National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 10246-2:2000

ICS 23.040.10
77.040.20

NON-DESTRUCTIVE TESTING OF STEEL TUBES - PART 2: AUTOMATIC EDDY CURRENT TESTING OF SEAMLESS AND WELDED (EXCEPT SUBMERGED ARC-WELDED) AUSTENITIC AND AUSTENITIC-FERRITIC STEEL TUBES FOR VERIFICATION OF HYDRAULIC LEAD-TIGHTNESS

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 10246-2

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English version

Non-destructive testing of steel tubes - Part 2: Automatic eddy current testing of seamless and welded (except submerged arc-welded) austenitic and austenitic-ferritic steel tubes for verification of hydraulic leak-tightness

Essais non destructifs sur des tubes en acier - Partie 2: Contrôle automatique par courants de Foucault des tubes en aciers austénitique et austéno-ferritique sans soudure et soudés (sauf à l'arc immergé sous flux en poudre) pour vérification de l'étanchéité hydraulique

Zerstörungsfreie Prüfung von Stahlrohren - Teil 2: Automatische Wirbelstromprüfung nahtloser und geschweißter (ausgenommen unterpulvergeschweißter) austenitischer und austenitisch-ferritischer Stahlrohre zum Nachweis der Dichtheit

This European Standard was approved by CEN on 25 December 1999.

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
EUROPAISCHES KOMITEE FÜR NORMUNG

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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 August 2000, and conflicting national standards shall be withdrawn at the latest by August 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 requirements for automatic eddy current testing of seamless and welded austenitic and austenitic-ferritic steel tubes with the exception of submerged arc-welded (SAW) tubes for verification of hydraulic leak-tightness. 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 4 mm.

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

2 NORMATIVE REFERENCES

This European Standard 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 these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 20286-2	ISO system of limits and fits - Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts (ISO 286-2:1988)
EN ISO1127	Stainless steel tubes - Dimensions, tolerances and conventional masses per unit length (ISO 1127:1992)
ISO 235	Parallel shank jobber and stub series drills and Morse taper shank drills

3 GENERAL REQUIREMENTS

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

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

4 METHOD OF TEST

4.1 The tubes shall be tested for verification of hydraulic leak-tightness by eddy current testing using one of the following techniques:

a) Concentric coil (see figure 1)

b) Segment coil(s) (see figure 2)

c) Rotating tube/pancake coil (see figure 3)

It is recognised that under normal production conditions there, as with hydraulic pressure testing may be a short length at both tube ends which cannot be tested.