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Water-tube boilers and auxiliary installations - Part 1: General

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/16

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English Version

Water-tube boilers and auxiliary installations - Part 1: General

Chaudières à tubes d'eau et installations auxiliaires -
Partie 1: GénéralitésWasserrohrkessel und Anlagenkomponenten - Teil 1:
Allgemeines

This European Standard was approved by CEN on 29 August 2015.

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European foreword

This document (EN 12952-1:2015) 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of an identical text or by endorsement, at the latest by April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.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 12952-1:2001.

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 2014/68/EU.

For relationship with EU Directive 2014/68/EU, see informative Annex ZA which is an integral part of this document.

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

EN 12952, *Water-tube boilers and auxiliary installations* 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 of the boiler;*
- *Part 4: In-service boiler life expectancy calculations;*
- *Part 5: Workmanship and construction of pressure parts of the boiler;*
- *Part 6: Inspection during construction; documentation and marking of pressure parts of the boiler;*
- *Part 7: Requirements for equipment for the boiler;*
- *Part 8: Requirements for firing systems for liquid and gaseous fuels for the boiler;*
- *Part 9: Requirements for firing systems for pulverized solid fuels for the boiler;*
- *Part 10: Requirements for safeguards against excessive pressure;*
- *Part 11: Requirements for limiting devices of the boiler and accessories;*
- *Part 12: Requirements for boiler feedwater and boiler water quality;*
- *Part 13: Requirements for flue gas cleaning systems;*

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- *Part 14: Requirements for flue gas DENOX-systems using liquefied pressurized ammonia and ammonia water solution;*
- *Part 15: Acceptance tests;*
- *Part 16: Requirements for grate and fluidized-bed firing systems for solid fuels for the boiler;*
- *(CR 12952) Part 17: Guideline for the involvement of an inspection body independent of the manufacturer;*
- *Part 18: Operating instructions.*

Although these parts can be obtained separately, it should be recognized that the parts are inter-dependent. As such, the design and manufacture of water-tube 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 may 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

1.1 General

This European Standard applies to water-tube boilers with volumes in excess of two litres for the generation of steam and/or hot water at a maximum allowable pressure PS greater than 0,5 bar and with a temperature in excess of 110 °C as well as auxiliary installations (other plant equipment).

The purpose of this European Standard is to ensure that the necessary essential safety requirements according to Annex I of the Pressure Equipment Directive are fulfilled in order to guarantee the safety of water tube boilers.

This aim will be achieved by:

- the proper application of the design, manufacturing, testing and inspection methods and techniques,
- the provision of protective measures against hazards, which cannot be eliminated, and
- the provision of information on residual hazards and other measures to reduce risk,

which are incorporated in the various parts of this European Standard.

The requirements of this European Standard take account of pressure-related hazards, which apply to water tube boilers, including failure of pressure-retaining components due to overheating.

This standard recognizes that it is not possible to cover all the combinations of situations that might arise.

1.2 Boiler assembly

For the purpose of this European Standard, the boiler assembly includes:

- the water-tube boiler including all the pressure parts from the feedwater inlet (including the inlet valve) up to and including the steam and/or hot water outlet (including the outlet valve or, if there is no valve, the first circumferential weld or flange downstream of the outlet header);
- all superheaters, reheaters, economizers, that are not capable of isolation from the main system by interposing shut-off valves, associated safety accessories and interconnecting piping;
- additionally, the piping that is connected to the boiler involved in services such as draining, venting, desuperheating, etc., up to and including the first isolating valve in the tubing line downstream of the boiler;
- reheaters which are independently fired, and are separately provided with their safety accessories including all control and safety systems.

The following equipment and components can be integrated in the assembly at the discretion of the manufacturer:

- isolatable superheaters, reheaters, economizers and related interconnecting piping;
- the heat supply or firing system;
- the means of preparing and feeding the fuel to the boiler including the control systems;
- the means of providing the boiler with feedwater including the control system;

— the pressure expansion vessels and tanks of hot water generating plant.

1.3 Other plant equipment

- a) The boiler supporting structural steelwork, the thermal insulation and/or brickwork and the casing;
- b) the means of providing the boiler with air including the forced draught fans and air pre-heaters which are heated by the gases of combustion;
- c) the facilities for moving flue gases through the boiler up to the stack inlet, including the induced draught fans and the air pollution reducing equipment located in the flue gas removal path;
- d) all other equipment necessary for the operation of the boiler plant.

1.4 Exclusions

This European Standard does not apply to the following types of boiler plant:

- a) boilers other than stationary boilers;
- b) shell type boilers;
- c) electrical boilers;
- d) nuclear primary circuits, the failure of which can cause an emission of radioactivity.

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.

EN 764 (all parts), *Pressure equipment*

EN 12952-5:2011, *Water-tube boilers and auxiliary installations — Part 5: Workmanship and construction of pressure parts of the boiler*

EN 12952-6:2011, *Water-tube boilers and auxiliary installations — Part 6: Inspection during construction; documentation and marking of pressure parts of the boiler*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN