

# SVENSK STANDARD

## SS-EN ISO 15614-8:2016

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### **Specifikation för och kvalificering av svetsprocedurer för metalliska material – Svetsprocedurkontroll – Del 8: Insvetsning av tuber i tubplattor (ISO 15614-8:2014)**

### **Specification and qualification of welding procedures for metallic materials – Welding procedure test – Part 8: Welding of tubes to tube-plate joints (ISO 15614-8:2016)**

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Europastandarden EN ISO 15614-8:2016 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 15614-8:2016.

Denna standard ersätter SS-EN ISO 15614-8, utgåva 1.

The European Standard EN ISO 15614-8:2016 has the status of a Swedish Standard. This document contains the official English version of EN ISO 15614-8:2016.

This standard supersedes the Swedish Standard SS-EN ISO 15614-8, edition 1.

**Förhållandet till övriga delar under samma huvudtitel - Utdrag ur Förord i ISO 15614-8:2016/  
Relations to other parts under the same general title - Extract from the Foreword of ISO 15614-8:2016**

ISO 15614 consists of the following parts, under the general title *Specification and qualification of welding procedures for metallic materials — Welding procedure test*:

- Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys
- Part 2: Arc welding of aluminium and its alloys
- Part 3: Fusion welding of non-alloyed and low-alloyed cast irons
- Part 4: Finishing welding of aluminium castings
- Part 5: Arc welding of titanium, zirconium and their alloys
- Part 6: Arc and gas welding of copper and its alloys
- Part 7: Overlay welding
- Part 8: Welding of tubes to tube-plate joints
- Part 9: Underwater hyperbaric wet welding
- Part 10: Hyperbaric dry welding
- Part 11: Electron and laser beam welding
- Part 12: Spot, seam and projection welding
- Part 13: Upset (resistance butt) and flash welding
- Part 14: Laser-arc hybrid welding of steels, nickel and nickel alloys

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Denna standard är framtagen av kommittén för Kvalifikationskrav vid svetsning, SIS/TK 134/AG 445.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på [www.sis.se](http://www.sis.se) - där hittar du mer information.



EUROPEAN STANDARD

EN ISO 15614-8

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2016

ICS 25.160.10

Supersedes EN ISO 15614-8:2002

English Version

Specification and qualification of welding procedures for  
metallic materials - Welding procedure test - Part 8:  
Welding of tubes to tube-plate joints (ISO 15614-8:2016)

Descriptif et qualification d'un mode opératoire de soudage sur les matériaux métalliques - Épreuve de qualification d'un mode opératoire de soudage - Partie 8: Soudage de tubes sur plaques tubulaires (ISO 15614-8:2016)

Anforderung und Qualifizierung von Schweißverfahren für metallische Werkstoffe - Schweißverfahrensprüfung - Teil 8: Einschweißen von Rohren in Rohrböden (ISO 15614-8:2016)

This European Standard was approved by CEN on 2 January 2016.

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.

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**



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## European foreword

This document (EN ISO 15614-8:2016) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 "Welding" the secretariat of which is held by DIN.

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 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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 ISO 15614-8:2002.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 15614-8:2016 has been approved by CEN as EN ISO 15614-8:2016 without any modification.

## Introduction

All new welding procedure tests are to be carried out in accordance with this part of ISO 15614 from the date of its issue. However, this part of ISO 15614 does not invalidate previous welding procedure tests made to former national standards or specifications or previous issues of this part of ISO 15614.

# Specification and qualification of welding procedures for metallic materials — Welding procedure test —

## Part 8: Welding of tubes to tube-plate joints

### 1 Scope

This part of ISO 15614 specifies requirements for the qualification testing of welding procedures for the arc welding of tube to tube-plate joints in metallic materials by manual, partly mechanized, fully mechanized, or automatic processes.

This part of ISO 15614 is a part of a series of standards. Details of this series are given in ISO 15607, Annex A.

Qualification by tube to tube-plate joint tests can be used for all joints even if they are fully loaded or only seal welded as required in application standards.

This part of ISO 15614 applies to fusion welding of metallic materials for tube to tube-plate joints with a remaining gap between the tube and the tube-plate for some length of the tube-plate thickness. This part of ISO 15614 does not apply to tube-sheets with forged end connections with welded tubes (external/internal bore welds).

For welding of tube to tube-plate joints with mechanical expansion which is load bearing, welding procedure test is to be defined.

For other applications and/or requirements, this part of ISO 15614 can be used if required by the specification.

Repair welding is to be considered in the welding procedure test.

### 2 Normative references

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

ISO 3452-1, *Non-destructive testing — Penetrant testing — Part 1: General principles*

ISO 4063, *Welding and allied processes — Nomenclature of processes and reference numbers*

ISO 6520-1, *Welding and allied processes — Classification of geometric imperfections in metallic materials — Part 1: Fusion welding*

ISO 9015-1, *Destructive tests on welds in metallic materials — Hardness testing — Part 1: Hardness test on arc welded joints*

ISO 9606-1, *Qualification testing of welders — Fusion welding — Part 1: Steels*

ISO 9606-2, *Qualification test of welders — Fusion welding — Part 2: Aluminium and aluminium alloys*

ISO 9606-3, *Approval testing of welders — Fusion welding — Part 3: Copper and copper alloys*

ISO 9606-4, *Approval testing of welders — Fusion welding — Part 4: Nickel and nickel alloys*