



SLOVENSKI STANDARD

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Stanovanjske grelne naprave na trdna goriva - 1. del: Splošne zahteve in preskusne metode

Residential solid fuel burning appliances - Part 1: General requirements and test methods

Häusliche Heizgeräte für feste Brennstoffe - Teil 1: Allgemeine Anforderungen und Prüfverfahren

Equipement de chauffage domestique - Partie 1 : Exigences et méthodes d'essai generales

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EUROPEAN STANDARD
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Residential solid fuel burning appliances - Part 1: General requirements and test methods

Équipement de chauffage domestique - Partie 1 :
Exigences et méthodes d'essai générales

Häusliche Heizgeräte für feste Brennstoffe - Teil 1:
Allgemeine Anforderungen und Prüfverfahren

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 295.

If this draft becomes a European Standard, 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.

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COMITÉ EUROPÉEN DE NORMALISATION
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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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prEN 16510-1:2021 (E)**European foreword**

This document (prEN 16510-1:2021) has been prepared by Technical Committee CEN/TC 295 “Residential solid fuel burning appliances”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document partially supersedes EN 12809:2001, EN 12815:2001, EN 13229:2001 and EN 13240:2001 as amended and corrected.

The structure of EN 16510, Residential solid fuel burning appliances, is as follows:

- Part 1: General requirements and test methods;
- Part 2-1: Roomheaters;
- Part 2-2: Inset appliances including open fires;
- Part 2-3: Cookers;
- Part 2-4: Independent boilers — Nominal heat output up to 50 kW;
- Part 2-5: Slow heat release appliances;
- Part 2-6: Mechanically by wood pellets fed roomheaters, inset appliances and cookers.

Other sections of Part 2 will be added to cover residential solid fuel burning appliances not included in parts 2-1 to 2-6.

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EN 16510-1 is used in conjunction with the appropriate Part 2. The Parts 2-1 to 2-6 contain clauses that supplement or modify the corresponding clauses in this Part 1. Part 1 together with the relevant Part 2 provides the requirements for each type of appliance. Regional / national specific regulations (for example on particulate matter emissions) could exist.

1 Scope

This document is applicable to residential solid fuel burning appliances of which the direct heat output is more than 6 % of the combined direct and indirect heat output at nominal heat output.

This document specifies requirements relating to the design, manufacture, construction, safety and performance (efficiency and emission) of appliances fired by solid fuel (hereafter referred to as “appliance(s)”) and provides instructions for them. Furthermore, it also gives provisions for the evaluation of conformity i.e. initial type testing (ITT) and factory production control (FPC) and marking of these appliances.

This document also covers CO, NO_x, OGC and particulate matter (PM) emission test methods, however this document does not contain any values for the limit on these emissions.

This document does cover as well appliances intended to carry the load of a chimney.

Appliances receiving combustion air through ductwork from outside the external envelope, which is not air tight, are not considered roomsealed. This document is not applicable to appliances with boiler parts in contact with fire or flue gases other than when the boiler parts are manufactured from steel or cast iron.

This document is not applicable to appliances with a boiler intended for water systems having:

- water temperatures above 110 °C and/or an operating pressure of more than 3 bar;
- direct contact with sanitary hot water.

This document does not cover appliances to be operated with ventilating systems which are intended to operate with pressure below - 15 Pa in the room of installation of the appliance in relation to the outside atmosphere.

