
**Oprema za profesionalne kuhinje - Sestavni deli za prezračevanje v kuhinjah - 2.
del: Kuhinjske prezračevalne nape - Projektiranje in varnostne zahteve**

Equipment for commercial kitchens - Components for ventilation in commercial kitchens -
Part 2: Kitchen ventilation hoods; design and safety requirements

Bauelemente in gewerblichen Küchen - Einrichtungen zur Be- und Entlüftung - Teil 2:
Küchenlüftungshauben; Gestaltungs- und Sicherheitsanforderungen

Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines
professionnelles - Partie 2: Hottes de ventilation pour cuisine - Conception et exigences
de sécurité

<https://standards.iteh.ai/catalog/standards/sist/70312832-8f59-4c5a-93e6-c8064bfbe7fe/sist-en-16282-2-2017>

Ta slovenski standard je istoveten z: EN 16282-2:2016

ICS:

91.140.30	Prezračevalni in klimatski sistemi	Ventilation and air-conditioning systems
97.040.99	Druga kuhinjska oprema	Other kitchen equipment

SIST EN 16282-2:2017

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 16282-2:2017

<https://standards.iteh.ai/catalog/standards/sist/70312832-8f59-4c5a-93e6-c8064bfe7fe/sist-en-16282-2-2017>

EUROPEAN STANDARD

EN 16282-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2016

ICS 97.040.99

English Version

Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 2: Kitchen ventilation hoods; design and safety requirements

Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines professionnelles - Partie 2: Hottes de ventilation pour cuisine - Conception et exigences de sécurité

Bauelemente in gewerblichen Küchen - Einrichtungen zur Be- und Entlüftung - Teil 2: Küchenlüftungshauben; Gestaltungs- und Sicherheitsanforderungen

This European Standard was approved by CEN on 22 July 2016.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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 United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 Hood types and configurations	6
5 Construction and function	8
5.1 General.....	8
5.2 Arrangement above the kitchen equipment/hood dimensions.....	8
5.2.1 Exterior dimensions.....	8
5.2.2 Suspension height.....	8
5.2.3 Hood dimension.....	9
5.2.4 Hood height/collection area	9
5.2.5 Hood facia	9
5.2.6 Special function hoods (grill hoods and bar/counter hoods).....	9
5.3 Materials.....	9
5.4 Separator.....	10
5.5 Blanking panel	11
5.6 Hood structure	11
5.7 Extract air connection	11
5.8 Air flow control devices.....	12
5.9 Integrated lighting.....	12
5.10 Peripheral channel for condensate collection.....	12
5.11 Air supply box/attachment	12
5.12 Integrated cleaning devices.....	13
6 Technical safety requirements	13
6.1 Separator - installation, dismantling and maintenance.....	13
6.2 Hood installation.....	13
6.3 Fabrication	14
6.4 Sealant.....	14
6.5 Integrated discharge ventilators.....	14
6.6 Electrical equipment.....	14
6.7 Earth bonding.....	14
7 Hygienic requirements	15
7.1 General hygienic requirements	15
7.2 Hood design.....	15
7.3 Aerosol removal elements	15
7.4 Lateral separator hoods	15
7.5 Cleaning	15
8 Instructions	16
8.1 Installation instructions	16
8.2 Operating instructions.....	16
8.3 Markings.....	17
Bibliography	18

European foreword

This document (EN 16282-2:2016) has been prepared by Technical Committee CEN/TC 156 "Ventilation for buildings", the secretariat of which is held by BSI.

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 May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

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.

The activities of CEN/TC 156/WG 14, cover the calculation of the air volume and the design and testing of major components of ventilation equipment for commercial kitchens.

The structure of the standard series is as follows:

EN 16282 *Equipment for commercial kitchens – Components for ventilation in commercial kitchens*

- *Part 1: General requirements including calculation method*
- *Part 2: Kitchen ventilation hoods; design and safety requirements*
- *Part 3: Kitchen ventilation ceilings; design and safety requirements*
- *Part 4: Air inlets and outlets; design and safety requirements*
- *Part 5: Air duct; design and dimensioning*
- *Part 6: Aerosol separators; design and safety requirements*
- *Part 7: Installation and use of fixed fire suppression systems*
- *Part 8: Installations for treatment of cooking fumes; requirements and testing*

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, 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.

EN 16282-2:2016 (E)**1 Scope**

This European Standard specifies requirements for the design, construction and operation of kitchen ventilation hoods, including technical safety, ergonomic and hygienic features.

