Non-destructive testing of steel tubes - Part 8: Automatic ultrasonic testing of the weld seam of electric welded steel tubes for the detection of longitudinal imperfections

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EESTI STANDARDI EESSÕNA NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 10246-8:2000 sisaldab Euroopa standardi EN 10246-8:1999 ingliskeelset teksti. Käesolev dokument on jõustatud 16.06.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 10246-8:2000 consists of the English text of the European standard EN 10246-8:1999. This document is endorsed on 16.06.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This standard specifies requirements for the ultrasonic testing of the weld seam of electric resistance and induction welded steel tubes for the detection of predominantly radial longitudinal imperfections, according to two different acceptance levels.	**Scope:** This standard specifies requirements for the ultrasonic testing of the weld seam of electric resistance and induction welded steel tubes for the detection of predominantly radial longitudinal imperfections, according to two different acceptance levels.

ICS 23.040.10, 77.040.20

Võtmesõnad: metaltubes, non-destructive tests, pipes (tubes), pressure pipes, specifications, steel tubes, tests, welded tubes

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English version

Non-destructive testing of steel tubes

Part 8: Automatic ultrasonic testing of the weld seam of electric welded steel tubes for the detection of longitudinal imperfections

Essais non destructifs des tubes en acier – Partie 8: Contrôle automatique par ultrasons du cordon de soudure pour la détection des imperfections longitudinales des tubes en aciers soudés électriquement

Zerstörungsfreie Prüfung von Stahlrohren – Teil 8: Automatische Ultraschallprüfung der Schweißnaht elektrisch geschweißter Stahlrohre zum Nachweis von Längsfehlern

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

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CEN

European Committee for Standardization
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Europäisches Komitee für Normung

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Contents

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 ultrasonic shear wave and Lamb wave testing of the weld seam of electric welded steel tubes for the detection of longitudinal imperfections. The standard specifies acceptance levels and calibration procedures.

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 ultrasonic inspection covered by this Part of EN 120246 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 weld seam of tube shall be tested using an ultrasonic shear wave or Lamb wave technique for the detection of predominantly longitudinal imperfections.

3.2 During testing, the tube and the transducer assembly shall be moved relative to each other and the transducer assembly shall be maintained in proper alignment over the whole of the weld seam along the entire tube length.

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 (see also Annex B).

The relative speed during testing shall not vary by more than +10%.

3.3 During testing, the weld seam shall be scanned, unless otherwise agreed between purchase and manufacturer, in two opposite directions of beam travel at right angles to the weld.

3.4 The ultrasonic test frequency applied shall be in the range of 1 MHz to 15 MHz for shear waves and in the range of 0,3 MHz to 1 MHz for Lamb waves, depending on the thickness and surface finish of the tubes to be tested.

3.5 The maximum width of each individual transducer, measured parallel to the major axis of the weld, shall be 25 mm for shear waves and 35 mm for Lamb waves.

3.6 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.