



SLOVENSKI STANDARD
oSIST prEN 16510-2-2:2021
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Stanovanjske grelne naprave na trdna goriva - 2-2. del: Kaminski vložki, vključno odprti kamini na trdna goriva

Residential solid fuel burning appliances - Part 2-2: Inset appliances including open fires

Häusliche Heizgeräte für feste Brennstoffe - Teil 2-2: Kamineinsätze einschließlich offene Kamine

iTeh STANDARD PREVIEW

Equipement de chauffage domestique - Partie 2-2 : Foyers ouverts et insert

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Ta slovenski standard je istoveten z: prEN 16510-2-2

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ICS:

97.100.30 Grelniki na trdo gorivo Solid fuel heaters

oSIST prEN 16510-2-2:2021

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English Version

Residential solid fuel burning appliances - Part 2-2: Inset appliances including open fires

Équipement de chauffage domestique - Partie 2-2 :
Foyers ouverts et insert

Häusliche Heizgeräte für feste Brennstoffe - Teil 2-2:
Kamineinsätze einschließlich offene Kamine

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

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prEN 16510-2-2:2021 (E)**European foreword**

This document (prEN 16510-2-2:2021) 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 together with EN 16510-1:2021 will supersede EN 13229:2001 as amended and corrected.

This document has been prepared under a standardization request given to CEN/CENELEC by the European Commission and the European Free Trade Association.

For relationship with (EU) Regulation 305/2011, see informative Annex ZA, which is an integral part of this document.

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.

This Part 2-2 supplements or modifies the corresponding clauses in prEN 16510-1:2021, so as to convert that publication into the European Standard: *Residential solid fuel burning appliances – Requirements and test methods for roomheaters.*

This document is expected to be used in conjunction with prEN 16510-1:2021. This document refers to Clauses of prEN 16510-1:2021 or adapts Clauses by stating “with the following modification”, “with the following addition”, “is replaced by the following” or “shall not be applicable” in the corresponding Clause. This document adds Clauses or Subclauses to the structure of prEN 16510-1:2021 which are particular to this document.

Subclauses and Figures which are additional to those in prEN 16510-1:2021 are numbered starting with 201. Annexes which are additional to those in prEN 16510-1:2021 are numbered starting with BA.

1 Scope

This document is applicable to hand fed solid fuel fired inset appliances, with or without functional modification, that operate without firedoors or operate with fire doors either as closed only or as closed or open, and also includes open fires fired by solid fuel. The surround of these appliances are integrated with the building with the exception of free-standing appliances and those inset appliances which are installed into a fireplace recess or enclosure. These appliances provide heat into the space where they are installed. Additionally, where fitted with a boiler, they also provide domestic hot water and/or central heating.

These appliances can burn one or more types of the following solid fuels in accordance with the appliance manufacturer's instructions:

- wood logs;
- compressed untreated wood;
- wood pellets;
- lignite briquettes;
- solid mineral fuels;
- peat briquettes.

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This document also covers 'Kachelofen' and 'Putzofen' inset appliances, having nominal heat outputs up to 15 kW.

This document is not applicable to appliances with fan assisted combustion air or appliances that are mechanically fed.

Open fireplace components such as a bottom grate with associated firefront which the manufacturer supplies for installation into an existing heat resistant, insulated firebox are not covered by this document.

This document is used in conjunction with prEN 16510-1:2021 of which it is an integral part.

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.

prEN 16510-1:2021, Residential solid fuel burning appliances - Part 1: General requirements and test methods

3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 16510-1:2021 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/>

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4 Descriptive features

prEN 16510-1:2021, Clause 4, shall be applicable with the following modifications.

4.4.5 Flueways

prEN 16510-1:2021, 4.4.5, shall be applicable with the following modification.

