

**Non-destructive testing of steel tubes - Part 9:
Automated ultrasonic testing for the detection of
laminar imperfections in strip/plate used for the
manufacture of welded steel tubes (ISO 10893-9:2011)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 10893-9:2011 sisaldab Euroopa standardi EN ISO 10893-9:2011 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.04.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.04.2011.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 10893-9:2011 consists of the English text of the European standard EN ISO 10893-9:2011.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.04.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 01.04.2011.

The standard is available from Estonian standardisation organisation.

ICS 23.040.10, 77.040.20, 77.140.75

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: 605 5050; E-mail: info@evs.ee

English Version

Non-destructive testing of steel tubes - Part 9: Automated
ultrasonic testing for the detection of laminar imperfections in
strip/plate used for the manufacture of welded steel tubes (ISO
10893-9:2011)

Essais non destructifs des tubes en acier - Partie 9:
Contrôle automatisé par ultrasons pour la détection des
dédoublures dans les bandes/tôles fortes utilisées pour la
fabrication des tubes en acier soudés (ISO 10893-9:2011)

Zerstörungsfreie Prüfung von Stahlrohren - Teil 9:
Automatisierte Ultraschallprüfung von Band/Blech, das für
die Herstellung geschweißter Stahlrohre eingesetzt wird,
zum Nachweis von Dopplungen (ISO 10893-9:2011)

This European Standard was approved by CEN on 10 December 2010.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

This document (EN ISO 10893-9:2011) has been prepared by Technical Committee ISO/TC 17 "Steel" in collaboration with Technical Committee ECISS/TC 110 "Steel tubes, and iron and steel fittings" 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 2011, and conflicting national standards shall be withdrawn at the latest by October 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 10246-15:2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 10893-9:2011 has been approved by CEN as a EN ISO 10893-9:2011 without any modification.

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General requirements	2
5 Test method	2
6 Reference sample	4
6.1 General	4
6.2 Dimensions of reference standards	4
6.3 Verification of reference standards	4
7 Equipment calibration and checking	5
8 Acceptance	6
9 Test report	7
Annex A (normative) Procedure for the determination of the size of laminar imperfections by manual ultrasonic testing	8

Non-destructive testing of steel tubes —

Part 9:

Automated ultrasonic testing for the detection of laminar imperfections in strip/plate used for the manufacture of welded steel tubes

1 Scope

This part of ISO 10893 specifies requirements for the automated ultrasonic testing of strip/plate used in the manufacture of welded tubes for the detection of laminar imperfections carried out in the pipe mill before or during pipe production.

NOTE 1 For welded tubes, an alternative ultrasonic testing specification for the detection of laminar imperfections is available, which can be applied, at the discretion of the manufacturer, by ultrasonic testing of the tubes subsequent to seam welding according to ISO 10893-8.

NOTE 2 By agreement between the purchaser and manufacturer, the requirements of this part of ISO 10893 can be applied on strips/plates of SAW tubes in the pipe form after seam welding.

This part of ISO 10893 can also be applicable to the testing of strips/plates used in the manufacture of circular hollow sections.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5577, *Non-destructive testing — Ultrasonic inspection — Vocabulary*

ISO 9712, *Non-destructive testing — Qualification and certification of personnel*

ISO 11484, *Steel products — Employer's qualification system for non-destructive testing (NDT) personnel*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5577 and ISO 11484 and the following apply.

3.1

reference standard

standard for the calibration of non-destructive testing equipment (e.g. drill holes, notches, recesses)

3.2

reference sample

sample (e.g. segment of plate/strip) containing the reference standard(s)

3.3

tube

hollow long product open at both ends, of any cross-sectional shape