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 303-5:2012, *Heating boilers - Part 5: Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW - Terminology, requirements, testing and marking*

EN 1561:2011, *Founding - Grey cast irons*

EN 1563:2018, *Founding — Spheroidal graphite cast irons*

EN 10025-1, *Hot rolled products of structural steels - Part 1: General technical delivery conditions*

EN 10027-2, *Designation systems for steels - Part 2: Numerical system*

EN 10028-2, *Flat products made of steels for pressure purposes - Part 2: Non-alloy and alloy steels with specified elevated temperature properties*

EN 10028-3, *Flat products made of steels for pressure purposes - Part 3: Weldable fine grain steels, normalized*

EN 10029:2010, *Hot-rolled steel plates 3 mm thick or above - Tolerances on dimensions and shape*

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

EN 10088-2, *Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes*

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EN 10111, *Continuously hot rolled low carbon steel sheet and strip for cold forming - Technical delivery conditions*

EN 10120, *Steel sheet and strip for welded gas cylinders*

EN 10216-1, *Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 10222-4, *Steel forgings for pressure purposes - Part 4: Weldable fine grain steels with high proof strength*

EN 12619, *Stationary source emissions - Determination of the mass concentration of total gaseous organic carbon - Continuous flame ionisation detector method*

EN 12828, *Heating systems in buildings — Design for water-based heating systems*

EN 13384-2, *Chimneys — Thermal and fluid dynamic calculation methods — Part 2: Chimneys serving more than one heating appliance*

EN 14597, *Temperature control devices and temperature limiters for heat generating systems*

EN 14792, *Stationary source emissions - Determination of mass concentration of nitrogen oxides - Standard reference method: chemiluminescence*

EN 14793, *Stationary source emissions - Demonstration of equivalence of an alternative method with a reference method*

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EN 15456, *Heating boilers - Electrical power consumption for heat generators - System boundaries - Measurements*

EN 15804, *Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products*

EN 60335-2-102:2016, *Household and similar electrical appliances - Safety - Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections (IEC 60335-2-102:2004)*

EN 60730-1, *Automatic electrical controls for household and similar use - Part 1: General requirements (IEC 60730-1)*

EN ISO 228-1:2003, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

EN ISO 228-2:2003, *Pipe threads where pressure-tight joints are not made on the threads - Part 2: Verification by means of limit gauges (ISO 228-2:1987)*

EN ISO 9606-1, *Qualification testing of welders - Fusion welding - Part 1: Steels (ISO 9606-1)*

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

EN ISO 16948:2015, *Solid biofuels - Determination of total content of carbon, hydrogen and nitrogen (ISO 16948:2015)*

EN ISO 16994:2016, *Solid biofuels - Determination of total content of sulfur and chlorine (ISO 16994:2016)*

EN ISO 18122:2015, *Solid biofuels - Determination of ash content (ISO 18122:2015)*

EN ISO 18123:2015, *Solid biofuels - Determination of the content of volatile matter (ISO 18123:2015)*

EN ISO 18125:2017, *Solid biofuels - Determination of calorific value (ISO 18125:2017)*

EN ISO 18134-1:2015, *Solid biofuels - Determination of moisture content - Oven dry method - Part 1: Total moisture - Reference method (ISO 18134-1:2015)*

IEC 62301, *Household electrical appliances - Measurement of standby power*

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 7-2:2000, *Pipe threads where pressure-tight joints are made on the threads — Part 2: Verification by means of limit gauges*

ISO 331:1983,¹ *Coal — Determination of moisture in the analysis sample — Direct gravimetric method*

ISO 334:2020, *Solid mineral fuels — Determination of total sulfur — Eschka method*

ISO 501:2012, *Hard coal — Determination of the crucible swelling number*

ISO 562:2010, *Hard coal and coke — Determination of volatile matter*

ISO 609:1996, *Solid mineral fuels — Determination of carbon and hydrogen — High temperature combustion method*

ISO 687:2010, *Solid mineral fuels — Coke — Determination of moisture in the general analysis test sample*

ISO 1171:2010, *Solid mineral fuels — Determination of ash*

ISO 1928:2020, *Solid mineral fuels — Determination of gross calorific value by the bomb calorimetric method and calculation of net calorific value*

ISO 10849:1996, *Stationary source emissions — Determination of the mass concentration of nitrogen oxides — Performance characteristics of automated measuring systems*

ISO 19579:2006, *Solid mineral fuels — Determination of sulfur by IR spectrometry*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

¹ ISO 331:1983 is withdrawn.