



SLOVENSKI STANDARD

oSIST prEN 16282-2:2014

01-december-2014

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

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

Großküchengeräte - Einrichtungen zur Be- und Entlüftung von gewerblichen Küchen - 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

Ta slovenski standard je istoveten z: prEN 16282-2

ICS:

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

oSIST prEN 16282-2:2014

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 16282-2

October 2014

ICS 97.040.99

English Version

Equipment for commercial kitchens - Components for ventilation of 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

Großküchengeräte - Einrichtungen zur Be- und Entlüftung
von gewerblichen Küchen - Teil 2: Küchenlüftungshauben;
Gestaltungs- und Sicherheitsanforderungen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 156.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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

Contents

	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 Hood types and configurations.....	7
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.....	9
5.2.3 Hood dimension.....	9
5.2.4 Hood height/collection area.....	9
5.2.5 Infill panel	10
5.2.6 Special function hoods (grill hoods and bar/counter hoods)	10
5.3 Materials	10
5.4 Separator	11
5.5 Blanking panel	12
5.6 Hood structure	12
5.7 Exhaust air connection	12
5.8 Air flow control devices	13
5.9 Lighting.....	13
5.10 Cooking fume collector channels/cooking fume discharge devices	13
5.11 Air supply box/attachment.....	14
5.12 Integrated cleaning devices.....	14
5.12.1 General requirements.....	14
5.12.2 Integrated cleaning device using water	14
6 Technical safety requirements	14
6.1 Separator – installation, dismantling and maintenance	14
6.2 Integrated discharge ventilators	15
6.3 Electrical Equipment	16
6.4 Earth bonding.....	16
6.5 Fire suppression system	16
6.6 Switching the ventilation system in the event of a fire in the kitchen	16
6.7 Gas interlock	16
7 Ergonomic requirements and testing.....	16
8 Hygienic requirements	16
8.1 General hygienic requirements	16
8.2 Hood design	17
8.3 Aerosolate removal elements.....	17
8.4 Lateral separator hoods.....	17
8.5 Cleaning.....	17
9 Instructions	18
9.1 Installation instructions	18
9.2 Operating instructions	19
10 Markings	19
Bibliography.....	20

Foreword

This document (prEN 16282-2:2014) has been prepared by Technical Committee CEN/TC 156 “Ventilation for buildings”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

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:

prEN 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*
- *Part 9: Capture and containment performance of extraction systems – Test methods*

prEN 16282-2:2014 (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 not applicable to hoods that are used in domestic kitchens.

A method of verification of each requirement is also specified. Unless otherwise specified, the requirements of this standard shall 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.

prEN 16282-1, *Equipment for commercial kitchens – Components for ventilation in commercial kitchens – Part 1: General requirements including calculation method*

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

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 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests*

EN 50164 (all parts), *Lightning protection components*

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

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

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

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

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

EN ISO 4288, *Geometric product specification (GPS) – Surface texture: Profile method – Rules and procedures for the assessment of surface texture*

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

EN ISO 13565-1, *Geometric product specifications (GPS) – Surface texture: profile method - Surfaces having stratified functional properties - Part 1: Filtering and general measurement conditions*

EN ISO 13565-2, *Geometric product specifications (GPS) – Surface texture: profile method - Surfaces having stratified functional properties - Part 2: Height characterization using the linear material ratio curve*

EN 50525-2, *Electric cables - Low voltage energy cables of rated voltages up to and including 450/750 V (U_0/U)*

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 ceiling in accordance with prEN 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

hood filter housing

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

3.5

aerosolate (cooking fumes)

separated aerosol, consisting of a separated grease/oil/water mixture

3.6

separator types

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

3.6.1

separator

device for separation of airborne solid or liquid particles

prEN 16282-2:2014 (E)

Note 1 to entry: It is based on the effect of forces (mechanical or electrical field) that deflect the particles out of the airflow.

3.6.2**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 is fabric filters and an example of porous surfaces/bodies is activated carbon.

3.7**cooking process fumes**

fumes between the place of origin and the separator

Note 1 to entry: States of matter, distribution of particle sizes and concentration alter constantly depending on the conditions in which they originate and are transported.

3.8**outgoing fumes**

residual fumes after the filtration before the point of discharge to atmosphere

Note 1 to entry: States of matter, distribution of particle sizes and concentration alter constantly depending on the conditions of transport.

3.9**ventilating outlet**

element connecting the hood to the extract duct

3.10**fume separator housing**

device in the hood serving to accept fume separators

3.11**blanking panel**

plate serving to adjust the airflow volume of the individual fume separators the air volume of arrangement of cooking fume separators

Note 1 to entry: Extraction focal points.

3.12**collection channel**

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

3.13**outlet device**

device servicing to allow the exit, outlet or collection of aerosolate and cleaning fluid at the lowest point of the channel

EXAMPLE Consisting of drain taps, plugs, trays, pots or drainage fixed to the channel.

