BRITISH STANDARD

BS 4422:2005

Fire — Vocabulary

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Committees responsible for this British Standard

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British Fire Protection Systems Association
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Consumer Policy Committee of BSI
Guild of Architectural Ironmongers
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Contents

Foreword

This British Standard has been prepared by Technical Committee FSH/9. It supersedes BS 4422-1:1987, BS 4422-2:1990, BS 4422-3:1990, BS 4422-4:1994, BS 4422-5:1989, BS 4422-6:1988, BS 4422-7:1988 and BS 4422-9:1990, all of which are withdrawn.

Terms specific to, and in general use by, fire protection agencies have been listed in alphabetical order, ignoring spaces, hyphens or other punctuation marks.

Where defined terms are used in definitions of other terms, the defined words are highlighted in **bold type**.

In some cases terms related to a common field are listed together (for example, terms related to sprinklers). Where this does not occur naturally from the alphabetical ordering, two conventions have been used.

a) If the name of the common field occurs in the middle of the term, then the order has been changed to make the common field the leading word(s), with other words following a comma. For example, **flush pattern sprinkler** is listed under **sprinkler, flush pattern**.

b) If the name of the common field does not occur in the defined term, then it has been added in brackets at the start of the term. For example, **trunk main** is listed under **<sprinkler> trunk main**.

Terms listed under either of these conventions are also listed in their natural alphabetical places, with cross-references.

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

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 79 and a back cover.

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Introduction

BS 4422 was published in an attempt to standardize fire terms. Previously, this standard was in eight parts, each published separately over a number of years. While this performed a useful role for the disciplines covered it was not comprehensive to fire safety generally, and left large gaps in the defined terminology for certain disciplines, such as fire safety engineering and fire testing. This latter category is now well catered for with the publication of BS EN ISO 13943:2000.

It has been found that, in some cases, a particular term might be defined differently in different standards and documents. Thus, although definitions might ensure clarity within a standard, they can add to confusion where several standards with conflicting definitions are used together.

In other cases, a concept might have very similar, or identical, definitions in two standards or documents but might be expressed by different terms, again leading to confusion.

Where such variations of a single term and/or definition have been identified, a preferred term or definition has been selected. Where this has not been possible because existing definitions do not fully define the term, a new definition has been provided.

This standard, therefore, brings together, in one document, terms and definitions relating to safety from fire in existing codes and standards, government legislation, regulations and guidance documents, and documents published by other leading organizations.

The purpose of this standard is to provide a unifying document so that terms and their definitions can be used throughout the fields of fire and fire safety, so that, as far as possible, a given term will always have the same meaning and that a given concept is always expressed by the same term.

This revision of BS 4422 will eliminate the inconsistencies between standards, and other fire related codes and guidance documents, in a rapidly evolving area of technology that is related to safety from fire.

1 Scope

This standard defines terms specific to, and in general use by, fire protection agencies.

Fire safety engineering and fire testing terms are covered in BS EN ISO 13943.

This standard does not include terms where the standard dictionary definition is applicable. Neither does it include terms and definitions which are unique to any small specialized discipline within fire safety.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN ISO 13943*, Fire safety — Vocabulary.*

3 Terms and definitions

3.1
ablative materials
materials which gradually erode under the influence of heat and can be used to insulate/protect adjacent elements

accelerator, see **sprinkler accelerator** (**3.717**)

3.2
access level
<to a building> level used for normal access that either incorporates, or leads directly to, a **place of safety**

3.3
access level
<to equipment> one of several states of a **fire alarm control and indicating equipment** in which selected:

— controls can be operated;

— manual operations can be carried out;

— indications are visible; and/or

— information can be obtained

3.4
access room
room which forms the only **escape route** from an **inner room**

3.5
accommodation stairway
stairway, additional to that or those required for **escape**, provided for the convenience of occupants

active fire protection system, see **fire protection system, active** (**3.365**)

