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Gas-fired instantaneous water heaters for the production of domestic hot water

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. 09/15

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EUROPEAN STANDARD **EN 26**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 91.140.10

Supersedes EN 26:1997

English Version

Gas-fired instantaneous water heaters for the production of domestic hot water

Appareils de production instantanée d'eau chaude pour usages sanitaires utilisant les combustibles gazeux

Gasbeheizte Durchlauf-Wasserheizer für den sanitären Gebrauch

This European Standard was approved by CEN on 29 November 2014.

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

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Foreword

This document (EN 26:2015) has been prepared by Technical Committee CEN/TC 48 “Domestic gas-fired water heaters”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by November 2015 and conflicting national standards shall be withdrawn at the latest by November 2015.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 supersedes EN 26:1997.

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, Annex ZB or Annex ZC, which are integral parts of this document.

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).

This document deals with:

— safety;

— rational use of energy;

— fitness for purpose.

It gives specific requirements or disposals relative to:

— requirements and test methods for type C water heaters with a fan incorporated in the combustion air supply circuit or in the combustion products evacuation circuit;

— combustion products evacuation ducts which are part of a water heater;

— condensing water heaters;

— water heaters installed indoors and/or partially protected place;

— requirements and test procedures for resistance to freezing;

— NOx measurement;

— the metallic, plastic and other non-metallic materials that are used in water heaters and which come into contact with water intended for human consumption. It is intended to ensure that products of this kind complying with these requirements meet current technological development and requirements with regard to the service life of the water heaters and their physiological suitability.

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

This European Standard defines the specifications and test methods concerning the construction, safety, rational use of energy and fitness for purpose, and also the classification and marking of gas-fired instantaneous water heaters for sanitary uses, hereafter called “water heaters”.

This European Standard applies to water heaters:

— of types A_{AS}, B_{11}, B_{11BS}, B_{12}, B_{12BS}, B_{13}, B_{13BS}, B_{14}, B_{22}, B_{23}, B_{32}, B_{33}, B_{44}, B_{52}, B_{53}, C_{11}, C_{12}, C_{13}, C_{21}, C_{22}, C_{23}, C_{32}, C_{33}, C_{42}, C_{43}, C_{52}, C_{53}, C_{62}, C_{63}, C_{72}, C_{73}, $C_{82}$and C_{83} according to CEN/TR 1749;

— fitted with atmospheric burners;

— equipped with atmospheric burners assisted by a fan for the supply of combustion air or evacuation of combustion products or fully premix burners;

— using one or more combustible gases corresponding to the three gas families and at the pressures stated in accordance to EN 437;

— of nominal heat input not exceeding 70 kW;

— with an ignition burner or with direct ignition of the main burner.

In this European Standard, the heat inputs are expressed in relation to the net calorific value (H_i).

This European Standard does not contain all the requirements necessary for:

— boiling water appliances;

— appliances intended to be connected to a mechanical means of evacuating the combustion products;

— appliances which fulfil a dual role of space heating and heating water for sanitary use;

— appliances making use of the heat of condensation of the water contained in the combustion products;

— water heaters of types B_{21}, B_{31}, B_{41}, B_{42}, B_{43} and B_{51}.

This European Standard only covers water heaters where the fan, if any, is an integral part of the appliance.

This European Standard:

— does not apply to appliances not intended to be connected to a flue when they are not fitted with an atmosphere sensing device;

— takes account of the information given in Technical Report CR 1472:1994 with respect to marking.

The main symbols used in this European Standard are summarized in Annex F.

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*

EN 125, *Flame supervision devices for gas burning appliances — Thermoelectric flame supervision devices*

EN 126, *Multifunctional controls for gas burning appliances*

EN 161, *Automatic shut-off valves for gas burners and gas appliances*

EN 298:2012, *Automatic burner control systems for burners and appliances burning gaseous or liquid fuels*

EN 437, *Test gases, test pressures, appliance categories*

EN 513, *Unplasticized polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors — Determination of the resistance to artificial weathering*

EN 549, *Rubber materials for seals and diaphragms for gas appliances and gas equipment*

EN 573-1, *Aluminium and aluminium alloys — Chemical composition and form of wrought products — Part 1: Numerical designation system*

EN 1057, *Copper and copper alloys Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 1443, *Chimneys — General requirements*

CEN/TR 1749, *European scheme for the classification of gas appliances according to the method of evacuation of the combustion products (types)*

EN 1856-1:2009, *Chimneys — Requirements for metal chimneys — Part 1: System chimney products*

EN 1856-2, *Chimneys — Requirements for metal chimneys — Part 2: Metal flue liners and connecting flue pipes*

EN 1859:2009+A1:2013, *Chimneys — Metal chimneys — Test methods*

EN 10088-1:2014, *Stainless steels — Part 1: List of stainless steels*

EN 10226-1, *Pipe threads where pressure tight joints are made on the threads — Part 1: Taper external threads and parallel internal threads — Dimensions, tolerances and designation*

EN 13203-1, *Gas-fired domestic appliances producing hot water — Appliances not exceding 70 kW heat input and 300 l water storage capacity — Part 1: Assessment of performance of hot water deliveries*

EN 13216-1, *Chimneys — Test methods for system chimneys — Part 1: General test methods*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13611:2007+A2:2011, *Safety and control devices for gas burners and gas burning appliances — General requirements*

EN 14241-1:2013, *Chimneys — Elastomeric seals and elastomeric sealants — Material requirements and test methods — Part 1: Seals in flue liners*

EN 14459, *Control functions in electronic systems for gas burners and gas burning appliances — Methods for classification and assessment*

EN 14471:2013+A1:2015, *Chimneys — System chimneys with plastic flue liners — Requirements and test methods*

EN 15036-1:2006, *Heating boilers — Test regulations for airborne noise emissions from heat generators — Part 1: Airborne noise emissions from heat generators*

EN 60335-1:2012, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2010, modified)*

EN 60335-2-102, *Household and similar electrical appliances — Safety — Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections (IEC 60335-2-102)*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 60730-2-9, *Automatic electrical controls for household and similar use — Part 2-9: Particular requirements for temperature sensing controls (IEC 60730-2-9)*

EN ISO 178, *Plastics — Determination of flexural properties (ISO 178)*

EN ISO 179-1, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test (ISO 179-1)*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1)*

EN ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles (ISO 527-1)*

EN ISO 527-2, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2)*

EN ISO 1183 (all parts), *Plastics — Methods for determining the density of non-cellular plastics (ISO 1183)*

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes (ISO 3166-1)*

EN ISO 9969, *Thermoplastics pipes — Determination of ring stiffness (ISO 9969)*

ISO 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 262, *ISO general purpose metric screw threads — Selected sizes for screws, bolts and nuts*

ISO 301, *Zinc alloy ingots intended for castings*

ISO 815-1, *Rubber, vulcanized or thermoplastic — Determination of compression set — Part 1: At ambient or elevated temperatures*

ISO 1817, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

ISO 2781, *Rubber, vulcanized or thermoplastic — Determination of density*

ISO 6914, *Rubber, vulcanized or thermoplastic — Determination of ageing characteristics by measurement of stress relaxation in tension*

ISO 7005, *Pipe flanges*

ISO 7619 (all parts), *Rubber, vulcanized or thermoplastic — Determination of indentation hardness*