This European Standard is applicable to ventilation systems in commercial kitchens, associated areas and other installations processing foodstuffs intended for commercial use. Kitchens and associated areas are special rooms in which meals are prepared, where tableware and equipment is washed, cleaned, food is stored and food waste areas.

This European Standard is applicable to ventilation hoods except those used in domestic kitchens.

A method of verification of each requirement is also specified. Unless otherwise specified, the requirements of this standard need to be checked by way of inspection and/or measurement.

NOTE Please note the possible existence of additional or alternative local national regulations on installation, appliance requirements and inspection, maintenance and operation.

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

EN 1717, *Protection against pollution of (potable water in water installations and general requirements of devices to prevent pollution by backflow*

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

EN 12464-1:2011, *Light and lighting - Lighting of work places - Part 1: Indoor work places*

EN 12665, *Light and lighting - Basic terms and criteria for specifying lighting requirements*

EN 16282-3, *Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 3: Kitchen ventilation ceilings - Design and safety requirements*

prEN 16282-6, *Equipment for commercial kitchens - Components for ventilation of commercial kitchens - Part 6: Aerosol separators; design and safety requirements*

EN 50274, *Low-voltage switchgear and controlgear assemblies - Protection against electric shock - Protection against unintentional direct contact with hazardous live parts*

EN 50310, *Telecommunications bonding networks for buildings and other structures*

EN 50525-2-(all parts), *Electric cables — Low voltage energy cables of rated voltages up to and including 450/750 V (U0/U)*

EN 60204-1, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1)*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

EN ISO 3274, *Geometrical product specifications (GPS) - Surface texture: Profile method - Nominal characteristics of contact (stylus) instruments (ISO 3274)*

EN ISO 4287, *Geometrical product specifications (GPS) - Surface texture: Profile method - Terms, definitions and surface texture parameters (ISO 4287)*

EN ISO 4288, *Geometrical product specifications (GPS) - Surface texture: Profile method - Rules and procedures for the assessment of surface texture (ISO 4288)*

EN ISO 12543 (all parts), *Glass in building — Laminated glass and laminated safety glass*

EN ISO 13565-1, *Geometrical product specifications (GPS) - Surface texture: Profile method; surfaces having stratified functional properties - Part 1: Filtering and general measurement conditions (ISO 13565-1)*

EN ISO 13565-2, *Geometrical product specifications (GPS) - Surface texture: Profile method; surfaces having stratified functional properties - Part 2: Height characterization using the linear material ratio curve (ISO 13565-2)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

kitchen ventilation hood

air terminal device which provides the facility to capture, contain and remove process pollutant and which can also provide a point of supply air back into the room space

Note 1 to entry: A hood can be equipped with lighting and can be a means of housing various types of filtration and can be integrated in flat ceilings in accordance with EN 16282-3.

Note 2 to entry: The lighting device is an integral part.

3.2

kitchen

part of a building where cooking processes are carried out, their connecting floors and distribution corridors, ancillary rooms such as food stores, cold rooms, food preparation areas and appliances are being cleaned

3.3

collection area

free volume within a hood bounded by internal surfaces and lowest hood edge

3.4

compartment

enclosed area behind the face of the separator which is connected to the outgoing air duct

3.5

aerosol

separated grease/oil/water mixture

3.6

separator

device for the efficient separation of airborne solid or liquid particles, based on the effect of mechanical forces that deflect the particles out of the airflow

EN 16282-2:2016 (E)**3.7****filter**

specific design of storage separators comprising an ordered and/or unordered structure of a number of individual fibres, wire mesh or porous surfaces/bodies

EXAMPLE An example of fibres/wires filter is fabric filters and an example of porous surfaces/bodies is activated carbon.

3.8**ventilating outlet**

element connecting the hood to the extract duct

3.9**blanking panel**

plate serving to adjust the airflow volume of the individual appliance

3.10**collection channel**

channel worked into the hood to collect the aerosol and cleaning fluid

3.11**discharge device**

device used to remove aerosol and cleaning fluid at the lowest point of the channel system using drain cocks, stoppers, drawers (pots) or water-removal lines connected firmly with the channel system

EXAMPLE Device consisting of drain taps, plugs, trays, pots or drainage devices fixed to the channel.

