

**SLOVENSKI**

**PREDSTANDARD**

**SIST EN  
14394:2006/oprA1:2006**

november 2006

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**Kotli za gretje – Kotli z ventilatorskimi gorilniki – Imenska grelna moč do vključno 10 MW in najvišja delovna temperatura 110 °C – Dopolnilo A1**

Heating boilers - Heating boilers with forced draught burners - Nominal heat output not exceeding 10 MW and maximum operating temperature of 110 °C – Amendment A1

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ICS 91.140.10

Referenčna številka  
SIST EN 14394:2006/oprA1:2006(en)

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ICS 01.040.91; 91.140.10

English Version

**Heating boilers - Heating boilers with forced draught burners -  
Nominal heat output not exceeding 10 MW and maximum  
operating temperature of 110 C**

Chaudières de chauffage - Chaudières avec brûleurs à air  
soufflé - Puissance utile inférieure ou égale à 10MW et  
température maximale de service de 110 C

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 57.

This draft amendment A1, if approved, will modify the European Standard EN 14394:2005. 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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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## Introduction

The prA1 of EN 14394 considers the requirements from the Pressure Equipment Directive (PED). Furthermore for the clauses 2; 3.8; 6.1.4.11; 7.2.1; A.3.2, b); A.5.2.2; A.5.4.2; A.5.4.4; A.5.4.6; B.5.1.1; B.5.1.2.2; B.5.3.4; B.5.3.5; B.6.2; D.5.2.3; D.5.2.4; E.5.2.1; E.5.2.2; E.5.3.1.1 and E.5.5.1 this amendment corrects mistakes in the published version of EN 14394.

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## Foreword

This document (EN 14394:2005/prA1:2006) has been prepared by Technical Committee CEN/TC 57 "Central heating boilers", the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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 ZB, which is an integral part of this document.

The requirements and test methods related to the Essential Requirements of the Council Directive 90/396/EEC relating to appliances burning gaseous fuels (Gas Appliance Directive – GAD) for assemblies made up of a boiler body complying with EN 303-1 and a forced draught gas burner complying with EN 676 with a nominal heat output not exceeding 1.000 kW are covered in the Harmonized European Standard EN 303-3:1998 and its Amendment A2:2004. For assemblies with a heat output between 1.000 kW and 10 MW however no Harmonized European Standard does exist at the moment. The relevant clauses of EN 303-3:1998 can be taken as a basis to prove conformity with the essential requirements of the GAD.

## 1 Modification to Clause 1 „Scope”

The first paragraph shall be replaced by:

This European standard specifies the requirements and test methods for the construction, the safety and the rational energy usage for standard boilers and low temperature boilers (with „boiler" in the sense of „boiler body") from steel and cast iron to be equipped with separately marketed forced draught burners according to the relevant burner standards (for automatic forced draught burners for gaseous fuels see EN 676 and for atomising oil burners see EN 267) up to a nominal heat output of 10 MW. They are operated, either with negative pressure (natural draught boiler) or with positive pressure (pressurised boiler) in the combustion chamber, in accordance with the boiler manufacturer's instructions

The following paragraph shall be added:

This European standard specifies requirements for boilers with normal operating temperatures between 100 °C and 110 °C and has a "dual structure":

- For boilers where the shut off temperature of the safety temperature limiter does not exceed 110 °C the Pressure Equipment Directive (PED) requires "Sound Engineering Practice",
- For boilers where the shut off temperature of the safety temperature limiter exceeds 110 °C this European standard specifies the requirements needed to meet the Essential Requirements of the PED.

NOTE 1 The "maximum allowable temperature TS" is defined in the PED and its Guidelines as the temperature at which the safety temperature limiter shuts off the boiler.

The „Note" shall be changed as followed:

NOTE 2 Definitions for standard boiler and low temperature boiler see Council Directive 92/42/EEC.

## 2 Modification to Clause 2 „Normative references”

The following standards shall be added:

EN 12953-1, *Shell boilers — Part 1: General*

EN 12953-2, *Shell boilers — Part 2: Materials for pressure parts of boilers and accessories*

EN 12953-3, *Shell boilers — Part 3: Design and calculation for pressure parts*

EN 12953-4, *Shell boilers — Part 4: Workmanship and construction of pressure parts of the boiler*

EN 12953-5, *Shell boilers — Part 5: Inspection during construction, documentation and marking of pressure parts of the boiler*

EN 12953-6, *Shell boilers — Part 6: Requirements for equipment for the boiler*

EN 12953-7, *Shell boilers — Part 7: Requirements for firing systems for liquid and gaseous fuels for the boiler*

EN 12953-9, *Shell boilers — Part 9: Requirements for limiting devices and safety circuits of the boiler and accessories*

EN 12953-10, *Shell boilers — Part 10: Requirements for boiler feed water and boiler water quality*

EN 12953-11, *Shell boilers — Part 11: Acceptance tests*

EN 12953-12, *Shell boilers — Part 12: Requirements for grate firing systems for solid fuels for the boiler*

EN 12953-13, *Shell boilers — Part 13: Operating instructions*

## 3 Modification to Clause 3 „Terms and definitions”

In 3.1 the following „Note” shall be added:

NOTE According to the PED: maximum allowable pressure  $PS$  means the maximum pressure for which the equipment is designed, as specified by the manufacturer.

The symbol in 3.6 shall be changed:

### 3.6 nominal heat output

$P_n$

NOTE In the published standard EN 14394 for the nominal heat input the symbol  $P_N$  as well as  $P_n$  is used. According to this amendment only the symbol  $P_n$  should be used in the whole standard.

The symbol in 3.8 shall be changed:



### 3.8 boiler efficiency

$\eta_k$

## 4 Addition of a new subclause 4.2 „Burner matching”

### 4.2 Burner matching

#### 4.2.1 Matching with forced draught oil burner according to EN 267

- The requirements according to EN 303-2 have to be met, or in case of nominal heat input exceeds the range of the scope according to EN 303-2,
- the tests according to EN 303-2 have to be carried out.

#### 4.2.2 Matching with automatic forced draught burner for gaseous fuels according to EN 676

- The requirements according to EN 303-3 have to be met, or in case of nominal heat input exceeds the range of the scope according to EN 303-3,
- the tests according to EN 303-3 have to be carried out.

## 5 Modification to 6.1.1

The second paragraph in 6.1.1 shall be replaced by:

"An experimental design method can be applied. The wall thickness shall not be less than given in Table 6."

## 6 Modification to 6.1.4.4

The sentence shall be changed as follows:

For boilers the allowable total gauge pressure  $p$  shall be the design pressure  $p_1$ , which shall be greater or equal than the maximum allowable pressure  $PS$ .

## 7 Modification to 6.1.4.11, Table 7

The symbol for the allowable stress under cyclic loading shall be changed in  $\tilde{\sigma}$

$\tilde{\sigma}$	Allowable stress under cyclic loading	N/mm <sup>2</sup>
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## 8 Modification to 6.3.7 „Connection for control and indicating equipment”

The third paragraph shall be replaced by:

Requirements for heating systems, e.g. for safety valves, see EN 12828; for heating boilers with a temperature  $TS > 110$  °C the requirements of EN 12953-8 shall be met.

## 9 Modification to 7.2.1 „Assessment test”

Last paragraph in 7.2.1 shall be replaced by:

"Boilers with a temperature  $TS > 110$  °C shall undergo a final inspection."