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

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English Version

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

Conduits de fumée - Méthodes de calcul thermo-aédraulique - 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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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Contents

	Page
European foreword.....	5
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Symbols and abbreviations	12
5 Calculation method for non-balanced flue chimneys	17
5.1 General principles.....	17
5.2 Pressure requirements	17
5.2.1 Negative pressure chimneys	17
5.2.2 Positive pressure chimneys.....	18
5.3 Temperature requirement	19
5.4 Calculation procedure	19
5.5 Flue gas data characterising the A_1 combustion A_1 appliance.....	20
5.5.1 General.....	20
5.5.2 A_1 Flue gas mass flow and combustion air mass flow	20
5.5.3 Flue gas temperature	21
5.5.4 Minimum draught for the A_1 combustion A_1 appliance (P_W) for negative pressure chimney	22
5.5.5 Maximum draught for the A_1 combustion A_1 appliance ($P_{W\max}$) for negative pressure chimney.....	23
5.5.6 Maximum differential pressure of the A_1 combustion A_1 appliance (P_{W0}) for positive pressure chimney.....	23
5.5.7 Minimum differential pressure of the A_1 combustion A_1 appliance ($P_{W0\min}$) for positive pressure chimney.....	23
5.6 Characteristic data for the calculation	23
5.6.1 General.....	23
5.6.2 Mean value for roughness (r)	23
5.6.3 Thermal resistance ($1/\Lambda$).....	23
5.7 Basic values for the calculation.....	24
5.7.1 Air temperatures.....	24
5.7.2 External air pressure (p_L)	26
5.7.3 Gas constant	26
5.7.4 Density of the external air (ρ_L).....	26
5.7.5 Specific heat capacity of the flue gas (c_p)	27
5.7.6 Condensing temperature (T_{sp})	27
5.7.7 Correction factor for temperature instability (S_H).....	27
5.7.8 Flow safety coefficient (S_E).....	27
5.8 Determination of the temperatures	27
5.8.1 General.....	27
5.8.2 Calculation of the coefficient of cooling (K).....	28
5.8.3 Coefficient of heat transmission (k_b).....	28
5.9 Determination of the density of the flue gas and the velocity of the flue gas.....	31
5.9.1 Density of the flue gas (ρ_m)	31
5.9.2 Velocity of the flue gas (w_m)	31

5.10 Determination of the pressures	31
5.10.1 Pressure at the flue gas inlet into the chimney.....	31
5.10.2 Theoretical draught available due to chimney effect (P_H).....	32
5.10.3 Pressure resistance of the chimney (P_R)	33
5.10.4 Wind velocity pressure (P_L)	34
5.11 Minimum draught required at the flue gas inlet into the chimney and maximum allowed draught (P_{ze} and P_{zemax}) and maximum and minimum differential pressure at the flue gas inlet into the chimney (P_{zoe} and P_{zoemin})	35
5.11.1 General	35
5.11.2 Minimum and maximum draught for the A_1 combustion A_1 appliance (P_w and P_{wmax}) and maximum and minimum differential pressure of the A_1 combustion A_1 appliance (P_{wo} and P_{womin})	36
5.11.3 Effective pressure resistance of the connecting flue pipe (P_{FV})	36
5.11.4 Pressure resistance of the air supply (P_B)	37
5.12 Calculation of the inner wall temperature at the chimney outlet (T_{iob}).....	38
6 Secondary air for negative pressure chimneys	40
6.1 General	40
6.2 Calculation method.....	40
6.3 Basic values for the calculation of secondary air	40
6.3.1 General	40
6.3.2 Mixing calculations	40
6.4 Pressures	41
6.4.1 Pressure resistance for the air supply with secondary air (P_{BNL})	41
6.4.2 Draught required for the secondary air devices (P_{NL}).....	43
6.4.3 Pressure resistance for that part of the connecting flue pipe before the secondary air device (P_{FV1})	44
6.4.4 Pressure requirement with secondary air	44
6.5 Temperature requirement with secondary air	44
7 Calculation method for balanced flue chimneys	45
7.1 General principles	45
7.2 Pressure requirements.....	46
7.3 Temperature requirements.....	46
7.4 Calculation procedure.....	46
7.5 Flue gas data characterizing the A_1 combustion A_1 appliance	47
7.6 Characteristic data for the calculation.....	47
7.7 Basic values for the calculation	47
7.7.1 Air temperatures	47
7.7.2 Other basic values	48
7.8 Determination of the temperatures.....	48
7.8.1 Non-concentric (separate) ducts.....	48
7.8.2 Concentric ducts – calculation based on a correction factor for heat radiation	49
7.8.3 Concentric ducts – calculation based on calculated heat radiation	64
7.8.4 Mean temperatures for pressure calculation.....	68
7.9 Determination of densities and velocities.....	69
7.9.1 Density and velocity of the flue gas	69
7.9.2 Density and velocity of the A_1 combustion A_1 air.....	69
7.10 Determination of pressures.....	70
7.10.1 Pressure at the flue gas inlet into the chimney.....	70
7.10.2 Theoretical draught due to chimney effect in the chimney segment (P_H)	70
7.10.3 Pressure resistance in the chimney segment (P_R)	70
7.10.4 Wind velocity pressure (P_L)	70

7.11 Minimum draught required at the flue gas inlet into the chimney and maximum allowed draught (P_{Ze} and P_{Zemax}) and maximum and minimum differential pressure at the flue gas inlet into the chimney (P_{Zoe} and P_{Zoemin})	71
 7.11.1 General.....	71
 7.11.2 Minimum and maximum draught for the A_1 combustion A_1 appliance (P_w and P_{wmax}) and maximum and minimum differential pressure of the A_1 combustion A_1 appliance (P_{wo} and P_{womin}).....	71
 7.11.3 Effective pressure resistance of the connection pipe (P_{FV})	71
 7.11.4 Pressure resistance of the air supply.....	71
7.12 Calculation of the inner wall temperature at the chimney outlet (T_{iob})	74
8 Consideration of the condensation heat of the flue gas water vapour	75
 8.1 General.....	75
 8.2 Onset of condensation	75
 8.3 Calculation of the flue gas temperature at the outlet of a chimney segment with condensation ($j \geq NsegK$)	78
9 Consideration of chimney fans.....	83
 9.1 General.....	83
 9.2 Inline fans	84
 9.3 Exhaust fans	85
Annex A (informative) Calculation of thermal resistance	86
Annex B (informative) Tables	87
Annex C (informative) Chimney outlet with regard to adjacent buildings.....	104
Annex D (informative) Determination of the gas constant R considering the condensation	105

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

EN 13384-1:2015+A1:2019 (E)

- 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 $\langle A_1 \rangle$ combustion $\langle A_1 \rangle$ 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 $\langle A_1 \rangle$ combustion $\langle A_1 \rangle$ 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 $\langle A_1 \rangle$ combustion $\langle A_1 \rangle$ appliance.

2 Normative references

$\langle A_1 \rangle$ 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. $\langle A_1 \rangle$

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)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN