



SLOVENSKI STANDARD
SIST EN 13229:2003/A1:2004
01-januar-2004

**Odpri kamini in kaminski vložki na trdna goriva - Zahteve in preskusne metode -
Dopolnilo A1**

Inset appliances including open fires fired by solid fuels - Requirements and test methods

Kamineinsätze einschließlich offene Kamine für feste Brennstoffe - Anforderungen und Prüfung

Foyers ouverts et inserts a combustibles solides - Exigences et méthodes d'essai

[SIST EN 13229:2003/A1:2004](https://standards.iteh.ai/catalog/standards/sist/58973cc6-ae2a-4d21-8654-655945cc3a05/sist-en-13229-2003-a1-2004)

Ta slovenski standard je istoveten z: **EN 13229:2001/A1:2003**

ICS:

97.100.30 Grelniki na trdo gorivo Solid fuel heaters

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ICS 97.100.30

English version

Inset appliances including open fires fired by solid fuels - Requirements and test methods

Foyers ouverts et inserts à combustibles solides -
Exigences et méthodes d'essai

Kamineinsätze einschließlich offene Kamine für feste
Brennstoffe - Anforderungen und Prüfung

This amendment A1 modifies the European Standard EN 13229:2001; it was approved by CEN on 6 December 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This amendment 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN 13229:2001/A1:2003) has been prepared by Technical Committee CEN/TC 295 "Residential solid fuel burning appliances", the secretariat of which is held by BSI.

This Amendment to the European Standard EN 13229:2001 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2003, and conflicting national standards shall be withdrawn at the latest by September 2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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1 Contents list

Delete the existing title of Table 11 and replace with the following:-

“Minimum refuelling intervals or burning rate at slow or reduced combustion”.

Insert the titles of the following new figures after Figure A.12 and before Figure B.1:-

A.13 Test assembly of Kachelöfen or Putzöfen inset appliances for heating tests

A.14 Test surround for Kachelöfen or Putzöfen inset appliances”

2 Clause 1 Scope

Insert a new paragraph 3 as follows:-

“This standard also covers ‘Kachelöfen’ and ‘Putzöfen’ inset appliances, having nominal heat outputs up to 15 kW in accordance with category Ic of table 1.”

3 Clause 2 Normative references

Add the following additional reference:-

DIN 51060:1975 Refractory ceramic products and construction materials – Terms and definitions

4 Clause 3 Terms and definitions SIST EN 13229:2003/A1:2004

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3.1 Appliances

Insert the following new definition after 3.1.9:

3.1.10

“Kachelöfen” or “Putzöfen” inset

appliance consisting of a heat generator connected to a heat-exchanger forming the flueway and surrounded by an enclosure. The ‘Kachelöfen’ and ‘Putzöfen’ inset appliance may be fitted with a thermostat to automatically control the room temperature

3.2 Functional characteristics

Delete the existing 3.2.13 and replace with the following:

3.2.13

nominal heat output

total heat output of the appliance without accumulation quoted by the manufacturer and achieved under defined test conditions when burning the specified test fuel

Insert the following new definitions after 3.2.29:

3.2.30

heat output

quantity of useful heat released by the appliance

3.2.31

accumulation heat output

quantity of useful heat released by an appliance with accumulator (i.e. the heat output from both the appliance and the accumulator) when burning the test fuel load stated by the manufacturer and achieved under defined test conditions in accordance with this standard (see A.4.10)

3.3 Characteristics

Insert the following new definitions after 3.3.35:

3.3.36

accumulator

that part of the appliance forming the flueway consisting of ceramic materials and designed for accumulation of the heat released by the heat generator

3.3.37

accumulator load

quantity of heat which the fuel provides to the appliance for accumulation

3.3.38

Firedoor window

window through which the fire can be observed

3.3.39

Heat exchanger

device connected to the heat generator by a flue gas pipe which extends the heat surface and may be used as an accumulator

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3.3.40

heat generator

component of an inset in which the fuel is burned

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3.3.41

heat generator flue spigot

part of the heat generator for connecting the flue gas pipe (see figure A.13)

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3.3.42

automatically operated inset

inset equipped with a temperature thermostat to adjust output and room temperature and, if applicable, with control devices operated by auxiliary energy

3.3.43

room temperature thermostat

device designed to keep nearly steady the manually set room temperature

5 Clause 4 Materials, design and construction

4.5 Flueways

Delete the existing 4.5 and replace with the following:

4.5 Flueways

4.5.1 Kachelöfen or Putzöfen inset appliances

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 Table 2 with a minimum thickness of 2 mm or cast iron as given in Table 5 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 comply with DIN 51060.

