



SLOVENSKI STANDARD
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Dimniki - Zahteve za kovinske dimnike - 1. del: Proizvodi za systemske dimnike

Chimneys - Requirements for metal chimneys - Part 1: System chimney products

Abgasanlagen - Anforderungen an Metall- Abgasanlagen - Teil 1: Bauteile für System-Abgasanlagen

Conduits de fumée - Prescriptions pour les conduits de fumée métalliques - Partie 1 : Composants de systèmes de conduits de fumée

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EUROPEAN STANDARD
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English Version

Chimneys - Requirements for metal chimneys - Part 1: System chimney products

Conduits de fumée - Prescriptions pour les conduits de
fumée métalliques - Partie 1 : Composants de systèmes
de conduits de fumée

Abgasanlagen - Anforderungen an Metall-
Abgasanlagen - Teil 1: Bauteile für System-
Abgasanlagen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 166.

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Contents

	Page
European foreword.....	5
Introduction	6
1 Scope.....	7
2 Normative references.....	7
3 Terms and definitions	7
4 Product characteristics.....	13
4.1 General.....	13
4.2 Dimensions and tolerance	13
4.3 Mechanical resistance and stability	14
4.3.1 Compressive strength.....	14
4.3.2 Tensile strength.....	14
4.3.3 Lateral strength	14
4.4 Reaction to fire.....	15
4.5 Resistance to fire.....	15
4.5.1 Resistance to fire (external to external).....	15
4.5.2 Sootfire resistance classes.....	15
4.5.3 Sootfire resistance	15
4.5.4 Thermal performance under normal operating conditions.....	15
4.6 Hygiene, health and environment, gas tightness.....	16
4.7 Safety in use.....	17
4.7.1 Accidental human contact.....	17
4.7.2 Thermal resistance.....	17
4.7.3 Condensate resistance (vapour phase).....	17
4.7.4 Condensate penetration (liquid phase)	18
4.7.5 Rainwater penetration resistance	18
4.7.6 Flow resistance of the chimney, fittings and terminals.....	18
4.7.7 Other characteristics for terminals	18
4.8 Durability	19
4.8.1 Durability of the flue liner against corrosion	19
4.8.2 Freeze-thaw resistance	22
4.8.3 Elastomeric seals in flue liners	22
4.9 Specific characteristics for concentric and multi-served chimneys and their terminals.....	22
4.9.1 General.....	22
4.9.2 Single and multi-served concentric chimney.....	23
4.9.3 Terminals.....	23
4.9.4 Balanced flue terminals, for single and multi-served chimneys.....	24
4.9.5 Non-balanced terminals for multi-served chimneys.....	28
5 Testing, assessment and sampling methods specific to metal chimneys	28
5.1 General.....	28
5.2 Compressive strength.....	28
5.2.1 Sections and Fittings	28
5.2.2 Chimney support.....	30
5.3 Tensile strength.....	32
5.3.1 Test assembly	32

5.3.2	Test procedure and results	32
5.4	Lateral strength.....	34
5.4.1	Fittings in non-vertical orientation.....	34
5.4.2	Wind load.....	34
5.5	Thermal performance test	35
5.5.1	General	35
5.5.2	Test structure.....	35
5.5.3	Test chimney	36
5.5.4	Vibration conditioning.....	36
5.6	Corrosion resistance test	36
5.7	Rainwater ingress for terminals	36
5.8	Flow resistance test	36
5.8.1	Flow resistance test for terminals	36
5.8.2	Flow resistance test for fittings	38
5.9	Flow resistance test for air supply ducts of the concentric chimneys.....	38
5.10	Wind effect test.....	38
5.11	Resistance to penetration by foreign objects	39
5.11.1	Test assembly.....	39
5.11.2	Procedure	39
5.11.3	Results	39
5.12	Vertical load on the terminal.....	39
5.12.1	Test assembly.....	39
5.12.2	Procedure	39
5.12.3	Test results.....	39
5.13	Thermal resistance for the air intake of the chimney and terminal.....	39
5.13.1	Procedure	39
5.13.2	Calculation of the thermal resistance of the flue duct.....	40
5.13.3	Calculation of the thermal resistance between the supply air and the ambient air	44
6	Assessment and verification of constancy of performance – AVCP	46
6.1	General	46
6.2	Type testing	46
6.2.1	General	46
6.2.2	Test samples, testing and compliance criteria.....	47
6.3	Factory production control (FPC).....	52
6.3.1	General	52
6.3.2	Characteristics	53
6.3.3	Product specific characteristics	55
6.3.4	Initial inspection of factory and of FPC	55
6.3.5	Continuous surveillance of FPC	56
6.3.6	Procedure for modifications.....	56
6.3.7	One-off components, pre-production products (e.g. prototypes) and components produced in very low quantity.....	56
7	Product classification and designation.....	57
7.1	Manufacturer's instructions	57
7.2	Minimum information to be included in the manufacturer's documentation and instructions.....	57
7.3	Classification and designation	59
8	Marking, labelling and packaging.....	59
8.1	Chimney sections, fittings or terminals.....	59
8.2	Chimney plate	60
8.3	Packaging.....	60

