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NSAI Standards

Irish Standard
I.S. EN 13384-2:2015+A1:2019&LC:2019

Chimneys - Thermal and fluid dynamic calculation methods - Part 2: Chimneys serving more than one heating appliance

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National Foreword

I.S. EN 13384-2:2015+A1:2019&LC:2019 is the adopted Irish version of the European Document EN 13384-2:2015+A1:2019, Chimneys - Thermal and fluid dynamic calculation methods - Part 2: Chimneys serving more than one heating appliance

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Correction Notice

Reference: EN 13384-2:2015+A1:2019

Title: Chimneys - Thermal and fluid dynamic calculation methods - Part 2: Chimneys serving more than one combustion appliance

Work Item: 00166121

Brussels, 2019-07-17

With reference to the above, please include the following minor editorial correction(s) in the document related to:

the following language version(s) :

- ☒ English
- ☐ French
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- ☐ PQ/UQ
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- ☐ UAP
- ☐ TC Approval
- ☐ 2nd TC Approval
- ☒ Publication
- ☐ Parallel Publication

It has been brought to our attention that this document, issued on 2019-07-03, requires modification.

The title of the document, and references throughout to part 1, have been corrected.

Please find enclosed the updated English version.

We apologise for any inconvenience this may cause.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13384-2:2015+A1

July 2019

ICS 91.060.40

Supersedes EN 13384-2:2015

English Version

Chimneys - Thermal and fluid dynamic calculation methods - Part 2: Chimneys serving more than one combustion appliance

Conduits de fumée - Méthodes de calcul thermo-aéraulique - Partie 2: Conduits de fumée desservant plus d'un appareil de chauffage

Abgasanlagen - Wärme- und strömungstechnische Berechnungsverfahren - Teil 2: Abgasanlagen mit mehreren Feuerstätten

This European Standard was approved by CEN on 24 January 2015 and includes Amendment 1 approved by CEN on 27 April 2019.

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European foreword

This document (EN 13384-2:2015+A1:2019) has been prepared by Technical Committee CEN/TC 166 "Chimneys", the secretariat of which is held by ASI.

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 January 2020, and conflicting national standards shall be withdrawn at the latest by January 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes ⟦A1⟩ EN 13384-2:2015 ⟨A1⟧.

This document includes Amendment 1 approved by CEN on 26 June 2019.

According to EN 13384-2:2003+A1:2009 and EN 13384-2:2015+A1:2019 the following fundamental changes are given:

— editorial mistakes have been corrected;

— mistakes in formulas have been corrected;

— characteristic values for ⟦A1⟩ combustion ⟨A1⟧ appliances for solid fuel and for liquid fuels in Annex B have been adapted to actual data;

— for the mixture of fuels a clarification about the rise of the dew point has been added;

— for non-concentric ducts the calculation of the mean temperature of the air supply has been amended;

— the process for iteration for appliances with low impact of the pressure to the flue gas mass flow (e.g. CHP with combustion engine) has been simplified;

— for chimney fans a calculation procedure has been added;

— "heating appliance" replaced by "combustion appliance";

— "Supply air" replaced by "combustion air";

— New table for specification for gas-fired heating boilers Type $C_{(10)}$.

This standard is one of a series of standards prepared by CEN/TC 166 comprising product standards and execution standards for chimneys.

National installation rules are not regarded in the standard.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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

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This European Standard “Chimneys — Thermal and fluid dynamic calculation methods” consists of three Parts:

— Part 1: Chimneys serving one combustion appliance

— Part 2: Chimneys serving more than one combustion appliance

— Part 3: Methods for the development of diagrams and tables for chimneys serving one heating appliance

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

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Introduction

The calculation described in this standard is complex and is intended to be solved by using a computer programme. The general principles of this calculation method of EN 13384-1 also apply to this standard.

This standard is in support of the execution standards for a chimney installation serving more than one ▌A1⟩ combustion ⟨A1▐ appliance.

The execution standard identifies limitations and safety considerations associated with the design, installation, commissioning and maintenance of a chimney serving more than one ▌A1⟩ combustion ⟨A1▐ appliance (not dealt within the calculation method).

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1 Scope

This part of EN 13384 specifies methods for calculation of the thermal and fluid dynamic characteristics of chimneys serving more than one [A1⟩ combustion ⟨A1] appliance.

This part of EN 13384 covers both the cases, either

a) where the chimney is connected with more than one connecting flue pipe from individual or several appliances in a multi-inlet arrangement; or

b) where the chimney is connected with an individual connecting flue pipe connecting more than one appliance in a cascade arrangement.

The case of multiple inlet cascade arrangement is covered by the case a).

This part of EN 13384 deals with chimneys operating under negative pressure conditions (there can be positive pressure condition in the connecting flue pipe) and with chimneys operating under positive pressure conditions and is valid for chimneys serving [A1⟩ combustion ⟨A1] appliances for liquid, gaseous and solid fuels.

This part of EN 13384 does not apply to:

— chimneys with different thermal resistance or different cross-section in the various chimney segments. This part does not apply to calculate energy gain;

— chimneys with open fire places, e.g. open fire chimneys or chimney inlets which are normally intended to operate open to the room;

— chimneys which serve different kinds of [A1⟩ combustion ⟨A1] appliances regarding natural draught, fan assisted, forced draught or combustion engine. Fan assisted appliances with draught diverter between the fan and the chimney are considered as natural draught appliances;

— chimneys with multiple inlets from more than 5 storeys. (This does not apply to balanced flue chimney.);

— chimneys serving [A1⟩ combustion ⟨A1] appliances with open air supply through ventilation openings or air ducts, which are not installed in the same air supply pressure region (e.g. same side of building).

For positive pressure chimneys this part only applies if any [A1⟩ combustion ⟨A1] appliance which is out of action can be positively isolated to prevent flue gas back flow.

2 Normative references

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

EN 1443:2003, *Chimneys - General requirements*

EN 13384-1:2015+A1:2019, *Chimneys - Thermal and fluid dynamic calculation methods - Part 1: Chimneys serving one appliance*

EN 15287-1:2007+A1:2010, *Chimneys - Design, installation and commissioning of chimneys - Part 1: Chimneys for non-roomsealed heating appliances*

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