

**Non-destructive testing of steel tubes -
Part 4: Automatic full peripheral
magnetic transducer/flux leakage
testing of seamless ferromagnetic steel
tubes for the detection of transverse
imperfections**

Non-destructive testing of steel tubes - Part 4:
Automatic full peripheral magnetic transducer/flux
leakage testing of seamless ferromagnetic steel
tubes for the detection of transverse imperfections

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 10246-4:2000 sisaldab Euroopa standardi EN 10246-4:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.06.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 10246-4:2000 consists of the English text of the European standard EN 10246-4:1999.</p> <p>This document is endorsed on 16.06.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This international standard specifies requirements for full peripheral magnetic transducer/flux leakage testing of seamless ferromagnetic steel tubes for pressure purposes for the detection of transverse imperfections, according to three different acceptance levels.</p>	<p>Scope:</p> <p>This international standard specifies requirements for full peripheral magnetic transducer/flux leakage testing of seamless ferromagnetic steel tubes for pressure purposes for the detection of transverse imperfections, according to three different acceptance levels.</p>
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Võtmesõnad: defects, determination, magnetic tests, metaltubes, non-destructive tests, pipes (tubes), pressure tubes, seamless tubes, steel tubes, tests

Hinnagrupp F

English version

Non-destructive testing of steel tubes

Part 4: Automatic full peripheral magnetic transducer/flux leakage testing of seamless ferromagnetic steel tubes for the detection of transverse imperfections

Essais non destructifs des tubes en acier – Partie 4: Contrôle automatique par flux de fuite à l'aide de palpeurs magnétiques sur toute la circonférence des tubes pour la détection des imperfections transversales des tubes en aciers ferromagnétiques sans soudure

Zerstörungsfreie Prüfung von Stahlrohren – Teil 4: Automatische Magnetfeldsonden-Streuf Flussprüfung nahtloser ferromagnetischer Stahlrohre über den gesamten Rohrumfang zum Nachweis von Querfehlern

This European Standard was approved by CEN on 1999-10-06.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
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Foreword

This European Standard has been prepared by Technical Committee ECISS/TC 29 "Steel tubes and fittings for steel tubes", the secretariat of which is held by UNI.

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 2000, and conflicting national standards shall be withdrawn at the latest by May 2000.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. This European Standard is considered to be a supporting standard to those application and product standards which in themselves support an essential safety requirement of a New Approach Directive and which make reference to this European Standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This Part of EN 10246 specifies the requirements for automatic full peripheral magnetic transducer/flux leakage testing of seamless ferromagnetic steel tubes for the detection of transverse imperfections. The standard specifies acceptance levels, calibration procedures and gives guidance on the limitations of the tests.

This Part of EN 10246 is applicable to the inspection of tubes with an outside diameter equal to or greater than 10 mm.

European Standard EN 10246 "Non-destructive testing of steel tubes" comprises the Parts shown in Annex A.

2 General requirements

2.1 The magnetic transducer/flux leakage inspection covered by this Part of EN 10246 is usually carried out on tubes after completion of all the primary production process operations.

2.2 The tubes to be tested shall be sufficiently straight and free from foreign matter as to ensure the validity of the test.

3 Method of test

3.1 The tubes shall be tested using a magnetic transducer/flux leakage technique for the detection of predominantly transverse imperfections (see figure 1). No limits on thickness are specified: The effectiveness of the technique decreases with increasing thickness (see Annex B).

It is recognised that there may be a short length at both tube ends which cannot be tested. Any untested ends shall be dealt with in accordance with the requirements of the appropriate product standards.

3.2 When testing, the tube and the transducer shall be moved relative to each other so that the whole of the tube surface is scanned.

The relative speed during testing shall not vary by more than $\pm 10\%$.

3.3 The maximum width of each individual transducer, measured at right angles to the major axis of the tube shall be 30 mm.

3.4 The equipment shall be capable of classifying tubes as either acceptable or suspect tubes by means of an automatic trigger/alarm level combined with a marking and/or sorting system.