ILNAS

Institut luxembourgeois de la normalisation
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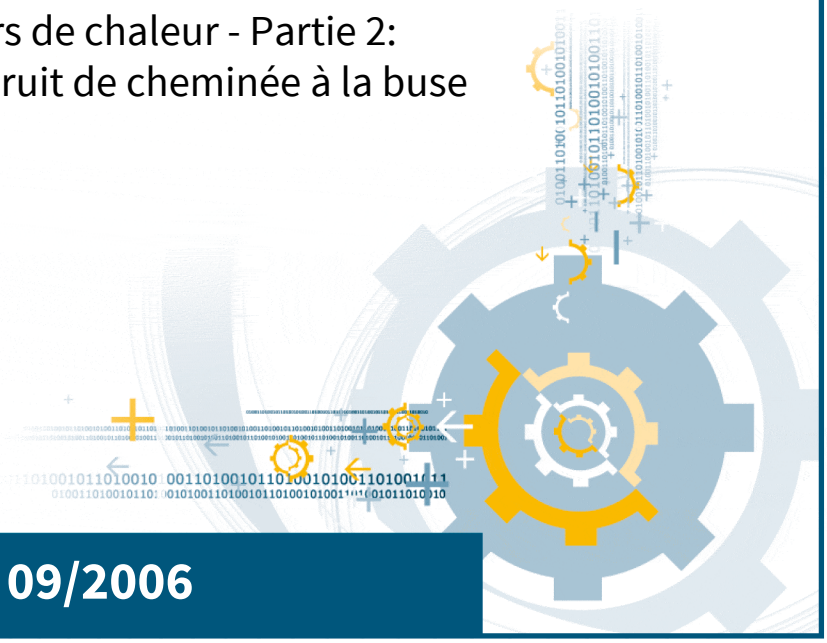
des produits et services

ILNAS-EN 15036-2:2006

Heating boilers - Test regulations for airborne noise emissions from heat generators - Part 2: Flue gas noise emissions at the outlet of the heat

Heizkessel - Prüfverfahren für Luftschallemissionen von Wärmeerzeugern - Teil 2: Abgasgeräuschemissionen am Ausgang

Chaudières de chauffage - Règles d´essais des émissions de bruit aérien des générateurs de chaleur - Partie 2: Émissions de bruit de cheminée à la buse



09/2006

National Foreword

This European Standard EN 15036-2:2006 was adopted as Luxembourgish Standard ILNAS-EN 15036-2:2006.

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EUROPEAN STANDARD EN 15036-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Heating boilers - Test regulations for airborne noise emissions from heat generators - Part 2: Flue gas noise emissions at the outlet of the heat generator

Chaudières de chauffage - Règles d´essais des émissions de bruit aérien des générateurs de chaleur - Partie 2: Émissions de bruit de cheminée à la sortie du générateur

Heizkessel - Prüfverfahren für Luftschallemissionen von Wärmeerzeugern - Teil 2: Abgasgeräuschemissionen am Ausgang des Wärmeerzeugers

This European Standard was approved by CEN on 14 August 2006.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN 15036-2:2006) 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 March 2007, and conflicting national standards shall be withdrawn at the latest by March 2007.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

Establishing the A-weighted sound pressure level and its spectral distribution in the flue gas path of a heat generator is significant for estimating the noise emission expected in the vicinity and for the rating of flue gas silencers. This European Standard describes a procedure for measuring sound pressure levels in the flue gas path of heat generators derived from EN ISO 5136:2003.

The sound power radiated from a heat generator through its flue gas path depends to some extent on the design of the flue gas system (changes in direction and cross-section, installations, and natural frequencies) as described by the acoustic impedance. Any measurement procedure therefore requires the measurement duct to be specified unambiguously if comparable readings are to be obtained. In the procedure described here, the measurement duct has a circular cross-section and is fitted with a low-reflection end-piece as described in annex A. The sound power measured under these conditions can be regarded as representative for all practical applications.

The level of measurement uncertainty is described by the standard deviation that is to be expected if the same readings are taken in different laboratories.

1 Scope

This European Standard applies to heat generators according to EN 15036-1, which are connected to chimneys/ducts which discharge combustion products via a duct into open air.

The data measured according to this European Standard will probably be different from the noise radiated from the end of the chimney.

Readings from forced-draught burners complying with EN 267 or EN 676 are only applicable in practice if they have been taken in conjunction with a boiler. Noise emitted into chimneys/ducts by heat generators operating independently of indoor air can also be measured in accordance with this European Standard.

Boilers supplied with combined air inlet and exhaust terminal configuration where ducts are within an external wall can be measured according to one of the test methods detailed in EN 15036-1.

This European Standard describes the objective procedure for determining sound power levels $L_{W,}$ at the outlet of a heat generator that is emitting broad-band, narrow-band, or tonal continuous sound.

This European Standard is applicable to boilers designed to be connected to a chimney or flue duct with a duct size greater than or equal to 0,06 m and whose mean flue gas flow at the microphone head is less than 5 m/s.

This European Standard only applies for test purposes under laboratory conditions.

2 Normative references

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

EN 437, *Test gases — Test pressures — Appliance categories*

EN 15036-1, *Heating boilers — Test regulations for airborne noise emissions from heat generators — Part 1: Airborne noise emissions from heat generators*

CEN/TR 1749, *European scheme for the classification of gas appliances according to the method of evacuation of the combustion products (types)*

EN 60942, *Electroacoustics — Sound calibrators (IEC 60942:2003)*

EN 61260*, Electroacoustics — Octave band and fractional-octave-band filters (IEC 61260:1995)*

EN 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications (IEC 61672-1:2002*

EN ISO 266, *Acoustics — Preferred frequencies (ISO 266 1997)*