic testing — Technique of testing claddings produced by welding, rolling and explosion**

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This British Standard is the UK implementation of EN ISO 17405:2014.

The UK participation in its preparation was entrusted to Technical Committee WEE/46, Non-destructive testing.

A list of organizations represented on this committee can be obtained on request to its secretary.

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## EUROPÄISCHE NORM

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English Version

## Non-destructive testing - Ultrasonic testing - Technique of testing claddings produced by welding, rolling and explosion (ISO 17405:2014)

Essais non destructifs - Essais par ultrasons - Technique d'essai des placages produits par soudage, laminage et explosion (ISO 17405:2014)

Zerstörungsfreie Prüfung - Ultraschallprüfung - Techniken zur Prüfung von Plattierungen hergestellt durch Schweißen, Walzen und Sprengen (ISO 17405:2014)

This European Standard was approved by CEN on 21 June 2014.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (EN ISO 17405:2014) 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of an identical text or by endorsement, at the latest by January 2015, and conflicting national standards shall be withdrawn at the latest by January 2015.

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.

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 17405:2014 has been approved by CEN as EN ISO 17405:2014 without any modification.

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## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Ultrasonic test system</b> .....	<b>1</b>
4.1 General.....	1
4.2 Requirements regarding probes.....	2
4.3 Additional requirements.....	2
4.4 Instrument settings.....	3
<b>5 Preparation of the test object</b> .....	<b>7</b>
<b>6 Test procedure</b> .....	<b>8</b>
6.1 General.....	8
6.2 Movement of probe.....	8
6.3 Checking the instrument setting.....	8
6.4 Recording levels.....	8
<b>7 Test report</b> .....	<b>8</b>
<b>Annex A (informative) Determination of focal zone</b> .....	<b>10</b>
<b>Bibliography</b> .....	<b>11</b>

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## 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 documents 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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO 17405 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 138, *Non-destructive testing*, in collaboration with ISO Technical Committee TC 135, *Non-destructive testing*, Subcommittee SC 3, *Ultrasonic testing*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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# Non-destructive testing — Ultrasonic testing — Technique of testing claddings produced by welding, rolling and explosion

## 1 Scope

This International Standard specifies the techniques for manual ultrasonic testing of claddings on steel applied by welding, rolling, and explosion using single-element or dual-element probes.

The test is intended to cover detection of two-dimensional or three-dimensional discontinuities in the cladding and in the region of the interface.

This International Standard does not give acceptance criteria nor define the extent of testing.

## 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 2400, *Non-destructive testing — Ultrasonic testing — Specification for calibration block No. 1*

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

EN 12668-1, *Non-destructive testing — Characterization and verification of ultrasonic examination equipment — Part 1: Instruments*

EN 12668-2, *Non-destructive testing — Characterization and verification of ultrasonic examination equipment — Part 2: Probes*

EN 12668-3, *Non-destructive testing — Characterization and verification of ultrasonic examination equipment — Part 3: Combined equipment*

## 3 Terms and definitions

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

### 3.1

#### **test object**

part to be tested

### 3.2

#### **test surface**

areas of the surface of the test object to which probes have to be coupled

## 4 Ultrasonic test system

### 4.1 General

The ultrasonic pulse-echo technique is used. For two-dimensional discontinuities parallel to the test surface and three-dimensional discontinuities, straight beam probes (dual-element or single-element) shall be used for testing with longitudinal waves.