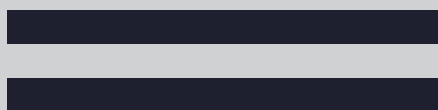


SVENSK STANDARD

SS-EN 1971-1:2019

Koppar och kopparlegeringar – Virvelströmsprovning av defekter på runda sömlösa rör av koppar och kopparlegeringar – Del 1: Provning med en omslutande spole för utvändig mantelyta

Copper and copper alloys – Eddy current test for measuring defects on seamless round copper and copper alloy tubes – Part 1: Test with an encircling test coil on the outer surface



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Språk: engelska/ English

Utgåva: 2

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Fastställd: 2019-11-28

ICS: 23.040.15;77.040.99;77.150.30

Europastandarden EN 1971-1:2019 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 1971-1:2019.

Denna standard ersätter SS-EN 1971-1:2011, utgåva 1.

The European Standard EN 1971-1:2019 has the status of a Swedish Standard. This document contains the official version of EN 1971-1:2019.

This standard supersedes the SS-EN 1971-1:2011, edition 1.

EUROPEAN STANDARD

EN 1971-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2019

ICS 23.040.15; 77.150.30

Supersedes EN 1971-1:2011

English Version

Copper and copper alloys - Eddy current test for measuring defects on seamless round copper and copper alloy tubes - Part 1: Test with an encircling test coil on the outer 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 1 : Essai avec une bobine encerclante sur la paroi externe

Kupfer und Kupferlegierungen - Wirbelstromprüfung an Röhren zur Messung von Fehlern an nahtlos gezogenen runden Röhren aus Kupfer und Kupferlegierungen - Teil 1: Prüfung mit umfassender Spule auf der Außenseite

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

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

SS-EN 1971-1:2019 (E)

Contents		Page
European foreword.....		3
Introduction		4
1	Scope.....	5
2	Normative references.....	5
3	Terms and definitions	5
4	General requirements	5
4.1	Personnel qualification.....	5
4.2	Condition of tube to be tested.....	5
4.3	Equipment	6
5	Reference standard tube	7
6	Acceptance criteria.....	8
6.1	Detection of local discontinuities by encircling coils systems.....	8
6.2	Detection of non-local discontinuities by encircling coils systems with lower detection levels	8
6.3	Other test methods	9
7	Instrument adjustment.....	9
Bibliography.....		10

European foreword

This document (EN 1971-1:2019) 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 1971-1:2011.

The following modifications were implemented in this new edition of EN 1971-1:

— 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.

SS-EN 1971-1:2019 (E)

Introduction

The eddy current test described in this document has the objective of detecting during production 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 encircling test coil on the outer surface is less sensitive to defects on the inner 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.