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Dimniki - Projektiranje, vgradnja in pregled - 1. del: Dimniki in povezovalni dimovodi za ogrevalne naprave v nezatesnjenih prostorih

Chimneys - Design, installation and commissioning - Part 1: Chimneys and connecting flue pipes for non-room sealed combustion appliances

Abgasanlagen - Planung, Montage und Abnahme - Teil 1: Senkrechte Teile von Abgasanlagen und Verbindungsstücke für raumluftabhängige Verbrennungseinrichtungen

Conduits de fumée - Conception, installation et mise en oeuvre - Partie 1: Conduits de fumée et conduits de raccordement pour appareils à combustion qui dépendent de l'air dans la pièce

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**Chimneys - Design, installation and commissioning - Part
1: Chimneys and connecting flue pipes for non-room
sealed combustion appliances**

Conduits de fumée - Conception, installation et mise en service - Partie 1: Conduits de fumée et conduits de raccordement pour appareils de combustion qui prélèvent l'air comburant dans la pièce

Abgasanlagen - Planung, Montage und Abnahme - Teil 1: Senkrechte Teile von Abgasanlagen und Verbindungsstücke für raumluftabhängige Verbrennungseinrichtungen

This European Standard was approved by CEN on 5 June 2023.

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European foreword

This document (EN 15287-1:2023) 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of an identical text or by endorsement, at the latest by January 2024 and conflicting national standards shall be withdrawn at the latest by January 2024.

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 will supersede EN 15287-1:2007+A1:2010.

This European Standard is part of the series *Chimneys — Design, installation and commissioning*:

- *Part 1: Chimneys and connecting flue pipes for non-room sealed combustion appliances;*
- *Part 2: Chimneys and connecting flue pipes for room sealed combustion appliances.*

In comparison with the previous edition, the following technical modifications have been made:

- a) restructuring of the chapters and annexes;
- b) harmonization of the text with part 2;
- c) updating the content according to EN 1443:2019;
- d) adoption of all relevant terms from EN 1443:2019;
- e) description of the designation and classes of a chimney according to EN 1443:2019;
- f) expanding the specifications for accessories;
- g) recommendations for some minimum distances from combustible material;
- h) scope now also covers chimneys for medium and high positive pressure.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

EN 15287-1:2023 (E)**Introduction**

CEN/TC 166 started with its programme on standardization of chimneys approximately 30 years ago, with standards for interfaces, for products, for tests and last but not least for design, installation, construction and commissioning matters.

In the last years, first priority in the work program was given to product and test standards.

In the meantime, most of the product and test standards were published or are nearly ready for publication. In order to introduce the products in a simple way on the markets of the different Member States, some common rules for design, installation, and commissioning especially with reference to the designation of a chimney were considered helpful.

Initially, CEN/TC 166/SC 2 started the work on execution standards for metal chimneys, the first standard being EN 12391-1 in 2003.

In order not to repeat this work in all material orientated WGs and SCs, CEN/TC 166 decided in 2002 to give the task to WG 1 to develop a material independent design, installation and commissioning standard.

CEN/TC 166/WG 1 started the work in 2003 and decided first to draft two documents, one for chimneys connected to non-room sealed combustion appliances and one for chimneys connected to room sealed combustion appliances.

Application of this document presupposes awareness of applicable legal requirements in the different CEN Member States and its affiliates. In CEN Member States and its affiliates where no applicable legal requirements exist, this document provides guidance for the design, installation and commissioning of chimneys.

NOTE Where “Member States” is mentioned in this document this also includes affiliates.

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1 Scope

This document describes the method of specifying the design, installation and labelling criteria for system chimneys, construction of custom-built chimneys, the relining of existing chimneys and connecting flue pipes for non-room sealed combustion appliances as well as the use of chimney products. It also gives information on commissioning of an installed chimney.

This document applies to chimneys which are subject to the following limiting conditions:

- the distance between the supports not to exceed 4 m;
- the distance above the last structural attachment not to exceed 3 m;
- the free-standing height above the uppermost structural support attachment for chimneys with rectangular cross section is not more than five times the smallest external dimension.

The methods in this part of this document are applicable to chimneys and connecting flue pipes for non-room sealed combustion appliances. The methods in Part 2 of this document are applicable to chimneys and connecting flue pipes for room sealed combustion appliances.

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 1443:2019, *Chimneys - General requirements*

EN 1457-1, *Chimneys - Clay/ceramic flue liners - Part 1: Flue liners operating under dry conditions - Requirements and test methods*

EN 1457-2, *Chimneys - Clay/ceramic flue liners - Part 2: Flue liners operating under wet conditions - Requirements and test methods*

EN 1806, *Chimneys - Clay/ceramic flue blocks for single wall chimneys - Requirements and test methods*

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

EN 1856-2, *Chimneys - Requirements for metal chimneys - Part 2: Metal flue liners and connecting flue pipes*

EN 1857, *Chimneys - Components - Concrete flue liners*

EN 1858, *Chimneys - Components - Concrete flue blocks*

EN 12446, *Chimneys - Components - Concrete outer wall elements*

EN 13063-1, *Chimneys - System chimneys with clay/ceramic flue liners - Part 1: Requirements and test methods for sootfire resistance*

EN 13063-2, *Chimneys - System chimneys with clay/ceramic flue liners - Part 2: Requirements and test methods under wet conditions*

EN 13069, *Chimneys - Clay/ceramic outer walls for system chimneys - Requirements and test methods*

EN 13084-1, *Free-standing chimneys - Part 1: General requirements*

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

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

EN 13384-2, *Chimneys - Thermal and fluid dynamic calculation methods - Part 2: Chimneys serving more than one combustion appliance*

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

EN 14297, *Chimneys - Freeze-thaw resistance test method for chimney products*

EN 14471, *Chimneys - System chimneys with plastic flue liners - Requirements and test methods*

EN 16497-1, *Chimneys - Concrete System Chimneys - Part 1: Non-balanced flue applications*

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 terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/>

NOTE Examples of chimney construction identifying individual component terminology and definitions are given in Figures A.1, A.2 and A.3 in Annex A.