3.12**air supply plenum**

either an integral chamber or a chamber connected to the hood to feed air into the kitchen corresponding with supply air outlets

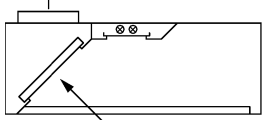
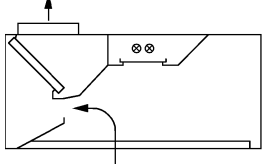
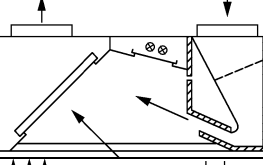
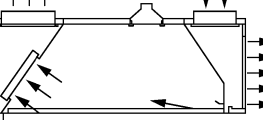
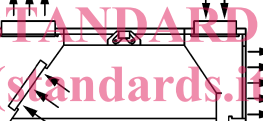
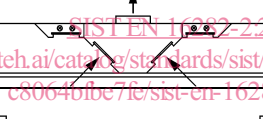
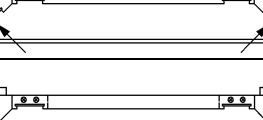
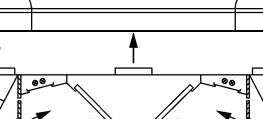
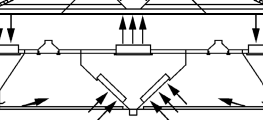
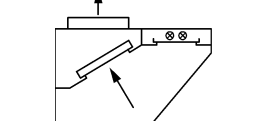
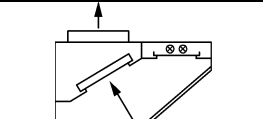

3.13**hood facia**

panel to enclose large gaps between two surfaces (building surfaces or other structure)

4 Hood types and configurations

Table 1 shows examples of typical hood types and configurations and design criteria. However manufacturers may use alternate types and configurations if they comply with the essential requirements of the relevant directives and or national regulations.

Table 1 — Examples of different hood types and configurations

Design	Picture (example)	Standard designation		
		Designations	EN number	Classification
Wall hood as box		Kitchen ventilation hood	EN 16282-2	-B1
Lateral extraction wall hood as box		Kitchen ventilation hood	EN 16282-2	-B2
Induction wall hood as box		Kitchen ventilation hood	EN 16282-2	-B3
Induction wall hood as box / hood with additional supply air		Kitchen ventilation hood	EN 16282-2	-B4
Wall hood as box / hood with additional supply air		Kitchen ventilation hood	EN 16282-2	-B5
Central hood as box / hood, central suction		Kitchen ventilation hood	EN 16282-2	-B6
Standard central hood as box / hood, both sides suction at side		Kitchen ventilation hood	EN 16282-2	-B7
Lateral extraction central hood as box / hood		Kitchen ventilation hood	EN 16282-2	-B8
Induction central hood as box / hood		Kitchen ventilation hood	EN 16282-2	-B9
Induction central hood as box / hood with additional supply air		Kitchen ventilation hood	EN 16282-2	-B10
Bar hood/counter hood		Kitchen ventilation hood	EN 16282-2	-B11
Grill hood		Kitchen ventilation hood	EN 16282-2	-B12

EN 16282-2:2016 (E)

EXAMPLE The classification for a standard wall hood as box B1:

Kitchen ventilation hood EN 16282-2-B1

5 Construction and function

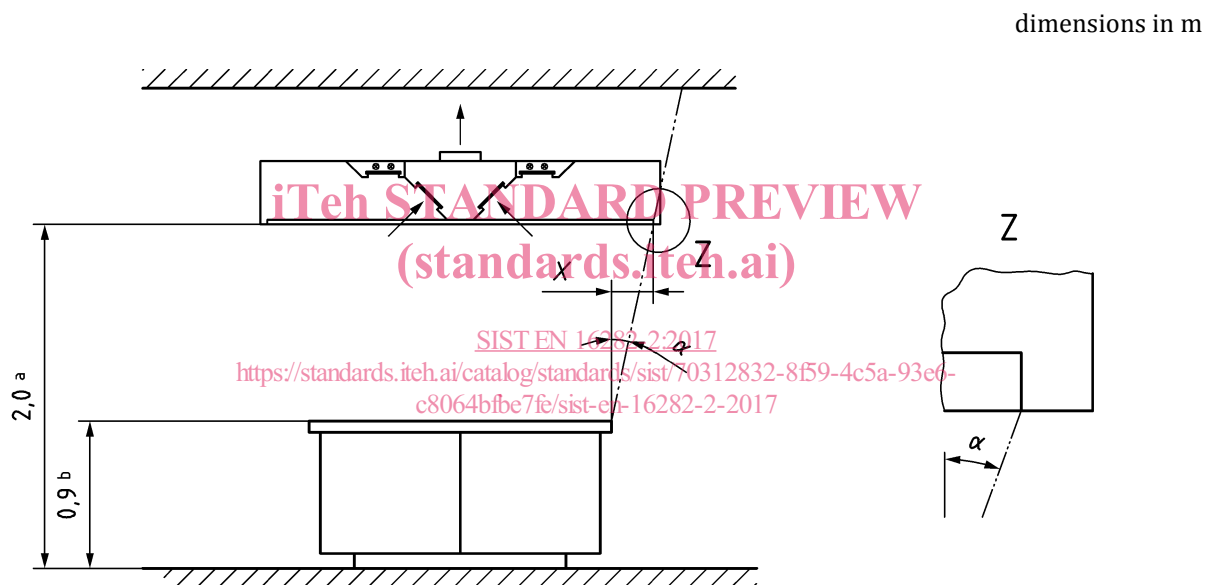
5.1 General

Air containing pollutants from the cooking and washing up process shall be treated by means of effective particulate separation. In commercial kitchens, hoods according to EN 16282-2 or ceilings according to EN 16282-3 shall be installed for ventilation.

5.2 Arrangement above the kitchen equipment/hood dimensions

5.2.1 Exterior dimensions

The exterior dimensions of hoods shall be determined by the dimensions of the equipment/equipment units situated underneath the hood.



Key

- a minimum installation height
- b height of the equipment
- α angle 15° (The angle describes the clear internal dimensions)
- Z detail
- X overhang

Figure 1 — Hood dimensions

5.2.2 Suspension height

The suspension height of installation for a hood, a, as specified in Figure 1 (lower edge of the hood, see Figure 1) shall be no less than 2,0 m and no greater than 2,5 m above floor level.

Installation heights deviating from this range are permitted for special function hoods e.g. grill hood and bar/counter hood.

5.2.3 Hood dimension

Hood length/width shall be configured so that an overhang of an angle, α , as specified in Figure 1, of 15° at least 0,3 m extending beyond the outer edge of the cooking equipment is ensured. For equipment with front doors (ovens, steamers) an overhang of at least 0,6 m shall be ensured. Hood lengths/heights deviating from this are permitted for special function hoods e.g. grill hood and bar/counter hood.

5.2.4 Hood height/collection area

The hood shall have a minimum height of 0,4 m.

The volume of the collection area shall be as large as the airflow volume to be extracted per second. For hoods that are arranged above equipment that generates a high quantity of aerosol (kettle, fryers, etc.) the hood height and the collection area shall match the equipment. This does not apply to special function hoods e.g. grill hood and bar/counter hood.

5.2.5 Hood fascia

The height of the canopy is governed by the ceiling height. The underside of the canopy shall be located between 2,0 m and 2,5 m above the finished floor level, the top shall project into the ceiling by a minimum of 25 mm to allow the false ceiling trim to be attached.

The opening of the access panel shall be possible without a tool.

5.2.6 Special function hoods (grill hoods and bar/counter hoods)

The height between the finished floor and the upper edge of a grill hood shall be equal or below 1,8 m.

The height between the finished floor and the lower edge of the collection area of a grill hood shall be equal or below 1,2 m.

The rear wall as well as a two-sided wall from the lower up to the upper edge shall be part of the equipment unit. <https://standards.iteh.ai/catalog/standards/sist/70312832-8f59-4c5a-93e6-c8064bfbc7fe/sist-en-16282-2-2017>

The distance between the lowest edge of the separator and the top of the cooking surface shall be a minimum of 0,45 m to avoid the risk of excessive temperatures or fire in the separator, which could cause the extracted grease to vaporize and pass through to the ductwork. This dimension may vary depending on the type of cooking appliance and if it is reduced below 0,45 m a fire suppression system shall be fitted.

Where gas-fired salamander grills are mounted at high-level in close proximity to the grease filters/extract plenum of a canopy, the grill shall be accompanied by a deflector cowl for the flue opening on top of the grill.

NOTE This encourages products of combustion to be directed away from the canopy and cool prior to being drawn through the separator. This reduces the potential of fire-flares, which are known to occur with such cooking appliances, being drawn into the separators to possibly ignite grease and oil deposits beyond. It also helps to prevent discolouration of the stainless steel surfaces immediately above these grills and carbonisation of deposits on the separators.

5.3 Materials

Materials of Table 2 shall be used.