BS EN 16282-2:2016

BSI Standards Publication

Equipment for commercial kitchens — Components for ventilation in commercial kitchens

Part 2: Kitchen ventilation hoods; design and safety requirements

bsi.

National foreword

This British Standard is the UK implementation of EN 16282-2:2016.

The UK participation in its preparation was entrusted to Technical Committee RHE/2/-/1, Ventilation of commercial kitchens.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2017

ISBN 978 0 580 87141 2

ICS 97.040.99

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 February 2017.

Amendments/Corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16282-2

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.

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

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of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.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.

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

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.

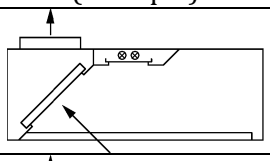
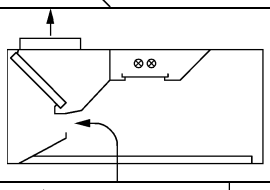
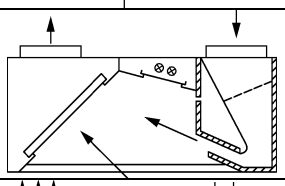
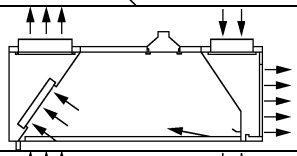
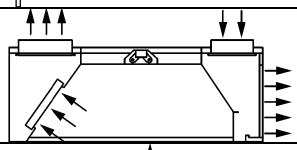
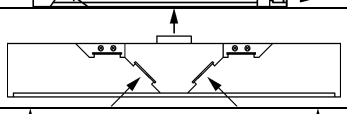
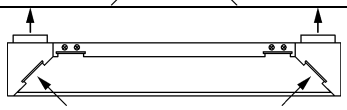
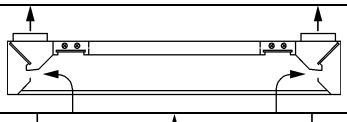
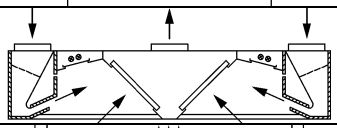
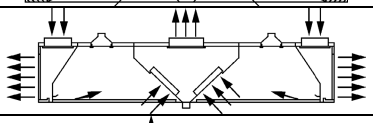
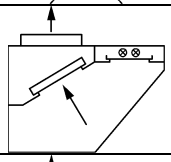
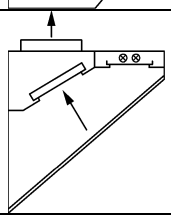
3.12
air supply plenum
either an integral chamber or a chamber connected to the hood to feed air into the kitchen corresponding with supply air outlets

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

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

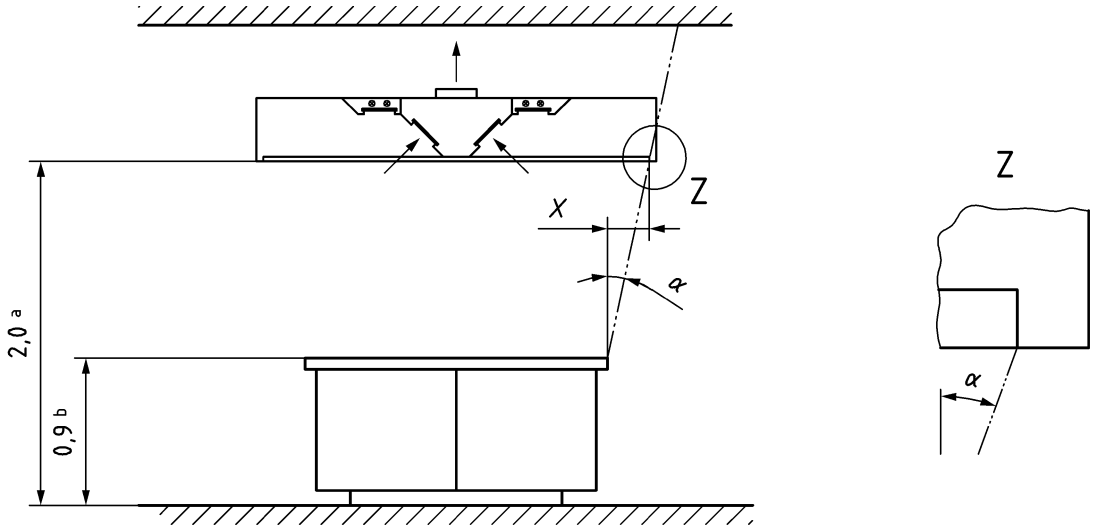
Air containing pollutants from the cooking and washing up process shall be treated by means of effective particulate separation. In commercial kitchens, hoods according to EN 16282-2 or ceilings according to EN 16282-3 shall be installed for ventilation.