3.14**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

3.15**hood facia**

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

3.16

hood trim

element between hood and structure

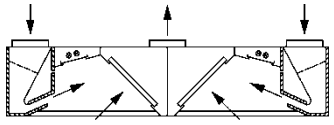
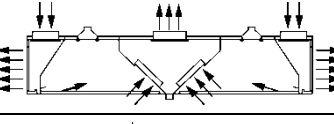
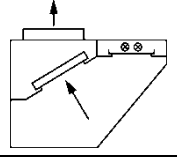
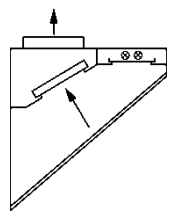
4 Hood types and configurations

The following text shows examples of typical hood types and configurations and design criteria. However manufacturers can 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
Standard wall hood as box / cuboid hood		Kitchen ventilation hood	prEN 16282-2	-B1
Lateral extraction wall hood as box / cuboid hood		Kitchen ventilation hood	prEN 16282-2	-B2
Induction wall hood as box / cuboid hood		Kitchen ventilation hood	prEN 16282-2	-B3
Induction wall hood as box / cuboid hood with additional supply air		Kitchen ventilation hood	prEN 16282-2	-B4
Wall hood as box / cuboid hood with additional supply air		Kitchen ventilation hood	prEN 16282-2	-B5
Standard central hood as box / cuboid hood, central suction		Kitchen ventilation hood	prEN 16282-2	-B6
Standard central hood as box / cuboid hood, central suction at side		Kitchen ventilation hood	prEN 16282-2	-B7
Lateral extraction central hood as box / cuboid hood		Kitchen ventilation hood	prEN 16282-2	-B8

prEN 16282-2:2014 (E)

Induction central hood as box / cuboid hood		Kitchen ventilation hood	prEN 16282-2	-B9
Induction central hood as box / cuboid hood with additional supply air		Kitchen ventilation hood	prEN 16282-2	-B10
Bar hood/counter hood		Kitchen ventilation hood	prEN 16282-2	-B11
Grill hood		Kitchen ventilation hood	prEN 16282-2	-B12

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

Kitchen ventilation hood EN 16282-2-B1

5 Construction and function

5.1 General

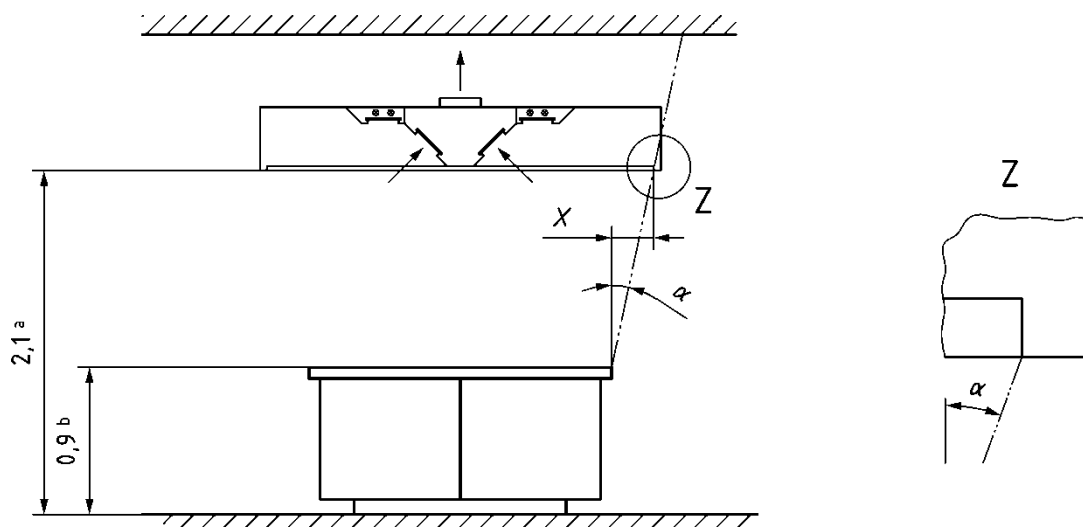
Air containing pollutants from the cooking and washing up process shall be treated by means of effective particulate separation. In commercial kitchens, hoods conforming to prEN 16282-2 or ceilings conforming to prEN 16282-3 shall be employed for ventilation.

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.

All dimensions in m

**Key**

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

- Z section
- X overhang

Figure 1 — Hood dimensions**5.2.2 Suspension height**

The suspension height of installation for a hood, b, 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 i.e. grill hood, bar hood/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, hot air steamers) an overhang of at least 0.6 m shall be ensured. Hood lengths/heights deviating from this are permitted for special function hoods i.e. grill hood, bar hood/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 s. For hoods that are arranged above equipment that generates a high quantity of fumes (kettle, fryers, etc.) the hood height and the collection area shall match the equipment. This does not apply to special function hoods (grill hood, bar hood/counter hood).