



**NSAI**  
Standards

Irish Standard  
I.S. EN 437:2003+A1:2009

# Test gases - Test pressures - Appliance categories

# I.S. EN 437:2003+A1:2009

*Incorporating amendments/corrigenda issued since publication:*

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**EUROPEAN STANDARD**

**EN 437:2003+A1**

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English Version

## Test gases - Test pressures - Appliance categories

Gaz d'essais - Pressions d'essais - Catégories d'appareils

Prüfgase - Prüfdrücke - Gerätekategorien

This European Standard was approved by CEN on 6 December 2002 and includes Amendment 1 approved by CEN on 10 January 2009.

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## Foreword

This document (EN 437:2003+A1:2009) has been prepared by Technical Committee CEN/TC 238 "Test gases, test pressures and categories of appliances", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

This document replaces A1 EN 437:2003 A1.

This document includes Amendment 1, approved by CEN on 2009-01-10.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports the requirements of 2.2 of the "Gas Appliances" Directive (90/396/EEC).

Annex A is normative. Annexes B, C and D are informative.

EN 437 is intended to provide all the CEN Technical Committees preparing standards on gas appliances with definitions for test gases, test pressures and categories of appliances for use by these committees within the limits of the scope defined in clause 1.

Similarly, it is emphasized that distributors of 2<sup>nd</sup> family gases using pressure couples should restrict themselves to their use in the normal manner but may, in exceptional circumstances and for short periods, use gases of the lowest Wobbe index at the lowest pressure, under conditions in which the safety of the appliance has to be ensured.

The standard seeks to clarify the present situation with respect to test gases, test pressures and appliance categories.

The concern for clarity has led to the elucidation of numerous categories and national situations or conditions. The complexity of the standard is likely to increase as new members join the Union.

This revised standard incorporates the two previously published amendments and includes new appliance categories, the reason for which does not lie essentially with new gas resources but with new technical developments for appliances.

A1 This standard can be considered as an important stage in the harmonization of test gases, test pressures and appliance categories and the quality of information on gas usage in Europe.

The standard also applies to Albania, Croatia, Republic of Macedonia and Turkey, countries whose national standardisation body is affiliate member of CEN (see Annex D).

Annex B gives national situations relating to gases, gas pressures and appliance categories that apply nationally or locally. The information provided is included under the responsibility of the national standardisation bodies. The tables give the available information. A1

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, 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 the United Kingdom.

## 1 Scope

This standard specifies the test gases, test pressures and categories of appliances relative to the use of  $\text{A}_1$  gaseous fuels  $\text{A}_1$  of the first, second and third families. It serves as a reference document in the specific standards for appliances that fall within the scope of the Council Directive on the approximation of the laws of Member States concerning gas appliances (90/396/EC).

The standard makes recommendations for the use of the gases and pressures to be applied for the tests. The full procedure will be given in the corresponding appliance standards.

**NOTE** The test gases and the test pressures specified in this standard are in principle intended to be used with all the appliances in order to establish conformity with the corresponding standards.

However, the use of some test gases and test pressures may not be appropriate in the following cases:

- appliances with nominal heat input greater than 300 kW;
- appliances constructed on site;
- appliances in which the final design is influenced by the user;
- appliances constructed for use with high supply pressures (notably direct use of the saturated vapour pressure).

In these cases, the specific appliance standards may specify other test conditions in order to establish compliance with their requirements.

## 2 Normative references

$\text{A}_1$  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.  $\text{A}_1$

$\text{A}_1$  EN ISO 3166-1:2006, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes (ISO 3166-1:2006)*  $\text{A}_1$

$\text{A}_1$  EN ISO 6976:2005, *Natural gas – Calculation of calorific values, density, relative density and Wobbe index from composition (ISO 6976:1995 including Corrigendum 1:1997, Corrigendum 2:1997 and Corrigendum 3:1999)*  $\text{A}_1$

## 3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply:

### 3.1

#### gas appliance

appliance burning  $\text{A}_1$  gaseous fuels  $\text{A}_1$

$\text{A}_1$  **NOTE** For the purposes of this standard the term "gaseous fuels" means any fuel that is in the gaseous state at a temperature of 15 °C, and under a pressure of 1 bar.  $\text{A}_1$

### 3.2

#### test gases

gases intended for the verification of the operational characteristics of  $\text{A}_1$  gas appliances  $\text{A}_1$ . They consist of reference gases and limit gases

### 3.3

#### reference gases

test gases with which appliances operate under nominal conditions when they are supplied at the corresponding normal pressure

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