prEN 1856-1:2019 (E)

Annex A (normative) Corrosion test	61
A.1 Sampling and preconditioning	61
A.2 Test methods	62
A.3 Evaluation	64
A.4 Test report	66
Annex B (normative) Sampling for factory production control	71
B.1 Incoming material	71
B.2 In-process inspection	72
Annex C (normative) Factory production control	73
C.1 General	73
C.2 Insulation material	73
C.3 Metals, including coatings	73
C.4 Supports	73
C.5 Seals and sealants	73
C.6 Manufacturing checks	74
Annex D (informative) Method for applying an evenly distributed load (horizontal)	75
Annex E (normative) Simplified calculation of thermal resistance for circular flues	76
Annex ZA (informative) Relationship of this European Standard with Regulation (EU) No.305/2011	78
ZA.1 Scope and relevant characteristics	78
ZA.2 System of Assessment and Verification of Constancy of Performance (AVCP)	81
ZA.3 Assignment of AVCP tasks	82
Bibliography	84

European foreword

This document (prEN 1856-1:2019) has been prepared by Technical Committee CEN/TC 166 "Chimneys", the secretariat of which is held by ASI.

This document is currently submitted to the CEN Enquiry.

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

For relationship with EU Regulation(s), see informative Annex ZA, which is an integral part of this document.

This document will supersede EN 1856-1:2009, EN 1859:2009+A1:2013, EN 14989-1:2007 and EN 14989-2:2007.

The main changes to EN 1856-1:2009 are:

- adoption of the template for harmonized standards under the EU Construction Products Regulation (305/2011/EU) meaning a clearer definition of the Scope, rewording in Clause 4 "Product characteristics", Clause 5 "Testing, assessment and sampling methods" and Clause 7 "Product classification and designation", and adoption of the template for Clause 6 "Assessment and verification of constancy of performance";
- adoption of a new revised Annex A "Corrosion tests";

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prEN 1856-1:2019 (E)**Introduction**

The generic word "chimney", when used in this document, refers to systems with metallic liner used to convey the products of combustion from combustion appliances to the outside atmosphere, and thus includes all other terms of common use in the trade, such as vents, flues, shafts, exhaust systems, ducts, etc.

For addressing the durability against corrosion, a unique corrosion test has been introduced in Annex A; the material table with minimum material specification of the former edition has been taken over.

This document describes chimney components, from which system chimneys can be assembled.

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1 Scope

This document specifies the characteristics of performance for single and multi-wall system chimney products with rigid metal liners (chimney sections, chimney fittings and terminals, including supports) with nominal diameter up to and including 1 200 mm, used to convey the products of combustion from appliances to the outside atmosphere.

This document also specifies characteristics for the air supply ducts of concentric chimneys for room-sealed application. Additionally, it specifies the characteristics for marking, manufacturer's instructions, product information and assessment and verification of constancy of performance (AVCP). Metal liners and metal connecting flue pipes not covered here are included in prEN 1856-2:2019.

This document does not apply to structurally independent (free standing or self-supporting) chimneys.

2 Normative references

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.

EN 573-3:2013, *Aluminium and aluminium alloys – Chemical composition and form of wrought products – Part 3: Chemical composition and form of products*

EN 1443:2019, *Chimneys – General requirements*

EN 10088-1:2014, *Stainless steels – Part 1: List of stainless steels*

EN 13216-1:2019, *Chimneys — Test methods for system chimneys — Part 1: General test - Methods*

EN 13384-1:2015,¹⁾ *Chimneys – Thermal and fluid dynamic calculation methods – Part 1: Chimneys serving one appliance*

EN 14241-1:2013, *Chimneys — Elastomeric seals and elastomeric sealants — Material requirements and test methods — Part 1: Seals in flue liners*

EN 14471:2013+A1:2015, *Chimneys — System chimneys with plastic flue liners — Requirements and test methods*

EN 60068-2-57:2013, *Environmental testing — Part 2-57: Tests — Test Ff: Vibration — Time-history and sine-beat method (IEC 60068-2-57:2013)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1443:2019 and the following apply.

