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**Varnostne in kontrolne naprave za plinske gorilnike in plinske aparate –  
Splošne zahteve – Dopolnilo A1**

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

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English version

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

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

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

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 58.

This draft amendment A1, if approved, will modify the European Standard EN 13611:2000. If this draft becomes an amendment, 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.

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## Foreword

This document (EN 13611:2000/prA1:2004) 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 document is currently submitted to the Unique Acceptance Procedure.

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 EU Directive(s).

For relationship with EU-Directive(s), see informative annex ZA for Gas Appliances Directive and new with this Amendment annex ZB for Pressure Equipment Directive.

### **Addition to the foreword:**

This amendment depends on the original standard EN 13611:2000 for its basic technical content. The amendment and the original standard should be read together.

## Annex F (normative)

### Additional requirements for safety accessories and pressure accessories as defined in EU Directive 97/23/EC

EN 13611:2000 applies with the following supplements or modifications of the corresponding clauses:

#### F.1 Scope

*according to clause 1 and addition:*

This standard applies also for safety accessories and pressure accessories with a product of the maximum allowable pressure PS and the volume V of less than 6 000 bar litres or with a product of PS and DN of less than 3 000 bar, as defined by EU directive 97/23/EC. For these devices additional requirements of the new annex F apply.

The risk philosophy adopted in this standard is based on the analysis of hazards on account of pressure. The standard applies to principles to eliminate or reduce hazards. Where these hazards cannot be eliminated appropriate protection measures are specified.

Any residual hazard are identified and communicated to the user where appropriate.

Depending on the installation situation additional requirements may apply to cover the risks arising from traffic, wind, earthquake loading and external fire.

#### F.3 Definitions

F.3.9 The Definition of "maximum inlet pressure" in EN 13611 corresponds to the definition of "maximum allowable pressure" in the PED.

#### F.6.1 General

*according to 6.1 and addition:*

The safety function(s) of a control shall be independent of other functions, unless its safety function(s) cannot be affected adversely by such other functions.

#### F.6.2 Construction

*according to 6.2 and addition:*

##### F.6.2.10 Design of pressurized parts

Pressurized parts shall be designed for loadings appropriate to their intended use and other reasonably foreseeable operating conditions.

Pressurized parts shall withstand a pressure strength test according to 7.9 without calculation.

#### F.6.3 Materials

##### F.6.3.9 Materials for pressurized parts

Materials of pressurized parts, which are subject to a maximum allowable pressure > 0,5 bar, shall be suitable for the scheduled lifetime of the control unless replacement is foreseen. Such materials shall be verified according to the following requirements:

## Materials

- shall comply with harmonized standards (see Table G.1), or
- shall be covered by a European approval of pressure equipment materials, or
- shall be subject of a particular material appraisal.

Materials used in similar applications under similar operating conditions, which have been recognized as being safe to use before 29 November 1999 may also be regarded as suitable. The safety of controls using such materials shall be verified in combination with the design assessment according to F.6.2.10.

NOTE 1 For a list of materials used for the construction of pressure equipment and recognized as being safe to use before 29 November 1999, see Table G.2 and G.3.

NOTE 2 An official list of European approved materials will be published by the European Commission, see e.g. <http://ped.eurodyn.com/materials/published.html>.

## F.7 Performance

*according to clause 7 and addition:*

### F.7.9 Pressure strength test

#### F.7.9.1 General

The pressure strength test shall be performed by using a safety factor  $f$  for the test pressure where  $f$  is the multiplication factor for the maximum inlet pressure.

If not otherwise defined by harmonized design standards, a safety factor  $f = 4$  shall be considered.

NOTE Experimental test factors dependent on the type of the device and on the material are given in appropriate design standards for pressurized parts, harmonized with EU directive 97/23/EC, e. g. prEN 12516-3.

#### F.7.9.2 Performance test

A pressure of  $f$  times the maximum inlet pressure is applied to the control at maximum ambient temperature for a minimum of 5 min. Then the control is cooled to  $(20 \pm 5)$  °C.

Following this, an external leak-tightness test according to 7.3 shall not exhibit significant leaks. Deformation exceeding a determined threshold shall not occur.

### F.8.11

Only EN 60730-1 is applicable.

## F.9 Marking, installation and operating instructions

*according to clause 9 and addition:*

Information to the user shall be given of residual hazards to take appropriate special measures at the time of installation and/or use.

### F.9.2 Performance

The instructions shall also include all relevant information on mounting and maintenance. If appropriate, these instructions shall also refer to hazards arising from misuse.