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.

dimensions in m



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 facia

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.

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.

Table 2 — Materials

Component/part	Material	Surface
Fixings	stainless steel steel	 galvanised
Hood structure	stainless steel	
Cover of fitted lighting	safety glass polycarbonate[a]	
Hood facia parts	stainless steel aluminium copper	 surface treated surface treated
Integrated air supply ducts	stainless steel aluminium	 surface treated
Ventilating outlet	stainless steel	
Air supply plenum	stainless steel	
Separator	stainless steel	
Ceiling cassettes, ceiling panels and ceiling coatings	stainless steel aluminium	brushed, ground or coated anodised or coated
[a] the material shall be self-extinguishing		

Other materials are permissible but proof shall be shown by the manufacturer that there is no decrease in food hygiene or no increase in fire risk.

NOTE The attention of the user of this standard is drawn to the existence of national food-hygiene regulations and 1935/2004/EC.

A grade of stainless steel shall be used that is in accordance with EN 10088-1.

Visible stainless steel surfaces shall be polished or have a uniform finish with a roughness Ra of no greater than 1,1 µm in accordance with EN ISO 3274, EN ISO 4287, EN ISO 4288, EN ISO 13565-1 and EN ISO 13565-2. For aluminium blank, material No. 3.3535 ($AlMg_3$) as specified in EN 573-3 or higher quality shall be used.

If glass is used for the cover of fitted lighting, safety glass conforming to the EN ISO 12543- series shall be used.

The materials used for all components of the hood except the separator shall have a minimum thickness of 1,0 mm.

The materials used to manufacture the hood shall be strong enough to prevent the hood from being warped or distorted.

5.4 Separator

Separators of differing finishes and sizes shall have an identification which ensures that they are inserted into the hood at the planned position after cleaning. The identification of the hood side shall be done when the hood is put into operation.

The design of the separator shall ensure a self-draining effect of the aerosol and avoid dripping of aerosol onto areas of the kitchen underneath. If separators need to be installed at a certain angle to the horizontal in order to ensure this self-draining effect, this information shall be included in the installation instructions.

In particular, separators shall be designed in such a way that aerosol does not remain in the aerosol separation area, i.e. that the separator does not have a storage effect.

If aerosol collecting devices are integrated directly into the separator, the aerosol collecting devices shall not lead to a back draught of aerosol in the separator. If necessary, a corresponding note shall be included in the installation instructions.

Separators shall be mounted so that there are no gaps between them and the compartment.

At least the first layer of a separator shall be designed as separators.

Filters are not admissible unless they are used in combination separators.

Separators and combined separators shall comply with prEN 16282-6.

5.5 Blanking panel

Blanking panels shall be designed so that they can be used to replace a separator (exception: compensating elements). They shall be fitted flush.

Blanking panels of different design and size shall be permanently marked to ensure that they can be fitted back in the right position in the hood following cleaning.

5.6 Hood structure

All internal extract plenums shall have an air tight design.

Hoods shall be of a fully folded construction incorporating as few joints as possible and have no visible fixings. Any visible joints shall be internal and hidden leaving a smooth easily cleaned surface.

Hoods shall be designed so that horizontal surfaces which are exposed to the kitchen aerosol, prevent condensation build up.

Air supply devices for hoods can be installed or attached.

The surfaces shall be lined with wear-resistant heat insulation, with a low thermal insulation avoiding condensation and having a minimum building material class of A2s3d1.

Synthetic foams shall be considered as wear-resistant heat insulation. Fibre materials shall only be used in sandwich-based constructions, aluminium or tile covers are insufficient. Fibre contamination shall be avoided in the food processing area.

5.7 Extract air connection

Extract air connection shall ideally be fitted symmetrically and in the required number to the hood so that an evenly distributed extraction effect is ensured along the entire hood.