4.5.2 All other appliance types

It shall be possible to clean the flueways of the appliance completely using commercially available tools or brushes, unless special cleaning tools or brushes are provided by the manufacturer. The size of the flueway in its minimum dimension shall be not less than 30 mm except that where fuels other than bituminous coal are burned it shall be permissible to reduce it to not less than 15 mm provided an access door(s) is provided for cleaning the flueway.

4.10 Bottomgrate

Insert a new paragraph 2 after the NOTE as follows:-

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

4.12 Ashpan

Insert a new paragraph 2 before the NOTE as follows:-

“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.”

6 Clause 5 Safety

New sub-clauses 5.9 and 5.10

Insert two new sub-clauses after 5.8 as follows:-

5.9 Size of the firedoor window for Kachelöfen or Putzöfen inset appliances

The area of the firedoor window for Kachelöfen or Putzöfen inset appliances shall not be greater than 600 cm². Interrupted firedoor windows shall be considered as being connected. Where there are several firedoor windows, the different areas shall be added together.

5.10 Temperature at air grilles for Kachelöfen or Putzöfen inset appliances

For the test in compliance with A.4.7 and A.4.10 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 Clause 6 Performance

6.1 Flue Draught

Insert a new sub-clause after 6.1.2 as follows:-

6.1.3 Kachelöfen or Putzöfen inset appliances

The following flue draughts shall be met during the appropriate test:

For the test at nominal heat output, the test of heat output for accumulation, the safety-test with fir timber and the recovery test the flue draught shall be (15 ± 2) Pa.

For the slow combustion test the flue draught shall be (7 ± 2) Pa.

6.3 Carbon monoxide emission classes for appliances with closed doors

Delete the existing 6.3 and replace with the following:

6.3 Carbon monoxide emission for appliances with closed doors

6.3.1 Carbon monoxide emission for Kachelöfen or Putzöfen inset appliances

When tested in accordance with in A.4.7 and A.4.10 the mean carbon monoxide content of the dry flue gas shall not exceed 0,2 % related to 13 % O₂ when the test fuels corresponding to Table B.1 are burned.

6.3.2 Carbon monoxide emission classes for all other appliances with closed doors

When measured in accordance with A.4.7, the mean carbon monoxide concentration calculated to 13 % oxygen (O₂) content in the flue gas shall meet the limit values for the appropriate CO class for the appliance as given in Table 8.

NOTE In some countries national laws also require limits for particulate and organic compound emissions, emissions under slow and reduced combustion conditions and for weighted values for emissions to be used. In some countries clean air legislation is based upon the use of authorised fuels.

Table 8 - Carbon monoxide emission classes

Appliance CO class	Appliances with closed doors
	CO emission class limits (at 13 % O ₂) (standards.iteh.ai) %
Class 1	$\leq 0,3$
Class 2	$> 0,3 \leq 1,0$

6.4 Efficient energy utilization

Delete the existing 6.4 and replace with the following:

6.4 Efficient energy utilization

6.4.1 General

When the appliance is operated as specified by the manufacturer, burning the specified test fuels representing the recommended fuels listed in the appliance operating instructions, it shall meet the requirements of 6.4.2 or 6.4.3 as appropriate to the appliance type.

6.4.2 Efficiency at nominal heat output for Kachelöfen or Putzöfen inset appliances

The efficiency shall be not less than 75 % when tested in accordance with the test conditions in A.4.7.

6.4.3 Efficiency at nominal heat output for all other appliance types

When tested in accordance with A.4.7 the measured total efficiency from the mean of at least two test results at nominal heat output shall meet the limit values for the appropriate efficiency class given in table 9.

NOTE In some countries national laws require limits for minimum efficiency under slow and reduced combustion conditions and for weighted values for efficiency to be used.