Addition after 1st paragraph:

For Kachelöfen or Putzöfen inset appliances the flueways shall be tight and shall have tight cleaning openings, which allow a proper cleaning. Metal flueways shall be made of steel as given in prEN 16510-1:2021, Table 3, with a minimum thickness of 2 mm or cast iron as given in prEN 16510-1:2021, Table 4, with a thickness of 4 mm or of austenitic stainless steel with a thickness of 1 mm. Fireclay bricks, plates or components of flueways shall withstand all mechanical, chemical and thermal stresses under normal operation conditions.

4.4.7 Ashpan and ash removal

prEN 16510-1:2021, 4.4.7, shall be applicable with the following modification.

Addition after 1st paragraph:

Kachelöfen or Putzöfen inset appliances designed to burn coal as well as wood shall be equipped with an ashpan having a minimum volume capacity of 0,8 dm³ per kW of nominal heat output. For Kachelöfen' or Putzöfen' insets which are specifically designed to burn wood logs and wood briquettes, and if they are equipped with an ashpan, the minimum volume capacity of this ashpan shall be 0,5 dm³ per kW of nominal heat output.

4.4.8 Bottomgrate

prEN 16510-1:2021, 4.4.8, shall be applicable with the following modification.

Addition after 1st paragraph:

Grate devices fitted to Kachelöfen or Putzöfen inset appliances shall be easy to de-ash without undue effort.

5 Appliance Performance requirements in relation to safety

prEN 16510-1:2021, Clause 5, shall be applicable.

6 Appliances Performance requirements in relation to the appliance operation

prEN 16510-1:2021, Clause 6, shall be applicable with the following modification.

6.4.1 General

prEN 16510-1:2021, 6.4.1, shall be applicable with the following modification.

Addition after 1st paragraph:

For Kachelöfen and Putzöfen inset appliances the manufacturer's declared efficiency value shall be equal to or exceed 75 %.

For open fires without boiler the manufacturer's declared efficiency value shall be equal to or exceed 30 %.

For open fires with boiler the manufacturer's declared efficiency value shall be equal to or exceed 50 %.

For all other inset appliances that operate with firedoors closed the manufacturer's declared efficiency value shall be equal to or exceed 65 %.

6.7 Refuelling intervals

prEN 16510-1:2021, 6.7, shall be applicable with the following modification.

Replacement of Table 12:

Table 12 — Minimum refuelling intervals

Appliance type	Test fuel type (as detailed in Table B.1)	Minimum refuelling interval	
		Appliance without firedoors	Appliance with firedoors closed
At nominal heat output			
Continuous burning appliance	Wood logs, lignite briquettes or peat briquettes	no requirements	1,5 h
	All other test fuels	1,5 h	4 h
Intermittent burning appliance	Wood logs, lignite briquettes or peat briquettes	no requirements	40 min
	All other test fuels	no requirements	1 h
Kachelöfen or Putzöfen inset appliance	Wood logs, lignite briquettes or peat briquettes	not applicable	(90^{+10}_{-20}) min
	All other test fuels	not applicable	4 h
At slow combustion			
Continuous burning appliance	Wood logs, lignite briquettes or peat briquettes	no requirements	3 h
	All other test fuels	10 h	12 h
Intermittent burning appliance	Wood logs, lignite briquettes or peat briquettes	no requirements	no requirements
	All other test fuels	10 h	10 h
Kachelöfen or Putzöfen inset appliance	Wood logs, lignite briquettes or peat briquettes	not applicable	burning rate to achieve (50 ± 10) % of nominal heat output
	All other test fuels	not applicable	burning rate to achieve at least 12 h

Addition of the following new subclauses:

6.201 Accumulation heat output for Kachelöfen or Putzöfen inset appliances

The accumulation heat output shall be in accordance with the heat released when burning the test fuel load in kg given by the manufacturer when tested in accordance with A.4.201.

6.202 Cut-off device for appliances without doors

If a cut-off device is fitted to an appliance without doors, it shall be able to separate the flueway of the appliance to the chimney. The cut-off device shall not hinder control or cleaning of the connecting parts, and the device shall maintain the position in which it is set.