## Annex G (informative)

### Materials for pressurized parts

**Table G.1 — List of materials covered by harmonized standards**

Materials		Restrictions						
Group	Type	Relevant standard	Regulator / safety device					
			Operating temperature		PS <sub>max</sub> bar	[PS x DN <sup>b</sup> ] <sub>max</sub> bar x mm	DN <sub>max</sub> <sup>b</sup> mm	
			-10 °C to 60 °C <sup>a</sup>	-20 °C to 60 °C				
<b>Pressure containing parts and inner metallic partition walls</b>								
Rolled and forged steel	S235JR / 1.0037 with thickness ≤ 40 mm, S275JR / 1.0044 with thickness ≥ 1,5 mm, S355JR/ 1.0045 with thickness ≥ 1,5 mm	EN	10028	x		100	-	-
	S235J2G3 / 1.0116 & S235J2G4 / 1.0117 both with nominal thickness ≤ 150 mm, S275J2G3 / 1.0144 & S275J2G4 / 1.0145 & S355J2G3 / 1.0570 all with 1,5 mm < nominal thickness ≤ 150 mm			x				
	S275JO / 1.0143 & S355JO / 1.0553 both with 1,5 mm < nominal thickness ≤ 250 mm and at -20 °C KV 27 J av. of three and 20 J min							
	P235GH / 1.0345, P265GH / 1.0425, P295GH/ 1.0481, P355GH / 1.0473 all with thickness ≤ 150 mm		10028-2 <sup>c</sup>	x				
	P275NH / 1.0487, P355NH / 1.0565 with thickness ≤ 150 mm, P355NL1 / 1.0566 with thickness ≤ 150 mm		10028-3 <sup>c</sup>		x			
	All types		10028-4 <sup>c</sup> , 10028-5 <sup>c</sup>		x			
	All grades from P355. to P 500... with thickness ≤ 150 mm		10028-6 <sup>c</sup>		x			
	All steel designation with A <sub>min</sub> ≥ 16 %		10028-7 <sup>c</sup>		x			
	All steel designations with A <sub>min</sub> ≥ 16 % and at -20 °C KV 27 J av. of three and 20 J min		10222-1 <sup>c</sup>					
	All steel designations martensitic type		10222-5 <sup>c</sup>	x				
	All steel designations austenitic type				x			
	All steel designations with A <sub>min</sub> ≥ 16 %, and at -20 °C KV 27 J av. of three and 20 J min		10272 <sup>c</sup>		x			
	Cast Steel		All steel designations	EN 10213-3 <sup>c</sup>		x		



Table G.2 — List of materials not based on harmonized standards but inherently meeting PED

Materials		Restrictions						
Group	Type	Relevant standard	Regulator / safety device					
			Operating temperature		PS <sub>max</sub>	[PS x DN <sup>b</sup> ] <sub>max</sub>	DN <sub>max</sub> <sup>b</sup>	
			-10 °C to 60 °C <sup>a</sup>	-20 °C to 60 °C				bar
<b>Pressure containing parts and inner metallic partition walls</b>								
Rolled and forged steel	25 CrMo4 / 1.7218 & 25CrMoS4 / 1.7213 both with 100 mm < d ≤ 160 mm or 60 mm < t ≤ 100 mm, 36CrNiMo4 / 1.6511 with A <sub>min</sub> = 16 %. All types shall be quenched and tempered (+QT) and with cast analysis C ≤ 0.25% or, when 0.25% < C ≤ 0.40, Ni ≥ 1%.	Z U	10083-1 + A1	x		100	-	
	36CrNiMo4 / 1.6511 quenched and tempered (+QT) with A <sub>min</sub> = 16 % and KV 27 J av. of three and 20 J min. at -20 °C..				x			
	All steel designations quenched and tempered (+QT) with A <sub>min</sub> ≥ 16 % and with cast analysis C ≤ 0.25%.		10083-2 + A1	x				
	11SMn30 / 1.0715, 11SMn37 / 1.0736, 11SMnPb30 / 1.0718, 11SMnPb37 / 1.0737 all with 16 ≤ d ≤ 100 and A <sub>min</sub> 16 %		10277-3 <sup>d</sup>	x				25
	As above and types 35S20 / 1.0726, 35SPb20 / 1.0756, 36SMn14 / 1.0764, 36SMnPb14 / 1.0765, 38SMn28 / 1.0760, 38SMnPb28 / 1.0761, 44SMn28 / 1.0762, 44SMnPb28 / 1.0763, 46SPb20 / 1.0757 with KV 27 J av. of three and 20 J min at -20 °C					x		
	All austenitic steel designations with longitudinal A <sub>min</sub> ≥ 16 % and other steel designations with longitudinal A <sub>min</sub> ≥ 16 % and KV 27 J av. of three and 20 J min. at -20 °C		10088-3				x	-
	DD11 / 1.0332, DD12 / 1.0398, DD13 / 1.0335		10111	x				
	All steel designations used for skin-pass		10130	x				
	All low carbon content types		10214	x				
	All steel designations with A <sub>min</sub> ≥ 16 % and at -20 °C KV 27 J av. of three and 20 J min		10250-1				x	
	All steel designations with cast analysis C ≤ 0,25 % and with longitudinal A <sub>min</sub> ≥ 16 %		10250-2	x				
	S235J2G3 / 1.0116, S355J2G3 / 1.0570 with t <sub>R</sub> ≤ 500 mm							x