Table 9 - Efficiency classes at nominal heat output

Appliance efficiency class	Appliances with closed doors
	Efficiency class limits %
Class 1	≥ 70
Class 2	≥ 60 to < 70
Class 3	≥ 50 to < 60
Class 4	≥ 30 to < 50

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6.5 Refuelling intervals at nominal heat output

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Delete the existing Table 10 and replace with the following:

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Table 10 - Minimum refuelling intervals at nominal heat output

Appliance type	Test fuel type (as detailed in Table B1)	Minimum refuelling intervals	
		Firedoors open	Firedoors closed
Continuous burning appliance	Wood logs or peat briquettes	no requirements	1 h
	All other test fuels	1,5 h	4 h
Intermittent burning appliance	Wood logs or peat briquettes	no requirements	0,75 h
	All other test fuels	no requirements	1 h
Kachelöfen or Putzöfen inset appliance	Wood logs or peat briquettes	Not applicable	90 ⁺¹⁰ ₋₂₀ min
	All other test fuels	Not applicable	≥ 4 h

6.6 Nominal heat output

Delete the existing 6.6 and replace with the following:

6.6 Nominal heat output

6.6.1 Nominal heat output for Kachelöfen or Putzöfen inset appliances

The value of nominal heat output declared by the manufacturer shall not be greater than the measured heat output value obtained during the test in accordance with A.4.7. This value shall be rounded to a multiple of 0,5 kW.

6.6.2 Nominal heat output for all other appliance types

The mean value of the measured heat outputs obtained during the test in accordance with A.4.7 shall be equal to or greater than the nominal heat outputs declared by the manufacturer.

6.9 Refuelling intervals at slow or reduced combustion

Delete the existing Table 11 and replace with the following:

Table 11 - Minimum refuelling intervals or burning rate at slow or reduced combustion

Appliance type	Test fuel type (as detailed in Table B1)	Minimum refuelling interval or burning rate	
		Firedoors open	Firedoors closed
Continuous burning appliance	Wood logs or peat briquettes	no requirements	3 h
	All other test fuels	10 h	12 h
Intermittent burning appliance	Wood logs or peat briquettes	no requirements	no requirements
	All other test fuels	10 h	10 h
Kachelöfen or Putzöfen inset appliance	Wood logs 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

New sub-clause 6.12

Insert a new sub-clause after 6.11 as follows:-

6.12 Accumulator heat input for Kachelöfen or Putzöfen inset appliances

The accumulator heat input 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.4.10.

8 Clause 7 Appliance instructions

7.1 Installation instructions

The following new indents shall be added at the end of 7.1:

- instructions for the installation of the accumulator (dimensions, assembly) and parameters for calculation;
- accumulator heat input.

7.2 User operating instructions

The following new indents shall be added at the end of 7.2:

- instructions for use of the accumulator.

9 Clause 8 Marking

The following new text shall be added at the end of clause 8:

“The data plate shall identify the category of construction type for Kachelöfen or Putzöfen inset appliances as follows:

- a) inset designed for the burning of coal products only: Inset EN 13229 – C ;
- b) inset designed for the burning of wood only: Inset EN 13229 – W ;
- c) inset designed for burning both wood and coal: Inset EN 13229 – CW ;

Inset appliances with accumulation shall bear the supplementary letter “A” as follows:

- d) inset with accumulation designed for burning both wood and coal: Inset EN 13229 – CWA.”

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10 Annex A

A.2 Test assembly

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Delete the existing sub-clause A.2 and replace with the following:

A.2 Test assembly

A.2.1 General

In the case of Kachelöfen or Putzöfen inset appliances the test assembly shall consist of the test appliance installed in accordance with the appliance manufacturer's installation instructions into a test surround as specified in A.2.2, mounted on a platform scale that enables the fuel consumption to be measured such that the accuracy requirements specified in A.3 are met. The appliance shall be positioned so that the sides facing the walls of the test surround are at the manufacturer's minimum declared distance from the thermal insulation or radiation protection.

For all other appliance types the test assembly shall consist of the test appliance installed according to the manufacturer's installation instructions into a trihedron in accordance with A.2.3, mounted on a platform scale that enables the fuel consumption to be measured such that the accuracy requirements specified in A.3 are met.

NOTE The appliance should be installed either directly into the trihedron in the case of a free standing appliance, or in an arrangement simulating the construction specified by the appliance manufacturer in the case of inset appliances other than Kachelöfen or Putzöfen inset appliances.

The appliance shall be positioned so that the sides facing the trihedron walls are at the manufacturer's minimum declared distance from combustible material.

A measurement section constructed in accordance with A.2.4 shall be provided with means for determining the flue gas temperature in accordance with A.2.4.2, the flue gas composition in accordance with A.2.4.3 and the applied flue draught in accordance with A.2.4.4. The appliance flue spigot/socket shall be connected by means of an un-insulated flue gas connector and an insulated flue gas adapter to the measurement section in accordance with A.2.5.

The flue gases shall be extracted from the top of the measurement section and a means of adjustment shall be provided to enable a constant flue draught pressure as specified in the relevant test procedures to be maintained in the measurement section (e.g. by an extraction fan).