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NSAI Standards

Irish Standard
I.S. EN 15502-1:2012+A1:2015

Gas-fired heating boilers - Part 1: General requirements and tests

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EUROPEAN STANDARD

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EN 15502-1:2012+A1

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Gas-fired heating boilers - Part 1: General requirements and tests

Chaudières de chauffage central utilisant les combustibles gazeux - Partie 1: Exigences générales et essais

Heizkessel fur gasförmige Brennstoffe - Teil 1: Allgemeine Anforderungen und Prüfungen

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Foreword

This document (EN 15502-1:2012+A1:2015) has been prepared by Technical Committee CEN/TC 109 “Central heating boilers using gaseous fuels”, the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by December 2015, and conflicting national standards shall be withdrawn at the latest by December 2015.

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 includes Amendment 1, approved by CEN on 2015-04-24.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ▌A1⟩ ⟨A1▌.

This document supersedes EN 15502-1:2012.

▌A1⟩ The main technical changes compared to EN 15502-1:2012 are the following:

— Technical changes related to ecodesign and energy labelling:in:

  — Clause 8, Operational requirements;

  — Clause 9, Useful efficiencies;

  — Clause 10, Electric auxiliary energy.

— Additions related to ecodesign and energy labelling:

  — Clause 13, Requirements for Eco-design Regulation (No 813/2013) and Energy Labelling Regulation (No 811/2013);

  — AnnexAA;

  — Annex BB;

  — Annex CC;

  — Annex DD;

  — Annex ZC;

  — Annex ZD.

— Changes to solve the inconsistencies identified in the letter 13-215 'GAD 2009 142 EC issues of 7 Nov 2013 by Mr Gwenole Cozogou of the commission to CEN:

  — Annex ZA. ⟨A1▌

This document has been prepared under mandates M89/6 and M066, given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements as meant in article 3 of EU Directive 2009/142/EC, relating to appliances burning gaseous fuels and the verification methods valid for production and measurements, as meant in article 5.2 of EU Directive 92/42/EEC, relating to

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the efficiency requirements for new hot water boilers fired with liquid or gaseous fuels, with an output of 4 – 400 kW.

[A1] This document has been prepared under mandate M/495, given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to:

- requirements of Commission Regulation (EC) No 813/2013 of 2 August 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for space heaters and combination heaters;

- requirements of Commission Delegated Regulation (EC) No 811/2013 of 18 February 2013 supplementing Directive 2010/30/EC of the European Parliament and of the Council with regard to energy labelling of space heaters, combination heaters, packages of space heater, temperature control and solar device and packages of combination heater, temperature control and solar device. [A1]

[A1] For relationship with EU Directive(s) and Commission Regulations, see informative Annexes ZA, ZB, ZC and ZD which are integral parts of this document. [A1]

Annex V lists which existing standards are intended to be replaced by this standard in combination with the relevant Part 2. The standards listed in Annex V are to be used until the relevant Part 2 cover the types indicated. This European Standard by itself does not replace any European Standard.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

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Introduction

A gas-fired heating boiler is an appliance using gas as fuel designed to heat water with the purpose of providing heat to a building (or portion of a building) from one point to multiple rooms using heat emitters such as radiators and convectors to transmit the heat from the water to the room. The boiler may also be used to provide domestic hot water via an indirect hot water storage tank.

The basic function of gas-fired heating boiler is to generate heat by direct heat transfer in a heat exchanger, from the combustion gasses to the water.

The boiler may include in one design more than one function. It may include for example:

— a sanitary hot water function;

— a function to supply the combustion air from the outside of the building;

— a function to dispose the combustion products to the outside of the building.

The boiler design may be supplied to the market in more than one part. If the boiler is supplied to the market in multiple parts, the boiler is the assembly of various parts according to the installation instructions.

Boilers may be designed to be connected to specific parts of a building. Connection to a chimney and the means of combustion air supply is particularly relevant.

This European Standard was established to deal with aspects related to:

a) safety;

b) rational use of energy;

c) fitness for purpose.

This European Standard is a first part of a series of standards that will describe the special requirements for specific boiler types. This European Standard contains the common requirements that are applicable for the majority of the specific boiler types.

This European Standard is to be used in conjunction with the specific Part 2.

Matters related to quality assurance systems, tests during production, and certificates of conformity of auxiliary devices are not dealt with in this series of European Standards.

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1 Scope

This European Standard specifies the common requirements and test methods concerning, in particular the construction, safety, fitness for purpose, and rational use of energy, as well as the classification [A1⟩ , marking and energy labelling ⟨A1] of gas-fired central heating boilers that are fitted with atmospheric burners, fan assisted atmospheric burners or fully premixed burners, and are hereafter referred to as “boilers”.

This European Standard is to be used in conjunction with the specific Parts 2 (Part 2-1 and following ones).

This European Standard applies to boilers of types B and C [A1⟩ *deleted text* ⟨A1].

[A1⟩ NOTE For further background information on appliance types see CEN/TR 1749:2014 [1]. ⟨A1]

a) that use one or more combustible gases of the three gas families at the pressures stated in EN 437;

b) where the temperature of the heat transfer fluid does not exceed 105 °C during normal operation;

c) where the maximum operating pressure in the water circuit does not exceed 6 bar;

d) which can give rise to condensation under certain circumstances;

e) [A1⟩ which are declared in the installation instructions to be either a "condensing" boiler or a "low temperature boiler" or a "standard boiler" or an "other boiler". If no declaration is given the boiler is to be considered both a "standard boiler" and an "other boiler";

   NOTE The Ecodesign Directive defines "other boilers", "low temperature boilers" and "condensing boilers". The Boiler Efficiency Directive defines "standard boilers", "low temperature boilers" and "condensing boilers". Depending on the legislation applied, a boiler can be both "a standard boiler" and an "other boiler". ⟨A1]

f) which are intended to be installed inside a building or in a partially protected place;

g) which are intended to produce hot water either by the instantaneous or storage principle, the whole being marketed as a single unit.

This European Standard applies to boilers designed for sealed water systems or for open water systems.

This general standard and the specific standards (see Part 2) provide requirements for boilers with known constructions. For boilers with any alternative constructions, which might not fully be covered by this standard or a specific standard, the risk associated with this alternative construction will need to be assessed.

An example of an assessment methodology, based upon risk assessment, is given in Clause 11.

This European Standard is not intended to cover appliances intended for connection to gas grids where the quality of the distributed gas is likely to vary to a large extent over the lifetime of the appliance.

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 88-1:2011, *Pressure regulators and associated safety devices for gas appliances - Part 1: Pressure regulators for inlet pressures up to and including 50 kPa*

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