3.6
actuating detector
form of **fire detector**, not part of a **fire alarm system**, used to actuate subsidiary **fire protection** equipment

3.7
addressable point
point which can be individually identified at the **fire alarm control and indicating equipment**

3.8
addressable system
system in which signals from each **fire detector** and/or **fire alarm manual call point** are individually identified at the **fire alarm control and indicating equipment**

3.9
adjustable sensitivity
fire detector, the response threshold of which can be varied within **detector** specified limits without permanent indication of such variation

3.10
aerial appliance
fire appliance incorporating a **turntable ladder** or a **hydraulic platform**

AFFF, see **foam concentrate, aqueous film forming** (**3.435**)

3.11
air inlet
opening through which air is supplied

3.12
air release
means by which pressurizing air is able to escape from a nominally unpressurized space to external air

3.13
alarm condition
condition in which a **fire detector** is giving a signal specified as indicating the possible existence of a **fire**

3.14
alarm indication
indication at the **indicating equipment** to show that a detection signal has been received

3.15
alarm of fire
warning of **fire**, originated by a person or by an automatic device

alarm of fire, **false**, see **false alarm of fire** (**3.266**)

3.16
alarm receiving centre
continuously manned **remote centre** in which the information concerning the state of alarm systems is displayed and/or recorded

3.17
alarm silence facility
means of temporarily disabling or desensitizing a **smoke alarm**

alarm test valve, see **sprinkler alarm test valve** (**3.718**)

alarm valve, see **sprinkler alarm valve** (**3.719**)

3.18
alarm zone
geographical sub-division of the protected premises in which an **alarm of fire** can be given separately from any other sub-division

alcohol resistant foam concentrate, see **foam concentrate, alcohol resistant** (**3.434**)

3.19
alternative escape routes
escape routes sufficiently separated either by direction and space, or by fire-resistant construction, intended to ensure that should one be affected by **fire** the other will still be available

3.20
alternative exit
one of two or more **exits**, each of which is separate from the other

AMAO, see **<sprinkler> assumed maximum area of operation** (**3.721**)

3.21
analogue detector
fire detector which gives an output signal representing the value of the sensed phenomenon

NOTE This can be a true analogue signal or a digitally encoded equivalent of the sensed value.

3.22
ancillary service
ancillary device
device, facility or system which is required to operate in response to a **fire alarm signal**

3.23
approach firefighting
limited, specialized firefighting operations conducted at a distance from incidents involving very high levels of radiant, convective and contact heat, such as **fires** involving bulk **flammable gas** and/or bulk **flammable liquid**

aqueous film forming foam concentrate, see **foam concentrate, aqueous film forming (3.435)**

3.24
area of higher fire risk
room or other area which, because of its function and/or contents, presents a greater risk of **fire** occurring and developing than elsewhere

NOTE Such areas can include a large kitchen, boiler room, large store-room and other similar risks.

3.25
area of sprinkler operation
floor area to be flooded by a **sprinkler system** for design calculation purposes

arm pipe, see **sprinkler arm pipe (3.720)**

arrester, see **flame arrester (3.394)**

arrester element, see **flame arrester element (3.395)**

arson, see **malicious ignition (3.538)**

ASET, see **available safe escape time (3.37)**

3.26
aspirated apparatus
sampling apparatus which draws a sample of the atmosphere into a sensor by means of a pump

aspirated foam, see **foam**, **aspirated (3.429)**

3.27
aspirating detection system
fire detection system in which a sample of the atmosphere in the protected space is sucked by a fan or pump into a **fire detector** which can be remote from the protected space

3.28
assistance message
message from the **fire ground** initiating the dispatch of additional appliances, equipment or personnel to a **fire** or other emergency

3.29
associated floor area of an atrium
floor area in an atrium building (including the area of the atrium base) not separated from the atrium by construction having a **fire resistance** equal to that required for the elements of the structure of the building

NOTE The area of the atrium base should be included in the calculation of the associated floor area.