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The marking of the position of the operating handle shall enable identification of the position of the cut-off device. The cut-off device shall only be installed into the flue gas collector, flue spigot or flue gas connector. The cut-off device shall only be used when the appliance is out to prevent heat loss from the room via the chimney and to prevent the fall of soot into the room when the chimney is swept.

6.203 Temperature at air grilles for Kachelöfen or Putzöfen inset appliances

For the test in compliance with A.4.7 and A.4.201 the temperature recorded at the central flow at a distance of 15 cm from outside of the air grilles shall not be greater than 85 °C when referenced to an ambient temperature of 25 °C.

7 Appliance instructions

prEN 16510-1:2021, Clause 7, shall be applicable.

8 Sustainable use of natural resources

prEN 16510-1:2021, Clause 8, shall be applicable.

9 Assessment and verification of constancy of performance - AVCP

prEN 16510-1:2021, Clause 9, shall be applicable.

10 Marking and technical datasheet

prEN 16510-1:2021, Clause 10, shall be applicable.

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Annex A (normative)

Test methods

A.1 Test environment

prEN 16510-1:2021, A.1, shall be applicable.

A.2 Test assembly

prEN 16510-1:2021, A.2, shall be applicable.

A.3 Measurement equipment

prEN 16510-1:2021, A.3, shall be applicable.

A.4 Test procedures

prEN 16510-1:2021, A.4, shall be applicable with the following modifications.

A.4.7 Performance test at nominal heat output

prEN 16510-1:2021, A.4.7, shall be applicable with the following modifications.

A.4.7.1 General

prEN 16510-1:2021, A.4.7.1, shall be applicable with the following modifications.

Addition before 1st paragraph:

In the case of Kachelöfen or Putzöfen inset appliances the performance test at nominal heat output shall consist of three parts:

- an ignition and a dry heating, if the appliance is made of ceramic materials;
- pre-test(s) period(s);
- a test period.

The dry heating period shall be of sufficient duration to ensure that the water content of ceramic materials does not affect the results of the weighing during the test period.

NOTE A dry heating period of 10 h or more is typical.

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Replacement of Table A.2:

Table A.2 — Minimum duration and minimum number of cycles

Appliance	Fuel	cycles (1 batch)	
		Minimum duration	Minimum number
At nominal heat output			
Continuous burning	Wood	1,5 h	3
Continuous burning	Lignite briquettes and peat briquettes	1,5 h	2
Continuous burning	All other solid mineral fuel	4 h	2
Intermittent burning	Wood	40 min	3
Intermittent burning	Lignite briquettes and peat briquettes	40 min	2
Intermittent burning	All other solid mineral fuel	1 h	2
At part load heat output			
Continuous burning	Wood	-	3
Continuous burning	Lignite briquettes and peat briquettes	-	2
Continuous burning	All other solid mineral fuel	-	2
Intermittent burning	Wood	-	3
Intermittent burning	Lignite briquettes and peat briquettes	-	2
Intermittent burning	All other solid mineral fuel	-	2
At slow combustion			
Continuous burning	Wood, lignite briquettes, peat briquettes	3 h	1
Continuous burning	All other solid mineral fuel	12 h	1
Intermittent burning	Wood, lignite briquettes, peat briquettes	No requirement	
Intermittent burning	All other solid mineral fuel	10 h	1

A.4.7.3 Test period

prEN 16510-1:2021, A.4.7.3, shall be applicable with the following modification.

Addition before 5th paragraph:

In the case of Kachelöfen or Putzöfen inset appliances also measure and record the temperature of the test surround and at the air grilles either continuously or at regular intervals of not more than 1 min to ensure that the maximum temperatures achieved are recorded.

A.4.8 Part load heat output test

prEN 16510-1:2021, A.4.8, shall be applicable.

A.4.9 Slow combustion and recovery test

prEN 16510-1:2021, A.4.9, shall be applicable with the following modifications.