



National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 14394:2006

ICS 01.040.91
91.140.10

**HEATING BOILERS - HEATING BOILERS WITH
FORCED DRAUGHT BURNERS - NOMINAL
HEAT OUTPUT NOT EXCEEDING 10 MW AND
MAXIMUM OPERATING TEMPERATURE OF
110 C**

National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
<http://www.nsai.ie>

Sales
<http://www.standards.ie>

*This Irish Standard was
published under the
authority of the National
Standards Authority of
Ireland and comes into
effect on:*

February 22, 2006

**NO COPYING WITHOUT NSAI
PERMISSION EXCEPT AS
PERMITTED BY COPYRIGHT
LAW**

© NSAI 2006

Price Code

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

EN 14394

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2005

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 10 MW et
température service maximale de 110 C

Heizkessel - Heizkessel mit Gebläsebrennern -
Nennwärmeleistung kleiner oder gleich 10 MW und einer
maximalen Betriebstemperatur von 110 °C

This European Standard was approved by CEN on 14 October 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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

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

Contents

	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	6
4 Requirements	8
5 Materials	16
6 Design	19
7 Tests.....	29
8 Performance requirements	32
9 Technical documentation	34
Annex A (normative) Cylindrical shells under internal pressure.....	38
Annex B (normative) Spherical shells and dished heads under internal and external pressure	64
Annex C (normative) Dished fire tube heads	91
Annex D (normative) Flat walls, stayings and girder stays	95
Annex E (normative) Cylindrical shells under external pressure	114
Annex F (informative) Pressure Equipment Directive 97/23/EC	123
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 92/42/EEC of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels.....	124
Bibliography	125

Foreword

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

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 May 2006, and conflicting national standards shall be withdrawn at the latest by May 2006.

This European Standard specifies requirements for boilers operating with a temperature of 100 °C and 110 °C which are not covered by the Pressure Equipment Directive (PED, $TS \leq 110$ °C), on the other hand the document specifies requirements for those boilers, which have a maximum allowable temperature $TS > 110$ °C (according to the PED).

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of COUNCIL DIRECTIVE 92/42/EEC of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels

For relationship with DIRECTIVE 92/42/EEC see informative Annex ZA, which is an integral part of this European Standard.

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

EN 14394:2005 (E)

1 Scope

This European Standard specifies the requirements and test methods for the construction, the safety and the rational energy usage for heating boilers (standard-heating and low temperature boilers) fired by liquid fuels from steel and cast iron with burners according to the relevant burner standards (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

Boilers in accordance with this European Standard are designed for the heating of central heating installations in which the heat carrier is water, and the maximum allowable operating temperature of which is up to 110 °C and the maximum safety temperature limiter of 120 °C. The maximum allowable operating pressure is 10 bar.

This standard does not apply to gas boilers with atmospheric burners, boilers for solid fuels, oil or gas fired condensation boilers, boilers with oil vapourisation burners. For these boilers there are further requirements.

For gas-fired central heating boilers equipped with a forced draught burner of nominal heat output not exceeding 1000 kW, see prEN 303-7.

For shell boilers with a nominal heat output exceeding 10 MW and a maximum safety temperature limiter exceeding 120 °C, see EN 12953 series.

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

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 267, *Forced draught oil burners – Definitions, requirements, testing, marking*

EN 287–1, *Qualification test of welders – Fusion welding – Part 1: Steels*

EN 288-9, *Specification and approval of welding procedures for metallic materials - Part 9: Welding procedure test for pipeline welding on land and offshore site butt welding of transmission pipelines*

EN 303–1, *Heating boilers - Part 1: Heating boilers with forced draught burners - Terminology, general requirements, testing and marking*

EN 303-2, *Heating boilers - Part 2: Heating boilers with forced draught burners - Special requirements for boilers with atomising oil burners*

EN 304, *Heating boilers – Test code for heating boilers for atomising oil burners*

EN 1561, *Founding – Grey cast irons*

EN 1563, *Founding – Spheroidal graphite cast irons*

EN 10025-1, *Hot rolled products of structural steels - Part 1: General technical delivery conditions*

EN 10025-2, *Hot rolled products of structural steels - Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10025-3, *Hot rolled products of structural steels - Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-