KORSTNAD. TERMO- JA HÜDRODÜNAAMIKA ARVUTUSMEETODID. OSA 1: KORSTNAD ÜHE PÕLETUSSEADME TEENINDAMISEKS

Chimneys - Thermal and fluid dynamic calculation methods - Part 1: Chimneys serving one combustion appliance

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13384-1:2015+A1:2019 sisaldab Euroopa standardi EN 13384-1:2015+A1:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 13384-1:2015+A1:2019 consists of the English text of the European standard EN 13384-1:2015+A1:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 03.07.2019.	Date of Availability of the European standard is 03.07.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 91.060.40

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13384-1:2015+A1

July 2019

ICS 91.060.40

Supersedes EN 13384-1:2015

English Version

Chimneys - Thermal and fluid dynamic calculation methods - Part 1: Chimneys serving one combustion appliance

Conduits de fumée - Méthodes de calcul thermo-aéraulique - Partie 1: Conduits de fumée ne desservant qu'un seul appareil

Abgasanlagen - Wärme- und strömungstechnische Berechnungsverfahren - Teil 1: Abgasanlagen mit einer Feuerstätte

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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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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN 13384-1:2015+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 [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes ▌A1⟩ EN 13384-1:2015 ⟨A1▌.

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

According to EN 13384-1:2002+A2:2008 and EN 13384-1:2015+A1:2019 the following fundamental changes are given:

— editorial mistakes have been corrected;

— mistakes in formulas have been corrected;

— for wood the rise of the dew point to take into account the acid condensation has been deleted;

— table for material characteristics in Table B.5 has been adapted to EN 15287-1 and supplemented by radiation coefficients;

— in Calculation of thermal resistance according to Annex A are linked to the method of EN 15287-1 for taking into account the temperature dependence has been added;

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

— for chimney fans a calculation procedure has been added;

— “heating appliance” replaced by “combustion appliance”;

— New calculation for combustion air mass flow introduced;

— “Supply air” replaced by “combustion air".

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▌.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies methods for the calculation of the thermal and fluid dynamic characteristics of chimneys serving one [A1] combustion [A1] appliance.

The methods in this part of this European Standard are applicable to negative or positive pressure chimneys with wet or dry operating conditions. It is valid for chimneys with [A1] combustion [A1] appliances for fuels subject to the knowledge of the flue gas characteristics which are needed for the calculation.

The methods in this part of this European Standard are applicable to chimneys with one inlet connected with one appliance. The methods in Part 2 of this European Standard are applicable to chimneys with multiple inlets and one inlet with multiple appliances. Part 3 describes methods for the development of diagrams and tables for chimneys serving one [A1] combustion [A1] appliance.

2 Normative references

[A1] The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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. [A1]

EN 1443, *Chimneys - General requirements*

EN 1856-1, *Chimneys - Requirements for metal chimneys - Part 1: System chimney products*

EN 1859, *Chimneys — Metal chimneys — Test methods*

EN 13502, *Chimneys - Requirements and test methods for clay/ceramic flue terminals*

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

prEN 16475-2, *Chimneys - Accessories - Part 2: Chimney fans - Requirements and test methods*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1443 and the following apply.

[A1] ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp [A1]

3.1
heat output
Q
amount of heat produced by a [A1] combustion [A1]appliance per unit of time