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>

1) This document is impacted by the amendment EN 13384-1:2015/prA1.

prEN 1856-1:2019 (E)**3.1****appliance outlet**

position where the products of combustion exit from the appliance

3.2**balanced flue terminal**

terminal unit consisting of a flue duct, which may be provided with a cover, and an air supply duct for the connection of a room sealed appliance

3.3.1**chimney**

structure consisting of a wall or walls enclosing a flue or flues conveying the products of combustion into the outside atmosphere

Note 1 to entry: The generic word “chimney”, when used in this standard, refers to chimneys used to convey the products of combustion from any combustion appliance to the outside atmosphere, and thus includes all other terms of common use, such as: vents, flues, shafts, exhaust systems, flue ducts, etc.

[SOURCE: EN 1443:2019, 3.5]

3.3.2**chimney accessory**

additional flue gas carrying component added to a chimney or a connecting flue pipe to perform a particular function

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3.3.3**chimney component**

any part of a chimney, of a flue liner or of a connecting flue pipe

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3.4**chimney designation**

shortened description of a specific chimney type, which clearly distinguishes it from any other types

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3.5**chimney fitting**

component of a chimney, of a flue liner or of a connecting flue pipe conveying products of combustion except a section

3.6**chimney section**

straight chimney component of a flue liner or of a connecting flue pipe, conveying products of combustion

3.7**cladding**

additional non-structural outer wall around a chimney for protection against heat transfer or weathering, or for decorative purposes

3.8**concentric chimney**

flue duct fully surrounded by the air supply duct

3.9**connecting flue pipe**

component or components connecting the heating appliance outlet and the chimney

[SOURCE: EN 1443:2019, 3.8]

3.10**corrosion load**

combination of condensate and corrosion resistance classes necessary for the different operating conditions and types of fuel

3.11**custom built chimney**

chimney that is installed or built on-site using a combination of compatible chimney components that may be from one or different sources

[SOURCE: EN 1443:2019, 3.20]

3.12**design load (DL)**

load which a chimney or its components are designed to be subjected to, under normal operating conditions, when installed as per manufacturer's installation instruction

3.13**dry operating condition**

condition when the chimney is designed to operate normally with the temperature of the inner surface of the flue liner at or above the water dew point

Note 1 to entry: Dry operating condition is designated "D".

[SOURCE: EN 1443:2019, 3.29]

3.14**enclosure**

additional structure, combustible or non-combustible, built around a chimney

Note 1 to entry: An enclosure which is specified as a part of the chimney is considered an "outer wall" of the chimney.

Note 2 to entry: Enclosures can for example give additional safety in case of fire, provide additional heat transfer resistance, prevent accidental human contact, prevent impact damage and can be used for decorative purposes.

[SOURCE: EN 1443:2019]

3.15**external installation**

part of a chimney, which is located outside the building

3.16**firestops**

barrier to prevent the spread of fire

prEN 1856-1:2019 (E)**3.17****flexible pipe**

metal liner, or metal connecting flue pipe having a single or double skin construction, designed to bend in any direction without permanent deformation

3.18**flue**

passage for conveying the products of combustion to the outside atmosphere

[SOURCE: EN 1443:2019, 3.2]

3.19**flue gas**

gaseous portion of the products of combustion conveyed in a flue

[SOURCE: EN 1443:2019, 3.3]

3.20**metal flue liner**

inner wall of a chimney consisting of components the surface of which is in contact with products of combustion

3.21**combustion appliances**

unit generating products of combustion which need to be conveyed to the outside atmosphere

Note 1 to entry: E.g. heating appliances, cooking appliances, motors, CHPs (Combined Heat and Power).

