

STN	Meď a zliatiny medi Skúška vírivým prúdom na meranie chýb bezšvových okrúhlych rúr z medi a zliatiny medi Časť 2: Skúška s vnútorným snímačom na vnútornom povrchu	STN EN 1971-2 42 0428
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Copper and copper alloys - Eddy current test for measuring defects on seamless round copper and copper alloy tubes - Part 2: Test with an internal probe on the inner surface

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. 05/20

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English Version

Copper and copper alloys - Eddy current test for measuring defects on seamless round copper and copper alloy tubes - Part 2: Test with an internal probe on the inner surface

Cuivre et alliages de cuivre - Méthode de contrôle par courants de Foucault pour le mesurage des défauts des tubes ronds sans soudure en cuivre et alliages de cuivre - Partie 2 : Essai avec un capteur interne sur la paroi interne

Kupfer und Kupferlegierungen - Wirbelstromprüfung an Rohren zur Messung von Fehlern an nahtlos gezogenen runden Rohren aus Kupfer und Kupferlegierungen - Teil 2: Prüfung mit Innensonde auf der Innenseite

This European Standard was approved by CEN on 4 September 2019.

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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

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European foreword

This document (EN 1971-2:2019) has been prepared by Technical Committee CEN/TC 133 “Copper and copper alloys”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.

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 1971-2:2011.

The following modifications were implemented in this new edition of EN 1971-2:

— updated normative references.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Turkey and the United Kingdom.

EN 1971-2:2019 (E)**Introduction**

The eddy current test with internal probe described in this document has the objective of detecting potential leaks and serious defects in seamless round copper and copper alloy tubes.

The eddy current test is able to detect material inhomogeneities and their positions throughout the length of tubes. The eddy current signals of material inhomogeneities are compared with reference signals of artificially produced test defects. It is possible to identify these inhomogeneities on the inner and outer surfaces as well as within the tube wall.

Since the distribution of eddy currents decreases as the distance from the test coil increases, the amplitude of defect signals also decreases with increasing distance from the test coil. Thus the eddy current test with internal probe on the inner surface is less sensitive to defects on the outer surface.

The purpose of this European Standard is not to define a method of measuring the actual extent of the material inhomogeneities as the signal amplitude is dependent on, amongst other factors, volume, form and position of the inhomogeneity.

Due to end effects, it is not possible to effectively test the ends of the tubes. The purchaser and the supplier could agree that the end effect may be overcome by cutting to length after testing.

1 Scope

This document specifies a procedure for the eddy current test with an internal probe for measuring defects on the inner surface of seamless round copper and copper alloy tubes.

This document applies particularly for finned tubes with high fins according to EN 12452.

NOTE The eddy current test method(s) required, together with the size range and acceptance level, are defined in the relevant product standard.

The choice of the method for eddy current test:

— with an encircling test coil on the outer surface according to EN 1971-1

or

— with an internal probe on the inner surface according to EN 1971-2

is at the discretion of the manufacturer if there are no other agreements between the purchaser and the supplier.

Especially for finned tubes according to EN 12452 with high fins, it is suggested to use eddy current test with internal probe as described in this document.

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.

EN ISO 9712, *Non-destructive testing - Qualification and certification of NDT personnel (ISO 9712)*

EN ISO 12718, *Non-destructive testing - Eddy current testing - Vocabulary (ISO 12718)*

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