The rate of airflow at the extract air connection outlet shall ideally be 4 m/s and in any case shall not exceed 6 m/s (related to the calculated value determined). Each extract air connection shall be equipped with a device allowing adjustment to volume flow. The airflow volume adjustment device shall be lockable.

The extract air connection shall be air-tight. Rivet and screw connections are only permissible if used in conjunction with air-tight sealant.

5.8 Air flow control devices

If extract air connections have been provided with an air flow control device (throttle valve, high-quantity slide), these shall be designed and finished in such a way that they can easily be cleaned without special tools and the risk of injury is minimized. Dirt traps shall be avoided.

5.9 Integrated lighting

The lighting requirements of indoor workspaces shall be according to EN 12464-1:2011, 5.3.

The number of lights required in order to achieve the mean horizontal illuminance on the useful level selected shall be calculated in accordance with the degree of efficiency method as specified in EN 12665 and EN 12464-1:2011.

The type of protection for the lighting shall be at least IP54, preferably IP65 and IP20 for the parts of the light which are out of the air stream in accordance with EN 60529.

The series-connected devices for lamps shall be finished at least as low-loss series-connected devices, preferably as electronic series-connected devices. Lamps with low-loss series-connected devices are given a safety starter.

If a hood is equipped with lighting, the lighting shall be flush integrated into the hood. Hood lighting as a surface-mounted lighting is not permitted in the cooking area.

Lamps shall be designed in such a way that they are stable in the thermal situation of the location as well as comply with the temperature limits stated by the manufacturer in the area of the lighting.

The electrical connections shall be connected to terminals in a terminal box outside of the hood.

For grease and heat resistant cabling, silicon sheathed power lines and isolated power supply lines according to the EN 50525-2 series shall be used.

Light switches/buttons and control panels mounted directly on the hood shall be flush mounted and hygienically sealed. The power supply lines shall be laid out so that they do not pass through the parts of the hood where aerosol is directed.

5.10 Peripheral channel for condensate collection

A minimum 50 mm x 25 mm channel shall be formed as an integral part of the valance. This shall provide rigidity for the full perimeter of the hood. In the case of single skinned hoods, a lower edge perimeter channel shall be manufactured as a stiffening device. All cut sections shall be deburred or folded.

To extract aerosol a drain shall be fitted at the lowest point of the cooking fume collection channel that leads to an easily accessible and shut-off drainage tap or plug or is openly connected with an easily removable collector container. The drain aperture shall not be less than the nominal width of 3/4".

5.11 Air supply box/attachment

The requirements of this clause are applicable to air supply devices connected or attached to the hood.

In order to avoid the build-up of condensation within the hood and/or on the outer hood structure, the air supply chamber, in particular on induction hoods, shall be lined with a wear-resistant thermal insulation.

Synthetic foams shall be considered as wear-resistant heat insulation. Fibre materials shall only be used in sandwich-based constructions (aluminium or tile covers are insufficient). Fibre contamination shall be avoided in the food processing area.

5.12 Integrated cleaning devices

Integrated cleaning devices shall clean aerosol separators without dismantling them.

It shall be possible to trigger the washing or cleaning process automatically and manually with time control via an external control unit. Actuation of the washing or cleaning process for various kitchen areas at separate times as a function of their extract air load shall be possible.

The overflowing of the extract collection channel shall be prevented, dirty and cleaning water shall not enter the device or kitchen area underneath the hood or the extract air system (except for defined overflow systems).

If a washing or cleaning process is planned during the cooking process, it shall be possible to perform it without limitation of the extract air flow volume.

A check of the cleaning effect as maintenance of the integrated cleaning device shall be possible without special tools.

A washing or cleaning process shall not be possible if there is a lack of water and if the extract air system is not in operation.

The operating instructions shall include a description of the necessary cleaning agents, water temperatures and requirements of the necessary water quality.

The hood shall be connected to drinking water mains in accordance with EN 1717.

NOTE The attention of the user of this standard is drawn to the possible existence of national regulations for connection to drinking water mains.

If cleaning agents are used as well, in order to achieve effective cleaning, a water temperature of at least 50 °C (on the separator) is necessary in discontinuous cleaning systems.