assumed maximum area of operation, see **<sprinkler> assumed maximum area of operation (3.721)**

attendance time, see **fire brigade attendance time (3.296)**

3.30
attendant fire phenomena
special phenomena occurring during burning such as **flaming** debris, darting flames, formation of sparks

3.31
automatic door release mechanism
device that can be used for retaining a door in the open position, against the action of a door closer, and automatically releasing under specified conditions

3.32
automatic fire detection and alarm system
system (other than a single self-contained **smoke alarm** or fire alarm) in which an **alarm of fire** can be initiated automatically

automatic fire hose reel, see **hose reel**, **automatic** (**3.480**)

automatic fire protection system, see **fire protection system**, **automatic** (**3.366**)

3.33
automatic fire signal
alarm of fire originated by an automatic device

automatic hose reel, see **hose reel**, **automatic** (**3.480**)

3.34
automatic lowering line
device for lowering persons from a height, fitted with an automatic brake to control the speed of descent

3.35
automatic/manual changeover device
manual only changeover device
device that can be operated to prevent the **fire detection system** from activating the automatic release of **extinguishing medium** while the protected space is occupied

automatic powered smoke and heat exhaust ventilator, see **smoke ventilator**, **automatic powered** (**3.709**)

automatic release mechanism, see **automatic door release mechanism** (**3.31**)

automatic smoke and heat exhaust ventilator, see **smoke ventilator**, **automatic** (**3.708**)

automatic smoke curtain, see **smoke curtain**, **automatic** (**3.695**)

3.36
automatic steam injection system
system of pipes connected to a supply of steam and fitted with **nozzles** at suitable intervals and heights, through which steam is discharged automatically on the operation of a **fire detector**

3.37
available safe escape time
ASET
calculated time available between ignition and the time at which tenability criteria are exceeded in a specified space in a building

average flaming time of droplets, see **flaming time of droplets**, **average** (**3.411**)

back burn, see **counter fire** (**3.89**)

backdraft, see **flashback** (**3.424**)

3.38
backing board
non-combustible board used to support, shield or insulate a specimen in a **fire test** under specified conditions

balanced system, see **extinguishing system**, **balanced** (**3.257**)

base injection, see **<foam> sub-surface application** (**3.457**)

3.39
beam detector
components, including any reflectors, necessary for the detection of smoke by the attenuation of an optical beam external to the **fire detector**

3.40
blast wave
pressure pulse formed by an **explosion**

3.41
boiling liquid expanding vapour explosion
BLEVE
explosion caused by the rupture of a tank containing liquid at a temperature higher than its boiling point at atmospheric pressure

NOTE If the liquid is flammable, then subsequent ignition of the dispersed vaporized contents can lead to a fireball.

3.42
boil over
condition in which the hot zone at the top of a burning liquid extends sufficiently deeply to boil water that has drained to the base of the liquid, so that a large part of the burning liquid is expelled violently when the water boils

3.43
bounding area
area of the real or notional surface (sides, bottom and top) of an enclosure round a hazard protected by a **total flooding extinguishing system**

3.44
box, inlet
box containing the inlets of foam pipes or water mains, installed in (or within the boundaries of the site of) a building

3.45
box, outlet
form of construction enclosing a **landing valve**

3.46
branch
branchpipe
fitting at the delivery end of a hose which reduces its diameter and thereby increases delivery velocity to the **nozzle**

branch system, see **sprinkler system**, **branch** (**3.775**)

3.47
breathing apparatus
self-contained apparatus designed to allow a **firefighter** to breathe in an otherwise non-respirable atmosphere for a limited period

3.48
breathing apparatus communication set
standard **breathing apparatus** incorporating a means of communication between the breathing apparatus control personnel and the leader of the breathing apparatus team

3.49
breathing apparatus, compressed air
breathing apparatus using compressed air, in which the expelled air is not re-used and the supply is governed by the wearer's breathing demand

