



National Standards Authority of Ireland

IRISH STANDARD

**I.S. EN 12952-15:2003**

ICS 27.040

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**WATER-TUBE BOILERS AND AUXILIARY  
INSTALLATIONS - PART 15: ACCEPTANCE  
TESTS**

*This Irish Standard was  
published under the  
authority of the National  
Standards Authority of  
Ireland  
and comes into effect on:  
November 6, 2003*

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EUROPEAN STANDARD

**EN 12952-15**

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2003

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ICS 27.040

English version

## Water-tube boilers and auxiliary installations - Part 15: Acceptance tests

Chaudières à tubes d'eau et à tubes de fumée - Partie 15:  
Essais de réception

Wasserrohrkessel und Anlagenkomponenten - Teil 15:  
Abnahmeversuche

This European Standard was approved by CEN on 12 June 2003.

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## Foreword

This document EN 12952-15:2003 has been prepared by Technical Committee CEN/TC 269 "Shell and water-tube 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of an identical text or by endorsement, at the latest by **March 2004**, and conflicting national standards shall be withdrawn at the latest by **March 2004**.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. This European Standard is considered as a supporting standard to other application and product standards which in themselves support an essential safety requirement of a New Approach Directive and should appear as a normative reference in them.

The European Standard series EN 12952 concerning water-tube boilers and auxiliary installations consists of the following parts:

- *Part 1: General.*
- *Part 2: Materials for pressure parts of boilers and accessories.*
- *Part 3: Design and calculation for pressure parts.*
- *Part 4: In-service boiler life expectancy calculations.*
- *Part 5: Workmanship and construction of pressure parts of the boiler.*
- *Part 6: Inspection during construction, documentation and marking of pressure parts of the boiler.*
- *Part 7: Requirements for equipment for the boiler.*
- *Part 8: Requirements for firing systems for liquid and gaseous fuels for the boiler.*
- *Part 9: Requirements for firing systems for pulverized solid fuels for the boiler.*
- *Part 10: Requirements for safeguards against excessive pressure.*
- *Part 11: Requirements for limiting devices of the boiler and accessories.*
- *Part 12: Requirements for boiler feedwater and boiler water quality.*
- *Part 13: Requirements for flue gas cleaning systems.*
- *Part 14: Requirements for flue gas DENOX-systems.*
- *Part 15: Acceptance tests.*
- *Part 16: Requirements for grate and fluidized-bed firing systems for solid fuels for the boiler.*

*CR 12952 Part 17: Guideline for the involvement of an inspection body independent of the manufacturer.*

Although these Parts may be obtained separately, it should be recognized that the Parts are interdependent. As such, the design and manufacture of water-tube boilers requires the application of more than one Part in order for the requirements of the Standard to be satisfactorily fulfilled.

NOTE Part 4 and 15 are not applicable during the design, construction and installation stages.

Annex A is normative.

This document includes a Bibliography.

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

## EN 12952-15:2003 (E)

# 1 Scope and field of application

## 1.1 Field of application

This European Standard covers direct-fired steam boilers and hot water generators, including the auxiliaries. For the purposes of this standard, steam boilers and hot water generators are vessels and pipework systems in which:

- steam at a pressure higher than atmospheric pressure is generated for use external to the system;
- water is heated to a temperature higher than the saturation temperature at atmospheric pressure for use external to the system.

A steam generator normally consists of the flue gas-heated evaporator, the superheater, the reheater, the feedwater heater, the air heater, the fuel heater, if any, and the fuel burning equipment.

The term 'direct-fired' relates to equipment by means of which the chemical heat in the fuel of known composition is converted to sensible heat. Such equipment can involve stoker firing, fluidized-bed combustion or burner systems.

The auxiliaries include the fuel feeders, the pulverizer, the FD (forced draught) fan, the ID (induced draught) fan, the facilities for removal of the refuse (combustion residues), the steam air heater, the main air heater, the fuel heater, if any, and the dust collector.

This standard does not cover:

- units fired with special fuels (e.g. refuse);
- pressurized steam generators (e.g. pressurized fluidized-bed combustion (PFBC) boilers);
- steam generators in combined cycle systems.

This standard can be applied by analogy to the acceptance testing of:

- indirect-fired units (e.g. waste heat boilers);
- units operated using other heat carriers (e.g. gases, thermal oils, sodium).

Where this standard is to serve as the basis for the acceptance testing of heat-transfer systems, an agreement should have been reached by the time the contract has been concluded with regard to any special features which may have an effect on the measurements and interpretation of test results.

## 1.2 Scope

This standard is intended as the basis for the thermal performance (acceptance) testing of direct-fired steam boilers and hot water generators. Such tests are designed to demonstrate that the guarantees with respect to efficiency and output or other parameters have been met.

This standard includes (among other things):

- recommendations for the performance of acceptance tests (see clause 6);
- a definition of the envelope boundary of the steam generating unit and of the efficiency (see clause 8);
- details on the uncertainty of measurement (see clause 10).

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