6 Technical safety requirements

6.1 Separator – installation, dismantling and maintenance

Separators shall be designed in such a way as to be removed easily and cleaned and without danger. Cleaning in the installed position shall not be possible. If special equipment is necessary in order to gain access to the separator, this information shall be given in the operating instructions.

6.2 Hood installation

The hood shall be easy to clean, be constructed of non-combustible materials and be located so as not to interfere with the cooking process.

Hood sections shall be manufactured in an all-formed, folded and welded construction with joints made so that there are no obstructions or obtrusions likely to cause injury or encourage growth of bacteria.

All external hood surfaces shall be vertical to facilitate cleaning, match the ceiling line and maximize the internal collection volume.

The channel, according to 5.10, shall be formed as an integral part of the valance. This shall provide rigidity for the full perimeter of the hood. Provided that the air flow rate has been correctly selected, condensation shall not form and with the exceptions of the ‘condensation’ hoods, there shall be no requirement for drainage plugs.

Threaded rods of at least M 8 shall be used to mount the hood.

6.3 Fabrication

Cut backs shall be notched and folded into subsections. These folded joints shall be contained 'inboard' of the hood construction to ensure concealment on the completion of the final assembly.

Consideration shall be given to minimize the number of components in which a hood is delivered to site. The number of components depends upon the size of hood and the site access.

Hoods which exceed a standard sheet length shall be connected in a way to facilitate the joint cleaning and to limit the bacteria development.

Hoods that are made using an extruded section shall not be used as the joint between the sheet and section provides a natural harbour for the growth of bacteria.

6.4 Sealant

The use of sealant shall be limited to joints or those areas where a hygienic seal is required. The sealant shall be of silicon type foodservice quality.

For site use, a sealant shall be used for making a seal between the hood and a tiles wall or ceiling.

Conventional sealant shall be used for spigot and ductwork joints.

All products shall be installed in accordance with the manufacturers' recommendations.

6.5 Integrated discharge ventilators

Even after the removal of cooking fume separators or baffle plates, no access to rotating parts of the discharge ventilators shall be possible.

The hood shall conform to the requirement for the sound pressure if it has an integrated discharge ventilator. The hood shall be designed in such a way that its sound generation does not lead to exceeding of the allowed overall sound level in the kitchen, according to national regulations.

Discharge ventilators integrated into the hood should be avoided as their installation can lead to hygienic problems and increase the risk of fire.

Hoods that use ventilators with motors in the airflow, shall conform to the following requirements:

— sufficient space around the motor to clean it;

— accessibility (cleaning openings) to the motor for maintenance;

— the electrical motor shall have an IP 54 level.

6.6 Electrical equipment

Electrical systems and operating equipment shall be in accordance with:

— EN 50274; and

— EN 60204-1.

6.7 Earth bonding

The relevant demands of EN 50310 shall be observed.

7 Hygienic requirements

7.1 General hygienic requirements

All materials coming into contact with foodstuffs shall be free of contaminants.

The surfaces of the hoods shall be smooth, cleanable and disinfection-capable.

Removal of the aerosol/washing water mixture shall be ensured and the water-removal line shall be secured against blockage and designed to match the through flow of washing water. It shall be possible to dismantle it for cleaning purposes.

7.2 Hood design

Hoods shall be designed so that it is possible to clean the entire hood structure easily. Recesses and corners where dirt can accumulate shall be avoided in the collection area, in the collection channels as well as in the extract air area. Connection joints and welding joints shall not display edges or corners where dirt and cooking aerosol can accumulate.

The pipe and nozzle system integrated into the hood shall be designed so that all surfaces involved in the separation of cooking aerosol can be cleaned of all residues. Corners where dirt can accumulate and which cannot be reached during the cleaning process shall be avoided.

All internal areas of the hood: aerosol separator, pipe and nozzle system shall be easy to reach. Aerosol separators shall be removable without requiring tools.

7.3 Aerosol removal elements

Discharge devices (stoppers, cocks) to remove aerosol on hoods as well as direct connections (lines) shall be easily accessible and easy to clean. Aerosol collection elements (vessels, drawers) shall be easy to remove and dishwasher-safe.

An aerosol disposal line should have a nominal width of at least DN 40 with freely accessibly laying, otherwise it could cause blockage by deposits. If the aerosol disposal line is laying under the plaster or floor the design should be at least DN 50.

