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Oprema za komercialne kuhinje - Sestavni deli za prezračevanje v komercialnih kuhinjah - 8. del: Napeljava za čiščenje kuhinjskih hlapov - Zahteve in preskušanje

Equipment for commercial kitchens - Components for ventilation - Part 8: Installations for treatment of cooking fumes; Requirements and testing

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Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines professionnelles - Partie 8 : Installations de traitement des fumées de cuisson - Exigences et essais

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**Equipment for commercial kitchens - Components for ventilation
- Part 8: Installations for treatment of cooking fumes;
Requirements and testing**

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

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

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Contents

	Page
Foreword.....	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 Designations	7
5 Construction and function	7
5.1 General remarks	7
5.2 Materials and surfaces	7
6 Technical safety requirements	8
6.1 General remarks	8
6.2 Suspension of external ventilation installations	8
6.3 Electrical equipment	8
7 Ergonomic requirements and testing	8
8 Hygienic requirements	8
8.1 General remarks	8
8.2 General hygienic requirements	8
9 Instructions	9
9.1 Installation instructions	9
9.2 Operating instructions	9
10 Markings	10
Annex A (normative) UV-Devices for the treatment of cooking fumes	11
A.1 Scope	11
A.2 Normative references	11
A.3 Terms and definitions	11
A.4 Designations	11
A.5 Construction and function	11
A.5.1 General remarks	11
A.5.2 Materials	12
A.6 Technical safety requirements	12
A.6.1 General remarks	12
A.6.2 Protection against UV radiation	12
A.6.4 Protection against ozone	13
A.6.5 Ozone emission	13
A.7 Ergonomic requirements and testing	13
A.8 Hygienic requirements	13
A.9 Instructions	13
A.10 Markings	14
Annex B (normative) Corona plasma-devices for the treatment of cooking fumes	15
B.1 Scope	15
B.2 Normative references	15
B.3 Terms and definitions	15
B.4 Designations	15
B.5 Construction and function	15
B.5.1 General remarks	15
B.5.2 Materials	16
B.6 Technical safety requirements	16
B.6.1 General remarks	16

B.6.4	Protection against ozone	16
B.6.5	Ozone emission	16
B.7	Ergonomic requirements and testing.....	17
B.8	Hygienic requirements.....	17
B.9	Instructions	17
B.10	Markings.....	17
Annex C	(normative) Water spray equipment for the treatment of cooking fumes	18
C.1	Scope	18
C.2	Normative references	18
C.3	Terms and definitions	18
C.4	Description	18
C.5	Construction and function.....	18
C.5.1	General remarks	18
C.6	Technical safety requirements.....	19
C.6.3	Electrical equipment	19
C.7	Ergonomic requirements and testing.....	19
C.8	Hygienic requirements.....	19
C.9	Instructions	19
C.10	Markings.....	19
Annex D	(normative) Treatment of microbiological cooking fumes.....	20
D.1	Scope	20
D.2	Normative references	20
D.3	Terms and definitions	20
D.4	Description	20
D.5	Construction and function.....	20
D.5.1	General remarks	20
D.6	Technical safety requirements.....	21
D.7	Ergonomic requirements and testing.....	21
D.8	Hygienic requirements.....	21
D.9	Instructions	21
D.10	Markings.....	21
Annex E	(normative) Catalytic photo-oxidation installation for the treatment of cooking fumes.....	22
E.1	Scope	22
E.2	Normative references	22
E.3	Terms and definitions	22
E.4	Description	22
E.5	Construction and function.....	22
E.5.1	General remarks	22
E.5.2	Materials	23
E.6	Technical safety requirements.....	23
E.6.1	General remarks	23
E.6.2	Protection against UV radiation.....	23
E.6.4	Protection against ozone.....	23
E.6.5	Ozone emission	23
E.7	Ergonomic requirements and testing.....	23
E.8	Hygienic requirements.....	23
E.9	Instructions	24
E.10	Markings.....	24
	Bibliography.....	25

Foreword

This document (prEN 16282-8:2014) 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.

Specific installations for the treatment of cooking fumes are contained in individual annexes of this standard:

Annex A: UV installations for the treatment of cooking fumes

Annex B: Electrostatic installations for the treatment of cooking fumes

Annex C: Water spray equipment for the treatment of cooking fumes

Annex D: Treatment of microbiological cooking fumes

Annex E: Catalytic photo-oxidation installation for the treatment of cooking fumes

The annexes are structured as an alteration or supplement to the individual clauses of the core standard.

EXAMPLE A.5.1 altered/supplemented, i.e. 5.1.

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*

1 Scope

This European Standard specifies requirements for the design, construction and operation of installations designed for the treatment of cooking fumes in kitchens 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.

It is not applicable to ventilation systems that are to be used in domestic kitchens.

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 converting installation, 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 16282-6, *Equipment for commercial kitchens – Components for ventilation in commercial kitchens – Part 6: Aerosol separators; Design and safety requirements*

EN 1088, *Safety of machinery – Interlocking devices associated with guards – Principles for design and selection* <https://standards.iteh.ai/catalog/standards/sist/c7d5cc69-1106-4e96-bd5d-6225dde1100f/sist-en-16282-8-2017>

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

EN 61140, *Protection against electric shock – Common aspects for installation and equipment*

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 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 characterisation using the linear material ratio curve*

3 Terms and definitions

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

3.1

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

3.2

collection area

open bottomed area situated in front of the separator(s) serving to collect and buffer the rising vapour

3.3

outgoing air area

space enclosed on top and laterally situated behind the separator(s) which is connected with the outgoing air duct

3.4

separator

device for the separation of airborne solid or liquid particles

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

3.5

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.

