National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 10246-10:2000

ICS 23.040.10
25.160.40

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800
Tel: (01) 807 3838

NON-DESTRUCTIVE TESTING OF STEEL TUBES - PART 10: RADIOGRAPHIC TESTING OF THE WELD SEAM OF AUTOMATIC FUSION ARC WELDED STEEL TUBES FOR THE DETECTION OF IMPERFECTIONS

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on:

July 28, 2000

Price Code G

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 10246-10

April 2000

ICS 23.040.10; 25.160.40

English version

Non-destructive testing of steel tubes - Part 10: Radiographic testing of the weld seam of automatic fusion arc welded steel tubes for the detection of imperfections

Essais non destructifs des tubes en acier - Partie 10: Contrôle par radiographie du cordon de soudure pour la détection des imperfections des tubes en acier soudés à l'arc immergé sous flux en poudre

Zerstörungsfreie Prüfung von Stahlrohren - Teil 10: Durchstrahlungsprüfung der Schweißnaht automatisch lichtbogenschmelzgeschweißter Stahlrohre zum Nachweis von Fehlern

This European Standard was approved by CEN on 29 March 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. 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.

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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 10246-10:2000 E

CONTENTS

Page

FOREWORD **3**

1 SCOPE **4**

2 NORMATIVE REFERENCES **4**

3 TERMS AND DEFINITIONS **4**

4 GENERAL REQUIREMENTS **4**

5 METHOD OF TEST **5**

6 IMAGE QUALITY **9**

7 PROCESSING OF FILM **9**

8 VIEWING CONDITIONS FOR RADIOGRAPHS **9**

9 ACCEPTANCE LIMITS **10**

10 CLASSIFICATION OF INDICATIONS **10**

11 ACCEPTANCE **11**

12 TEST REPORTING **11**

ANNEX A (informative) **Table of parts of EN 10246 - Non-destructive testing of steel tubes** **12**

ANNEX B (informative) Examples of distribution of imperfections **13**

Bibliography **17**

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

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 radiographic X-ray testing of the longitudinal or helically weld seams of automatic fusion arc-welded steel tubes for the detection of imperfections. The standard specifies acceptance levels and calibration procedures.

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

2 NORMATIVE REFERENCES

This Part of EN 10246 incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of those publications apply to this Part of EN 10246 only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 444	Non-destructive testing - General principles for radiographic examination of metallic materials by X- and gamma-rays.
EN 462-1	Non-destructive testing - Image quality of radiographs - Part 1: Image quality indicators (wire type) - Determination of image quality value
EN 462-2	Non-destructive testing - Image quality of radiographs- Part 2: Image quality indicators (step/hole type) - Determination of image quality value
EN 1330-3	Non-destructive testing – Terminology – Part 3: Terms used in industrial radiographic testing
EN 1435	Non-destructive examination of welds – Radiographic examination of welded joints

3 TERMS AND DEFINITIONS

For the purposes of this Part of EN 10246, the terms and definitions given in EN 444, EN 1330-3 and EN 1435 shall apply.

4 GENERAL REQUIREMENTS

4.1 The radiographic inspection covered by this Part of EN 10246 is usually carried out on tubes after completion of all the primary production process operations.

4.2 The tubes to be tested shall be sufficiently straight and free from foreign matter as to ensure the validity of the test. The surfaces of the weld seam and adjacent parent metal shall be sufficiently free from such foreign matter and surface irregularities which would interfere with the interpretation of the radiographs.

Surface grinding is permitted in order to achieve an acceptable surface finish.

4.3 In cases where the weld reinforcement is removed, markers, usually in the form of lead arrows, shall be placed on each side of the weld so that its position can be identified on the radiograph.