

საქართველოს სტანდარტი

საკონტროლო და უსაფრთხოებისა ხელსაწყოები გაზეურების და აირზე
მომუშავე მოწყობილობების - ზოგადი მოთხოვნები

საქართველოს სტანდარტებისა და მეტროლოგიის
ეროვნული სააგენტო
თბილისი

სსტ ენ 13611:2007+A2:2011/2013

საინფორმაციო მონაცემები

1 შემუშავებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ

2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2013 წლის 11 ნოემბრის № 84 განკარგულებით

3 მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 13611:2007+A2:2011 „საკონტროლო და უსაფრთხოებისა ხელსაწყოები გაზქურების და აირზე მომუშავე მოწყობილობების - ზოგადი მოთხოვნები”

4 პირველად

5 რეგისტრირებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2013 წლის 11 ნოემბერი №268-1.3-5626

წინამდებარე სტანდარტის სრული ან ნაწილობრივი აღწარმოება, ტირაჟირება და გავრცელება საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე არ დაიშვება

English Version

Safety and control devices for gas burners and gas burning appliances - General requirements

Équipements auxiliaires pour brûleurs à gaz et appareils à gaz - Exigences générales

Sicherheits-, Regel- und Steuereinrichtungen für Gasbrenner und Gasgeräte - Allgemeine Anforderungen

This European Standard was approved by CEN on 7 October 2007 and includes Amendment 1 approved by CEN on 5 June 2011 and Amendment 2 approved by CEN on 29 July 2011.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword..... 3

1 **Scope** 5

2 **Normative references** 5

3 **Terms and definitions**..... 7

4 **Classification**..... 11

5 **Units of measurement and test conditions** 12

6 **Construction requirements**..... 13

7 **Performance** 23

8 **EMC/Electrical requirements** 34

9 **Marking, installation and operating instructions** 41

Annex A (informative) **Gas connections in common use in the various countries**..... 42

Annex B (informative) **Leak-tightness test – volumetric method**..... 43

Annex C (informative) **Leak-tightness test – pressure loss method**..... 45

Annex D (normative) **Conversion of pressure loss into leakage rate**..... 47

Annex E (normative) **Electrical/electronic component fault modes** 48

Annex F (normative) **Additional requirements for safety accessories and pressure accessories as defined in EU Directive 97/23/EC**..... 51

Annex G (normative) **Materials for pressurized parts** 53

Annex H (informative) **Additional materials for pressurized parts**..... 54

Annex I (normative) **Requirements for controls used in DC supplied gas burners and gas burning appliances** 62

Annex J (normative) **A1 Method for the determination of a Safety Integrity Level (SIL) A1** 66

Annex K (normative) **A2 Method for the determination of a Performance Level (PL) A2** 94

Annex L (informative) **Relationship between Safety Integrity Level (SIL) and Performance Level (PL)**..... 104

Annex ZA (informative) **Clauses of this European Standard addressing requirements or provisions of EU-Directives**..... 105

Annex ZB (informative) **Relationship between this European Standard and the Essential Requirements of EU Pressure Equipment Directive 97/23/EC** 108

Bibliography 110

საინფორმაციო ნაწილი. სრული ტექსტის სახსრად შეიძინეთ სტანდარტი.

Foreword

This document (EN 13611:2007+A2:2011) has been prepared by Technical Committee CEN/TC 58 “Safety and control devices for gas-burners and gas-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 April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

This document includes Amendment 1, approved by CEN on 2011-06-05 and Amendment 2, approved by CEN on 2011-07-29.

This document supersedes $\boxed{A_2}$ EN 13611:2007 $\boxed{A_2}$.

The start and finish of text introduced or altered by amendment is indicated in the text by tags $\boxed{A_1}$ $\boxed{A_1}$ and $\boxed{A_2}$ $\boxed{A_2}$.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

For relationship with EC Directive(s), see informative Annexes ZA or B, which are an integral part of this document.

For additional requirements for safety accessories and pressure accessories as defined in EU-Directive 97/23/EC see normative Annex F.

For controls used in DC supplied gas burners and gas burning appliances see additional requirements in normative Annex I.

This European Standard covers type testing only.

Tests intended for production testing are not specifically included.

This standard recognizes the safety level specified by CEN/TC 58 and is regarded as a horizontal standard dealing with the safety, construction and performance of controls for gas burners and gas burning appliances and to their testing.

$\boxed{A_2}$ Primarily in industrial applications it is common practice to rate the safety of a plant based on values describing the likelihood of a dangerous failure. These values are being used to determine Safety Integrity Levels or Performance Levels when the system is being assessed in its entirety.

CEN/TC 58 standards for safety relevant controls do go beyond this approach, because for a certain life span for which the product is specified, designed and tested a dangerous failure is not allowed at all. Failure modes are described and assessed in greater detail. Measures to prevent from dangerous situations are defined. Field experience over many decades is reflected in the CEN/TC 58 standards. Requirements of these standards can be considered as proven in practice.

To be able to provide values for the parameters that are needed for Safety Integrity Level or Performance Level system assessment, the Annexes J and K of this document specifies a possible methodology to derive values for the relevant parameters from the requirements of this European Standard.

EN 13611:2007+A2:2011 (E)

Only controls that comply with the relevant CEN/TC 58 control standard can be assessed for PL classification according to this amendment.

It cannot be presumed that any Safety Integrity Level or Performance Level assessment alone would imply that requirements of a CEN/TC 58 standard have been met.

For particularly slow and long term cycling controls the test method might result in testing durations which are not feasible. An interim appropriate solution would be to determine suitable service intervals (see also EN ISO 13849-1). The responsible working group of CEN/TC 58 aim to find more representative test methods in the short term for specific scenarios. ^{A2}

This European Standard should be used in conjunction with the specific standard for a specific type of control, (e. g. EN 88-1, EN 88-2, EN 125, EN 126, EN 161, EN 257, EN 298, EN 1106, EN 1643, EN 1854, EN 12067-1 and EN 12067-2, EN 12078) or for controls for specific applications. This standard may also be applied, so far as reasonable, to controls not mentioned in a specific standard and to controls designed on new principles, in which case additional requirements may be necessary.

Other control standards should make use of this standard by adapting this standard and stating "addition", "modification" or "replacement" in their corresponding clauses.

This 2nd edition of EN 13611 includes EN 13611:2000/A1:2004 and new 6.5 Electric parts of the control and 6.6. Protection against internal faults for the purpose of functional safety. Annex G contains a list of materials which meet the essential requirements of Pressure Equipment Directive (PED).

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.