SLOVENSKI STANDARD
SIST EN 16282-7:2017

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Oprema za profesionalne kuhinje - Sestavni deli za prezračevanje kuhinj - 7. del: Vgradnja in delovanje vgrajenih sistemov za gašenje

Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 7: Installation and use of fixed fire suppression systems

Großküchengeräte - Einrichtungen zur Be- und Entlüftung von gewerblichen Küchen - Teil 7: Einbau und Betrieb von stationären Feuerlöschanlagen

Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines professionnelles - Partie 7: Installation et utilisation de systèmes fixes de lutte contre l'incendie

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Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 7: Installation and use of fixed fire suppression systems

Équipement pour cuisines professionnelles - Éléments de ventilation pour cuisines professionnelles - Partie 7: Installation et utilisation de systèmes fixes de lutte contre l'incendie

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This European Standard was approved by CEN on 11 May 2017.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 16282-7:2017) 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of an identical text or by endorsement, at the latest by January 2018, and conflicting national standards shall be withdrawn at the latest by January 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] 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 for ventilation equipment and systems for commercial kitchens.

This document comprises guidelines for fixed fire suppression systems to when installed in order to secure a best possible protection for personnel and property.

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 organisations 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies requirements and gives recommendations for the design, installation, testing, maintenance and safety of kitchen fire suppression systems in buildings.

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 fire suppression systems except those used in domestic kitchens or industrial food processing facilities.

Unless otherwise specified, the requirements of this standard should 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 10088-1, *Stainless steels - Part 1: List of stainless steels*

3 Terms and definitions

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

3.1
fire suppression system
fixed system, which automatically detects and extinguishes fires

3.2
fire detection system
installation which detects fire and activates the fire suppression system

3.3
cylinders
vessels designed to contain the fire suppression media

3.4
nozzle
device used to discharge the fire suppression media

3.5
service
all measures required to keep the system operational and to identify the system's condition

3.6
testing
all measures required to inspect the present status of the system

3.7
maintenance
all measures required to keep the system fully operational

3.8
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

3.9
authority
organization, office or individual responsible for approving equipment, installations or procedures

3.10
logbook
book to record service and maintenance activity including any component replacement and design changes

4 Fire hazard/Fire load

4.1 General requirements

Consideration shall be given to the location of a kitchen, particularly if it is in a store or adjacent to residential accommodation.

NOTE All cooking appliances using oil/grease as well as the extract ventilation system are a potential fire hazard regardless of the amount of oil/grease being used in the cooking process.

4.2 Kitchen equipment classification according to the fire load and risk

4.2.1 General

Commercial kitchen equipment is available in different configurations. Every device represents a different fire risk according to its power supply or its fire load depending upon the combustibles used.

4.2.2 Installation of a fire suppression system

If a fire suppression system is installed, all appliances utilizing oil/fat are considered to be fire hazards and shall be protected. Ventilated ceilings/hoods and duct entrances shall also be protected and actuated simultaneously if connected to the same common extract duct.

NOTE The following appliances are examples of fire hazards: tilting frying pans, frying and grilling appliances, griddle plate, range, wok, appliances utilizing solid fuel, etc.

5 Safety requirements

5.1 General

Parts of a fire suppression system, as described in this standard, can be fixed to ceilings and hoods used to distribute and extract air from the kitchen areas. They can be located within the air flow. The design and installation of fire suppression systems shall be coordinated appropriately to ensure that neither air ventilation nor the kitchen operations are disturbed or affected (in particular in the working zones of the protected devices).

Cleaning and access for service and maintenance of the ventilation systems shall be taken into consideration during the project's design phase.

Pipe penetration through the hood/ventilated ceiling shall be grease tight sealed.

The fire suppression system shall be installed as a fixed system. Location of the installation shall not provide any personal risk. The release mechanism shall be secured against unauthorized access.

Stainless steel housing shall be provided for the release mechanism and cylinder in case it is exposed to food.

5.2 Components

5.2.1 General

All components of the fire suppression system shall be approved by an independent third party test institute.

5.2.2 Fire detection system

Fire detectors shall be installed above individual cooking equipment units and/or before or behind the aerosol separators and at all entrances of extract ducts.

5.2.3 Suppressing media container

The container shall be marked according to relevant regulations in terms of the suppressing media and propellant used.

5.2.4 Suppressing pipe work

Pipes, brackets and visible pipe hangers, as well as those fixed in the extract air range shall be at least of stainless steel according to EN 10088-1. This is not applicable to flexible connections.

Flexible pipe work shall only be used where moving equipment shall be protected. Cutting ring connectors, thread connectors or compression fittings shall be used. Flexible pipework shall be evaluated by a credible testing laboratory for use specifically in cooking related fire suppression systems.

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

5.2.5 Suppressing media

The following list provides the main characteristics of the fire suppressant:

— shall not be toxic

— the qualification of the suppressing media shall be proven as part of the third party approval testing of the complete system – see 5.5.

5.2.6 Manual release device

The fire suppression system shall have at least one manual release device. They shall be located on the fire escape route.

5.3 Shut down functions

The energy supply for the kitchen equipment shall be switched off automatically upon actuation of the fire suppression system. The fire suppression system's manufacturer/installer shall provide a suitable voltage (potential) free contact for this purpose.

5.4 Electrical equipment

Electrical systems and equipment shall be compliant with the national electrical standard.

5.5 Certification of the fire suppression system

The systems shall be tested by an accredited third party.

The supplier of the fire suppression system shall provide the following to the end-user/authority:

— name and address of third party approval body;

— name of the test standard;

— number of test report/file number;

— inspection date/last update;

— scope of testing.

6 Hygienic requirement

All visible pipes, fittings, nozzles, detectors, suppressing cylinders and all pipes installed within the air extract system shall conform to the relevant national laws and regulations.

Adequate measures to prevent backflow of cleaning liquids into other pipework shall be provided and these measures shall conform to national requirements.

The fire suppression system's manual shall specify details for approved flushing and cleaning liquids.