For waste water containing aerosol, the use of a separation system for greases shall be in accordance with EN 1825-2. Reference shall be made to the corresponding provisions of the national regulation for water in the place of use of the hood.

7.4 Lateral separator hoods

Lateral separator hoods shall be designed so that the panels arranged in front of the cooking fume separators can be easily opened and all hood areas are easily accessible.

7.5 Cleaning

The hoods shall be constructed so that maintenance and cleaning work on the pressure chambers and any air ducts situated above them can be performed without serious risk. The installation position of all inspection and cleaning apertures shall be visible from the assembly plans and workshop drawings.

Parts that are removable for cleaning shall be able to be put back again in the correct position without any problems.

Hoods and their components shall be checked for soiling on a daily basis and cleaned as required.

In case of the use of ventilators with motors in the airflow, the following requirement shall be fulfilled:

— the instructions for use and maintenance shall have an inspection period of at least 1 month.

8 Instructions

8.1 Installation instructions

Installation instructions shall be in the national language of the country of the place of use and shall be enclosed for assembly with each hood.

They shall be kept brief and contain all the important information for installation and maintenance in an easy-to-understand way. The installation instructions shall contain at least the following information:

— reference to national regulations on installation in place of use;

— instructions on how the supplied mounting elements shall be used where applicable;

— general instructions on the mounting elements to be used if these are not supplied;

— instructions explaining the mounting on the blanking panel and aerosol separators;

— instructions on air-tight connection of the ventilating outlets with the hood body if these are supplied separately;

— instructions on maximum temperatures in the area of the light fixtures and built-in lamps;

— instructions on the statutory requirements for effluent containing fat which is produced by the cleaning process, or by dishwashers;

— instructions regarding the markings that are on the adjustment of the air flow control device (throttle valve, quantity blade) for possible cleaning work;

— instructions on controlling the air flow rate on the separator;

— technical information on the configuration of the air system such as loss of pressure by the separator;

— the electrical supply is compatible with the product.

8.2 Operating instructions

Operating instructions in the national language of the place of use shall be enclosed with each hood.

The operating instructions shall be kept brief and contain all the important information for operation and cleaning in an easy-to-understand way. They shall contain at least the following information:

— instructions on cleaning and on cleaning intervals (e.g. by reference to the HACCP guidelines, which are covered by the Regulation (EC) 852/2004) also in connection with the loss of pressure of the cooking fume separator;

— instructions on the use of suitable cleaning agents;

— instructions on cleaning the separator and its suitability for dishwashers;

— instructions on marking baffle plates and cooking aerosol separators;

— instructions on setting the marked air volume flow setting device (throttle valve, high-quantity slides) after cleaning work.

For hoods with an integrated cleaning device the following additional instructions shall be included:

— instructions on operation and maintenance;

— instructions on the rinsing process during cooking;

— instructions on the operation of the extract air system during the cleaning process;

— instructions on required cleaning agents;

— instructions on required water temperatures;

— instructions on the necessary water quality.

8.3 Markings

Every hood shall be permanently marked on its exterior in an easily visible place with the following information:

a) name of the manufacturer, supplier or importer and/or the registered trademark;

b) type designation, order number or identification number of the manufacturer;

c) identifier of this European Standard.

Bibliography

EN 294, *Safety of machinery — Safety distances to prevent danger zones being reached by the upper limbs*

EN 547-1, *Safety of machinery — Human body measurements — Part 1: Principles for determining the dimensions required for openings for whole body access into machinery*

EN 547-2, *Safety of machinery — Human body measurements — Part 2: Principles for determining the dimensions required for access openings*

EN 547-3, *Safety of machinery — Human body measurements — Part 3: Anthropometric data*

EN 894-3, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 3: Control actuators*

EN 1825-2, *Grease separators - Part 2: Selection of nominal size, installation, operation and maintenance*

EN ISO 12100, *Plastics piping systems - Polyethylene (PE) valves - Test method for resistance to bending between supports (ISO 12100)*

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

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

EN 16282-4, *Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 4: Air inlets and outlets - Design and safety requirements*

prEN 16282-5, *Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 5: Air duct; design and dimensioning*

prEN 16282-8, *Equipment for commercial kitchens - Components for ventilation - Part 8: Installations for treatment of cooking fumes; requirements and testing*

EN ISO 7250-1, *Basic human body measurements for technological design - Part 1: Body measurement definitions and landmarks (ISO 7250-1:2008)*

EN ISO 9612, *Acoustics - Determination of occupational noise exposure - Engineering method (ISO 9612:2009)*

Regulation 1935/2004/EC, *Materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC*

This page deliberately left blank

British Standards Institution (BSI)

BSI is the national body responsible for preparing British Standards and other standards-related publications, information and services.