3.22**insulation**

material or air gap between the flue liner and the outer wall, designed to increase thermal resistance of the chimney

3.23**internal installation**

part of a chimney which is located inside a building

3.24**joint**

connection between two components

[SOURCE: EN 1443:2019, 3.15]

3.25**manufacturer instructions**

product written information which is provided for use by the buyer or installer

3.26**metal chimney**

chimney with its flue liner made of metal, which may have additional surrounding structural elements and accessories, as well as insulation

3.27**minimum declared wall thickness**

value declared for the minimum thickness, after manufacturing of the walls

3.28**multi-wall chimney**

chimney consisting of a flue liner and at least one additional wall

[SOURCE: EN 1443:2019, 3.18]

3.29**multi-wall metal chimney**

chimney of two walls or more, all made of metal

3.30**negative pressure chimney**

chimney designed to operate with the pressure inside the flue equal or less than the pressure outside the flue

Note 1 to entry: The class for negative pressure is "N".

[SOURCE: EN 1443:2019, 3.26]

3.31**nominal size**

whole number representing the value of the internal diameter of the flue liner, expressed in millimetres

3.32**non enclosed chimney**

chimney which is installed without any enclosure or cladding

3.33**outer wall**

external wall of a chimney from the surface of which the distance to combustible material is measured

[SOURCE: EN 1443:2019]

3.34**positive pressure chimney**

chimney designed to operate with the pressure inside the flue greater than the pressure outside the flue

Note 1 to entry: Classes for positive pressure are e.g. "P", "M", "H".

[SOURCE: EN 1443:2019, 3.27]

3.35**relining**

process of restoring or replacing the flue liner of a chimney

[SOURCE: EN 1443:2019, 3.21]

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prEN 1856-1:2019 (E)**3.36****resistance to fire**

ability of a chimney to prevent ignition of adjacent combustible material, and to prevent the spread of fire to adjacent areas

3.37**single-wall chimney**

chimney with only one wall

[SOURCE: EN 1443:2019, 3.17]

3.38**sootfire**

combustion of the flammable residue deposited on the flue liner

[SOURCE: EN 1443:2019, 3.31]

3.39**structurally independent chimney**

chimney which is not attached to buildings, masts or other support structure

3.40**support**

chimney accessory used to fix, or transfer the load of, chimney components to structural elements (building, mast, etc.)

3.41**system chimney**

chimney that is installed using a combination of compatible chimney components, obtained or specified from one manufacturing source with product responsibility for the whole chimney

[SOURCE: EN 1443:2019, 3.19]

3.42**terminal**

component installed at the outlet of a chimney or a flue liner

Note 1 to entry: There are terminals only for decorative purposes or terminals intended for specified performances.

[SOURCE: EN 1443:2019, 3.14]

3.43**test assembly**

complete assembly of all parts necessary to enable the specific performance criteria to be assessed, comprising test chimney, test structures, and measuring equipment (as specified in the test method)

3.44**test chimney**

assembly of the chimney components (as specified in the test method), necessary to the assessment of a specific performance criteria of a metal system chimney product

3.45**test structure**

assembly of the additional materials (non-chimney components) to enable the test chimney to be assessed for the specific performance criteria

3.46**thermal resistance of a chimney**

resistance to heat transfer through the wall or walls of the chimney

Note 1 to entry: The thermal resistance of a chimney is given as $(1/A)$.

[SOURCE: EN 1443:2019, 3.36]

3.47**wet operating condition**

condition when the chimney is designed to operate normally with the temperature of the inner surface of the flue liner below the water dew point

Note 1 to entry: Wet operating condition is designated "W".

Note 2 to entry: The characteristic "W" is not related to rainwater ingress.

[SOURCE: EN 1443:2019, 3.30]

3.48**nominal working temperature**

flue gas temperature under normal operating conditions of the combustion appliance at maximum heat input as specified in the appliance product standards

[SOURCE: EN 1443:2019, 3.2.5]

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4 Product characteristics**4.1 General**

These product characteristics apply to products, which have been designed as a liner or connecting flue pipe as well as to chimneys according to prEN 1856-1:2019, which are used as a liner or connecting flue pipe.

Unless otherwise stated, performance characteristics for fittings shall be the same as those for chimney sections.

4.2 Dimensions and tolerance

4.2.1 The thickness of the material from which the components are made shall be not less than the minimum declared wall thickness. The tolerance for material thickness shall not be more than $\pm 10\%$ of the nominal thickness.

4.2.2 The declared internal diameter of the fitting or section shall be not less than ± 5 mm from the nominal size. The measured internal diameter of the fitting or section shall not be less than the diameter declared.