3.1 fire compartment

part of the building comprising one or more rooms, spaces or storeys constructed to prevent the spread of fire

3.2 combustion appliance

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 (en: combined heat power).

[SOURCE: EN 1443:2019, 3.1]

3.3 flue

passage for conveying the products of combustion to the outside atmosphere

[SOURCE: EN 1443:2019, 3.2]

3.4 flue gas

gaseous portion of the products of combustion conveyed in a flue

[SOURCE: EN 1443:2019, 3.3]

3.5**products of combustion**

products resulting from the combustion of fuel (gaseous, liquid and solid constituents)

[SOURCE: EN 1443:2019, 3.4]

3.6**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 document, 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]

3.7**chimney stack**

chimney enclosing more than one flue

3.8**single-wall chimney**

chimney with only one wall

[SOURCE: EN 1443:2019, 3.17]

3.9**multi-wall chimney**

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

[SOURCE: EN 1443:2019, 3.18]

3.10**system chimney**

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

[SOURCE: EN 1443:2019, 3.19]

3.11**custom-built chimney**

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

[SOURCE: EN 1443:2019, 3.20]

3.12**relining**

process of renovating or replacing the flue liner of a chimney

[SOURCE: EN 1443:2019, 3.21]

EN 15287-1:2023 (E)**3.13****flue liner**

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

[SOURCE: EN 1443:2019, 3.6, modified — Replaced “surface” with “inner surface”.]

3.14**flue liner kit**

flue liner that is installed using a combination of compatible flue liner components, obtained or specified as a kit from one manufacturing source with product responsibility for the whole flue liner including all its components

Note 1 to entry: A flue liner kit is not considered a system chimney.

[SOURCE: EN 1443:2019, 3.7]

3.15**rigid flue liner**

flue liner that cannot bend without permanent deformation

3.16**flexible flue liner**

tube having a single or multi-skin construction that is able to bend in any direction without permanent deformation

3.17**outer wall**

external wall of a chimney, on the outer surface of which the minimum distance to combustible material is referred

[SOURCE: EN 1443:2019, 3.22, modified — Replaced “from the surface of which the distance to combustible is measured” with “, on the outer surface of which the minimum distance to combustible is referred”.]

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3.18**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, 3.23]

3.19**mid feather wall**

dividing wall separating multiple flues within a chimney stack

3.20**flue block**

factory-made single- or multi-wall chimney component with one or more flues

[SOURCE: EN 1443:2019, 3.24]

3.21**connecting flue pipe**

component or components connecting the combustion appliance outlet and the chimney

[SOURCE: EN 1443:2019, 3.8]

3.22**component**

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

[SOURCE: EN 1443:2019, 3.9]

3.23**section**

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

[SOURCE: EN 1443:2019, 3.10]

3.24**joint**

connection between two components

[SOURCE: EN 1443:2019, 3.15]

3.25**seal**

prefabricated element that joins two components in such a way as to fulfil leakage requirements

[SOURCE: EN 14241-1:2013, 3.7, modified — Replaced “prevent leakage” by “fulfil leakage requirements”.]

3.26**sealant**

material which, applied in an unformed state to a joint, seals it by adhering to appropriate surfaces within the joint in such a way as to fulfil leakage requirements

3.27**fitting**

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

[SOURCE: EN 1443:2019, 3.11]

3.28**elbow/bend**

chimney fitting which provides a change of direction of the flue

3.29**T-piece**

chimney fitting which allows a combustion appliance, connecting flue pipe or accessory to be connected to the chimney flue at an angle

EN 15287-1:2023 (E)**3.30****access component**

component installed in the chimney or in the connecting flue pipe to provide access to the flue for the purpose of inspection or cleaning

Note 1 to entry: An access component can be a part of a system chimney, flue liner or connecting flue pipe or can be an accessory.

3.31**back ventilation**

ventilation of the space between two walls of the chimney or the chimney and an enclosure

3.32**centralising spacer**

component to centralize the flue liner

3.33**support**

component of a chimney, a flue liner or a connecting flue pipe used to fix, or transfer the load of components to structural elements

Note 1 to entry: Structural elements can be a building, a mast, etc.

[SOURCE: EN 1443:2019, 3.13]

3.34**sleeve**

component which provides an aperture through a wall, floor or roof through which a chimney or a connecting flue pipe pass

3.35**flashing**

prefabricated component or site fabricated materials used for weatherproofing the penetration of the roof by the chimney

3.36**fire stop**

component intended to provide fire resistance to fire spread between rooms or compartments

3.37**chimney adapter**

component which connects the chimney to the connecting flue pipe or a combustion appliance

3.38**combustion appliance adapter**

component which connects the connecting flue pipe or the chimney to a combustion appliance

3.39**test point**

component that provides access for flue gas sampling and measurement

3.40**accessory**

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

[SOURCE: EN 1443:2019, 3.12]