BSI is incorporated by Royal Charter. British Standards and other standardization products are published by BSI Standards Limited.

About us

We bring together business, industry, government, consumers, innovators and others to shape their combined experience and expertise into standards -based solutions.

The knowledge embodied in our standards has been carefully assembled in a dependable format and refined through our open consultation process. Organizations of all sizes and across all sectors choose standards to help them achieve their goals.

Information on standards

We can provide you with the knowledge that your organization needs to succeed. Find out more about British Standards by visiting our website at bsigroup.com/standards or contacting our Customer Services team or Knowledge Centre.

Buying standards

You can buy and download PDF versions of BSI publications, including British and adopted European and international standards, through our website at bsigroup.com/shop, where hard copies can also be purchased.

If you need international and foreign standards from other Standards Development Organizations, hard copies can be ordered from our Customer Services team.

Copyright in BSI publications

All the content in BSI publications, including British Standards, is the property of and copyrighted by BSI or some person or entity that owns copyright in the information used (such as the international standardization bodies) and has formally licensed such information to BSI for commercial publication and use.

Save for the provisions below, you may not transfer, share or disseminate any portion of the standard to any other person. You may not adapt, distribute, commercially exploit, or publicly display the standard or any portion thereof in any manner whatsoever without BSI's prior written consent.

Storing and using standards

Standards purchased in soft copy format:

- A British Standard purchased in soft copy format is licensed to a sole named user for personal or internal company use only.
- The standard may be stored on more than 1 device provided that it is accessible by the sole named user only and that only 1 copy is accessed at any one time.
- A single paper copy may be printed for personal or internal company use only.

Standards purchased in hard copy format:

- A British Standard purchased in hard copy format is for personal or internal company use only.
- It may not be further reproduced – in any format – to create an additional copy. This includes scanning of the document.

If you need more than 1 copy of the document, or if you wish to share the document on an internal network, you can save money by choosing a subscription product (see 'Subscriptions').

Reproducing extracts

For permission to reproduce content from BSI publications contact the BSI Copyright & Licensing team.

Subscriptions

Our range of subscription services are designed to make using standards easier for you. For further information on our subscription products go to bsigroup.com/subscriptions.

With **British Standards Online (BSOL)** you'll have instant access to over 55,000 British and adopted European and international standards from your desktop. It's available 24/7 and is refreshed daily so you'll always be up to date.

You can keep in touch with standards developments and receive substantial discounts on the purchase price of standards, both in single copy and subscription format, by becoming a **BSI Subscribing Member**.

PLUS is an updating service exclusive to BSI Subscribing Members. You will automatically receive the latest hard copy of your standards when they're revised or replaced.

To find out more about becoming a BSI Subscribing Member and the benefits of membership, please visit bsigroup.com/shop.

With a **Multi-User Network Licence (MUNL)** you are able to host standards publications on your intranet. Licences can cover as few or as many users as you wish. With updates supplied as soon as they're available, you can be sure your documentation is current. For further information, email subscriptions@bsigroup.com.

Revisions

Our British Standards and other publications are updated by amendment or revision.

We continually improve the quality of our products and services to benefit your business. If you find an inaccuracy or ambiguity within a British Standard or other BSI publication please inform the Knowledge Centre.

Useful Contacts

Customer Services
Tel: +44 345 086 9001
Email (orders): orders@bsigroup.com
Email (enquiries): cservices@bsigroup.com

Subscriptions
Tel: +44 345 086 9001
Email: subscriptions@bsigroup.com

Knowledge Centre
Tel: +44 20 8996 7004
Email: knowledgecentre@bsigroup.com

Copyright & Licensing
Tel: +44 20 8996 7070
Email: copyright@bsigroup.com

BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

bsi.