3.6

cooking fumes

extracted cooking fumes

Note 1 to entry: In this standard, this refers to the fumes generated by the fat/oil/water mixture.

3.7

installation of devices for the treatment of cooking fumes

component with cooking fume treatment device without housing for installation behind the separator within the hood/ceiling

3.8

external devices for the treatment of cooking fumes

housing with integrated cooking fume device for installation between hood/ceiling and outlet air duct or in the air duct

4 Designations

Cooking fume devices and their designations are shown in Table 1.

Table 1 — Designation for cooking fume treatment devices

Design	Standard designations		
		EN number	Classification
Installation of UV installations for the treatment of cooking fumes	Installations for treatment of cooking fumes	prEN 16282-8	-H1
External UV installations for the treatment of cooking fumes	Installations for treatment of cooking fumes	prEN 16282-8	-H2
Corona plasma device for the treatment of cooking fumes	Installations for treatment of cooking fumes	prEN 16282-8	-H3
Water spray device	Installations for treatment of cooking fumes	prEN 16282-8	-H4
Microbiological cooking fume treatment installations	Installations for treatment of cooking fumes	prEN 16282-8	-H5
Catalytic photo-oxidation installation	Installations for treatment of cooking fumes	prEN 16282-8	-H6

EXAMPLE For an external UV device for the treatment of cooking fumes

Components for ventilation prEN 16282-8-H2

5 Construction and function

5.1 General remarks

Unless otherwise specified, the requirements of this standard should be checked by way of inspection and/or measurement. The separator which is either in front of or behind the component for ventilation shall be in accordance with clauses 5, 6 and 7 of prEN 16282-6.

5.2 Materials and surfaces

Manufacturers shall use the materials shown in Table 2:

Table 2 — Materials

Component/ part	Material	Surface
Fittings, mounts for the housing of the external component for ventilation	chrome-nickel-steel steel plastic	galvanized

prEN 16282-8:2014 (E)

A grade of stainless steel shall be used in accordance with EN 10088. The surfaces of stainless steel shall display a surface roughness Ra no greater than 1.1 μm when measured in accordance with EN ISO 3274, EN ISO 4287, EN ISO 4288, EN ISO 13565-1 and EN ISO 13565-2. The surface shall be manufactured to produce a harmonized surface appearance.

6 Technical safety requirements

6.1 General remarks

Unless otherwise specified, the requirements of this standard should be checked by way of inspection and/or measurement.

6.2 Suspension of external ventilation installations

Suspension brackets and fixings of external components for ventilation shall be designed using mounts to the load-bearing parts of buildings as approved by building authorities. In this the individual fitting situation (composition of the wall / ceiling) shall be taken into account. Set up instructions that take account of the different building situations shall be supplied.

If the fixtures or threaded rods are made of a different material to the housing material (e.g. galvanized steel), the bushings or connections with the housing material shall be covered with the same material as the housing material.

If mounting unavoidably brings pairs involving metals that form a galvanic element together, the contact surfaces shall be isolated with separating layers.

6.3 Electrical equipment

The type of protection of the electrical components shall be at least IP54, preferably IP65 in accordance with EN 60529.

Electrical installations and equipment shall conform to the generally recognized electrical principles. These are deemed as observed if the following standards are fulfilled:

- EN 60335-1, Household and similar electrical appliances – Safety – Part 1: General requirements”,
- EN 60204-1, ‘Safety of machinery – electrical equipment of machines –Part 1: General requirements’,
- EN 61140, Protection against electric shock – Common aspects for installation and equipment

7 Ergonomic requirements and testing

The ergonomic aspects of the subclause 8.2 and Clause 9 shall be observed.

8 Hygienic requirements

8.1 General remarks

Unless otherwise specified, the requirements of this standard should be checked by way of inspection and/or measurement.

8.2 General hygienic requirements

All materials coming into contact with food shall be free of contaminants. This is in accordance with regulation 1935/2004/EC.

The cooking fume treatment installation shall be easy to access for the purposes of maintenance and cleaning work.

The manual shall contain information on what cleaning procedures and detergents are suitable. Cleaning intervals shall be specified. The safety data sheet should be attached.

9 Instructions

9.1 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 device.

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

- instructions as to how the supplied mounting elements are to be used as far as applicable;
- general instructions on the mounting elements to be used if these are not supplied already;
- instructions on the necessary areas which can be stood on or walked over to remove separator/hoods and ceiling elements;
- instructions on cooking fume tight connection of the housing of external components for ventilation;
- indication that separators which are arrayed in front of or behind the component for ventilation shall fulfil at least Clauses 5, 6 and 7 of prEN 16282-6.

9.2 Operating instructions

Operating instructions for the user in the national language shall be enclosed with each device.

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

- name of manufacturer;
- type, design, commercial designation;
- technical data;
 - area of use,
 - dimensions,
 - connected load,
 - supply voltage,
- instructions on the cleaning and maintenance and, if applicable, on the proper opening or removing individual parts;
- instructions on the necessary areas which can be climbed and walked on to remove separators/hoods/ceiling elements and other devices to carry out cleaning and maintenance;
- instructions on the use of suitable cleaning agents.