TRUMMELKATLAD. OSA 4: KATLA SURVEDETAILIDE VÄLJATÖÖTAMISVIIS JA VALMISTAMINE

Shell boilers - Part 4: Workmanship and construction of pressure parts of the boiler

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12953-4:2018 sisaldab Euroopa standardi EN 12953-4:2018 ingliskeelset teksti.	This Estonian standard EVS-EN 12953-4:2018 consists of the English text of the European standard EN 12953-4:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 28.03.2018.	Date of Availability of the European standard is 28.03.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

Shell boilers - Part 4: Workmanship and construction of pressure parts of the boiler

Chaudières à tubes de fumée - Partie 4 : Fabrication et construction des parties sous pression des chaudières

Großwasserraumkessel - Teil 4: Verarbeitung und Bauausführung für drucktragende Kesselteile

This European Standard was approved by CEN on 6 December 2017.

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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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 12953-4:2018) has been prepared by Technical Committee CEN/TC 269 “Shell and water-tube boilers”, 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 September 2018, and conflicting national standards shall be withdrawn at the latest by September 2018.

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

This document supersedes EN 12953-4:2002.

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.

The informative Annex C lists the significant technical changes between this European Standard and the previous edition.

EN 12953, *Shell boilers*, consists of the following parts:

— *Part 1: General*;

— *Part 2: Materials for pressure parts of boilers and accessories*;

— *Part 3: Design and calculation for pressure parts*;

— *Part 4: Workmanship and construction of pressure parts of the boiler*;

— *Part 5: Inspection during construction, documentation and marking of pressure parts of the boiler*;

— *Part 6: Requirements for equipment for the boiler*;

— *Part 7: Requirements for firing systems for liquid and gaseous fuels for the boilers*;

— *Part 8: Requirements for safeguards against excessive pressure*;

— *Part 9: Requirements for limiting devices of the boiler and accessories*;

— *Part 10: Requirements for feedwater and boiler water quality*;

— *Part 11: Acceptance tests*;

— *Part 12: Requirements for grate firing systems for solid fuels for the boiler*;

— *Part 13: Operating instructions*;

— *Part 14: Guideline for involvement of an inspection body independent of the manufacturer* [CR 12953-14].

Although these parts can be obtained separately, the parts are interdependent. As such, the design and manufacture of shell boilers requires the application of more than one part in order for the requirements of the standard to be satisfactorily fulfilled.

NOTE A "Boiler Helpdesk" has been established in CEN/TC 269 which can be contacted for any questions regarding the application of the European Standards series EN 12952 and EN 12953, see the following website: http://www.boiler-helpdesk.din.de.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies requirements for the workmanship and construction of shell boilers as defined in EN 12953-1.

NOTE 1 For other components such as water tube walls, see the EN 12952 series.

NOTE 2 For economizers and superheaters, see EN 12953-4 or EN 12952-5.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EN 1092-1:2007+A1:2013, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

EN 1092-2:1997, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 2: Cast iron flanges*

EN 1515-4:2009, *Flanges and their joints — Bolting — Part 4: Selection of bolting for equipment subject to the Pressure Equipment Directive 97/23/EC*

EN 1759-1:2004, *Flanges and their joint — Circular flanges for pipes, valves, fittings and accessories, Class designated — Part 1: Steel flanges, NPS 1/2 to 24*

EN 10216-2:2013, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 2: Non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 10217-2:2002, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 2: Electric welded non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 10217-5:2002, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 5: Submerged arc welded non-alloy and alloy steel tubes with specified elevated temperature properties*

EN 12953-1:2012, *Shell boilers — Part 1: General*

EN 12953-2:2012, *Shell boilers — Part 2: Materials for pressure parts of boilers and accessories*

EN 12953-3:2016, *Shell boilers — Part 3: Design and calculation for pressure parts*

EN 12953-5:2002, *Shell boilers — Part 5: Inspection during construction, documentation and marking of pressure parts of the boiler*

EN ISO 2553:2013, *Welding and allied processes — Symbolic representation on drawings — Welded joints (ISO 2553:2013)*

EN ISO 9606-1:2017, *Qualification testing of welders — Fusion welding — Part 1: Steels (ISO 9606-1:2012 including Cor 1:2012 and Cor 2:2013)*

EN ISO 14731:2006, *Welding coordination — Tasks and responsibilities (ISO 14731:2006)*

EN ISO 14732:2013, *Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials (ISO 14732:2013)*

EN ISO 15609-1:2004, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding (ISO 15609-1:2004)*

EN ISO 15614-1:2017, *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 (ISO 15614-1:2017)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12953-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
seam
generic term for welded joints, welded seams or welds

4 Symbols

For the purposes of this document, the symbols given in EN 12953-1:2012, Table 1 apply.

5 General requirements

5.1 General

5.1.1 The rules in this part are applicable to all aspects of fabrication, including welding, of boilers and boiler parts, and shall be used in conjunction with the specific requirements applicable to the grades of materials used.

5.1.2 All welding activities shall be in accordance with the requirements of this standard.

5.1.3 For category II, III and IV boilers, all welders or welding operators and welding procedures shall be approved (see 5.14.2). For category I boilers, approval shall not be mandatory.

5.1.4 The manufacturer of a boiler, built in accordance with the requirements of this European Standard, shall be responsible for the welding done by his workmen or subcontracted by him. The manufacturer shall designate a competent welding supervisor in accordance with EN ISO 14731.

No production work should be undertaken on category II, III and IV boilers according to the Pressure Equipment Directive PED 2014/68/EU until both the welding procedures and the welders or welding operators have been approved.

5.1.5 Materials and welding consumables shall fulfil the requirements of EN 12953-2:2012.