

## საქართველოს სტანდარტი

სსკ: 97.100.30

საცხოვრებელი მყარი საწვავის წვის მოწყობილობები - ნაწილი 2-1: ოთახის  
გამათბობლები

სსტ ენ 16510-2-1:2022/2023

საინფორმაციო მონაცემები

1 მიღებულია და დაშვებულია სამოქმედოდ: სსიპ-საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს გენერალური დირექტორის 09/10/2023 წლის № 83 განკარგულებით

2 მიღებულია „თავფურცლის“ თარგმნის მეთოდით: სტანდარტიზაციის ევროპული კომიტეტის (სენ) სტანდარტი ენ 16510-2-1:2022 „საცხოვრებელი მყარი საწვავის წვის მოწყობილობები - ნაწილი 2-1: ოთახის გამათბობლები“

3 პირველად

4 რეგისტრირებულია: სსიპ-საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 09/10/2023 წლის №268-1.3-030888

წინამდებარე სტანდარტის ნებისმიერი ფორმით გავრცელება სააგენტოს ნებართვის გარეშე აკრძალულია

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

EUROPEAN STANDARD

EN 16510-2-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2022

ICS 97.100.30

Supersedes EN 13240:2001

English Version

## Residential solid fuel burning appliances - Part 2-1: Roomheaters

Appareils de chauffage domestiques à combustible  
solide - Partie 2-1 : Poêles

Häusliche Feuerstätten für feste Brennstoffe - Teil 2-1:  
Raumheizer

This European Standard was approved by CEN on 23 October 2022.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

**Contents**

Page

European foreword..... 4

1 Scope ..... 6

2 Normative references ..... 6

3 Terms and definitions ..... 6

4 Characteristics ..... 7

4.1 Load bearing capacity..... 7

4.2 Protection of combustible materials..... 7

4.3 Carbon monoxide emission (CO)..... 8

4.4 Nitrogen oxides (NO<sub>x</sub>) emissions ..... 8

4.5 Emission of organic gaseous compounds (OGC) ..... 9

4.6 Particulate matter (PM) emissions..... 9

4.7 Safety and accessibility in use ..... 10

4.7.1 General..... 10

4.7.2 Flue gas outlet temperature at nominal heat output ..... 10

4.7.3 Flue gas outlet temperature at part load heat output..... 10

4.7.4 Minimum flue draught at nominal heat output..... 10

4.7.5 Minimum flue draught at part load heat output ..... 10

4.7.6 Flue gas mass flow at nominal heat output..... 10

4.7.7 Flue gas mass flow at part load heat output ..... 10

4.7.8 Fire safety of installation to the chimney ..... 11

4.8 Energy economy and heat retention ..... 11

4.8.1 Space heat output at nominal heat output..... 11

4.8.2 Water heat output, if existing at nominal heat output..... 11

4.8.3 Efficiency at nominal heat output ..... 11

4.8.4 Space heat output at part load heat output ..... 11

4.8.5 Water heat output, if existing at part load heat output..... 12

4.8.6 Efficiency at part load heat output..... 12

4.8.7 Seasonal space heating efficiency at appliance’s nominal heat output..... 12

4.8.8 Energy efficiency ..... 12

4.8.9 Electric power consumption at nominal heat output, if existing..... 13

4.8.10 Electric power consumption at part load heat output, if existing ..... 13

4.8.11 Standby mode power consumption, if existing ..... 13

4.9 Environmental sustainability ..... 13

5 Descriptive features..... 15

5.1 Data for potential use with room ventilation systems: type of appliance (in relation to its tightness to the room) ..... 15

5.2 Data for the building’s statics: appliance’s mass ..... 15

5.3 Materials and construction elements ..... 15

5.3.1 General..... 15

5.3.2 General stresses..... 15

5.3.3 Integral boiler or heat exchanger ..... 15

5.4 Risk of burning fuel falling out..... 15

5.5 Temperature rise in the fuel storage ..... 16

5.6 Temperature rise of the operating components..... 16

5.7 Spillage of flue gases into the room ..... 16

5.7.1 Possible spillage of CO, if relevant for the fuel type..... 16

5.7.2 Open operation ..... 16

5.8 Cleanability..... 16

საინფორმაციო ნაწილი. სრული ტექსტის სახსრავად შეიძინეთ სტანდარტი.

5.8.1	Heating surfaces.....	16
5.8.2	Flueways .....	16
5.8.3	Ashpan .....	16
5.8.4	Bottomgrate.....	16
5.8.5	Damper .....	16
5.8.6	Fan-cut-out-device .....	16
5.9	Strength and leak tightness of boiler shells.....	16
6	Assessment and verification of constancy of performance - AVCP .....	17
6.1	General .....	17
6.2	Assessment of performance.....	17
6.2.1	General .....	17
6.2.2	Test samples, testing and compliance criteria.....	18
6.3	Verification of constancy of performance.....	19
6.3.1	Factory production control (FPC).....	19
Annex A	(normative) Test methods .....	24
A.1	Test environment .....	24
A.2	Test assembly.....	24
A.3	Measurement equipment.....	24
A.4	Test procedures .....	24
A.5	Test results.....	25
A.6	Calculation methods .....	25
A.7	Test report .....	25
Annex ZA	(informative) Relationship of this European Standard with Regulation (EU) No. 305/2011.....	26
ZA.1	Scope and relevant characteristics .....	26
ZA.2	System of Assessment and Verification of Constancy of Performance (AVCP) .....	29
ZA.3	Assignment of AVCP tasks .....	29

## European foreword

This document (EN 16510-2-1:2022) has been prepared by Technical Committee CEN/TC 295 “Residential solid fuel burning appliances”, the secretariat of which is held by BSI.

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 June 2023, and conflicting national standards shall be withdrawn at the latest by November 2025.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13240:2001 as amended and corrected. In relation to EN 13240:2001 as amended and corrected the following changes have been made:

- measurement methods for NO<sub>x</sub>, hydrocarbon and particulate matter emissions for solid fuel burning appliances;
- specifications for classification of solid fuel burning appliances and system boundaries for room sealed appliances;
- requirements for the safety of solid fuel burning appliances with water-bearing components added;
- Annex ZA updated according to requirements of M/577;
- energy efficiency and energy class labelling and seasonal space heating efficiency added;
- requirements for environmental sustainability added.

This document has been prepared under a standardization request given to CEN 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.

საინფორმაციო ნაწილი. სრული ტექსტის სანახავად შეიძინეთ სტანდარტი.

Subclauses and Figures which are additional to those in EN 16510-1:2022 are numbered starting with 101. Annexes which are additional to those in EN 16510-1:2022 are numbered starting with AA.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.