3.50
breathing apparatus control board
display board comprising sections into which **breathing apparatus identification tallies** can be inserted and on which additional information can be recorded

3.51
breathing apparatus control board, stage 1
breathing apparatus control board used when there is not more than one entry point to a building in use and when there are not more than four **breathing apparatus** wearers

3.52
breathing apparatus control board, stage 2
breathing apparatus control board used when there is more than one entry point to a building in use, or when more than four wearers are deployed, to co-ordinate and control the activities at stage 1 end points

3.53
breathing apparatus identification tally
personal control tag on which is recorded the name of the wearer, time of entry to the building, and cylinder pressure at that time (the tag is left with the breathing apparatus control officer)

3.54
breathing apparatus, positive pressure
breathing apparatus wherein a constant pressure, above that of atmospheric pressure, is maintained within the face mask

3.55
breathing apparatus, regenerative
breathing apparatus, usually using oxygen, in which the exhaled air is recycled and the supply is governed at a constant rate

3.56
breathing apparatus safety line
light line, on which there may be indicators, used to assist **breathing apparatus** wearers to find their way out of a smoke-filled environment

3.57
breathing apparatus safety line, personal
short line which can be clipped on to a **breathing apparatus safety line** as an additional safety precaution

3.58
breeching, collecting
fitting used to unite two or more lengths of hose into one hose or pipe

3.59
breeching, control
dividing or **collecting breeching** fitted with a **control valve** to direct flow to or from either or both outlets

3.60
breeching, dividing
fitting used to divide one line of hose into two or more

3.61
building protection, active
provision of a **fire detection system** and/or an **extinguishing system** within a building to limit structural damage to the building due to **fire**

3.62
bund
raised perimeter of an area used to contain and prevent the spreading of liquids

NOTE See also **catchpit**.

burnback time, see **foam burnback time (3.431)**

3.63
catchpit
enclosure, which may be filled with stone chippings or similar material, below the level of the surrounding ground and intended to contain leakage or spillage of flammable and/or toxic liquids

NOTE See also **bund**.

3.64
cavity barrier
construction provided to close a concealed space against penetration of **smoke** or flame, or provided to restrict the movement of **smoke** or flame within such a space

3.65
ceiling hook
tool consisting of a pole, having a metal point with a spur at right angles, mainly used to pull down ceilings or other similar constructions to gain access to burning materials

3.66
ceiling jet
flow under a ceiling arising from the deflection of a rising plume of hot gas and **smoke** from a **fire**

3.67
ceiling membrane
non-loadbearing element of building construction designed to provide horizontal **fire separation** as distinct from protection to any floor or roof above

ceiling screen, see **smoke baffle** (**3.686**)

central commercial alarm centre, see **alarm receiving centre** (**3.16**)

central fire alarm station, see **alarm receiving centre** (**3.16**)

centrally supplied luminaire, see **emergency luminaire**, **centrally supplied** (**3.145**)

central monitoring station, see **alarm receiving centre** (**3.16**)

3.68
channeling screen
smoke curtain or **automatic smoke curtain** fitted beneath a balcony to prevent sideways emission of **smoke** from a **fire** along the underside of the balcony

3.69
check valve
valve that permits flow of fluid in one direction only

chemical foam, see **foam**, **chemical** (**3.432**)

3.70
chimney effect
upward movement of hot fire effluent caused by convection currents confined within an essentially vertical enclosure

NOTE This usually draws more air into the **fire**.

class, **classification**, see **<marine> division** (**3.542**); **fire classification** (**3.307**)

3.71
coincidence detection
detection method in which an **alarm condition** is obtained only when at least two independent **fire detectors** show the presence of **fire**

3.72
collecting head
fitting used to connect one or more lines of hose to the suction inlet of a pump

3.73
collector point
unmanned **remote centre** in which the signals from a number of **fire detection** and/or **extinguishing systems** are collected for onward transmission to another **remote centre**

3.74
collector pumping
method of increasing water supplies by stationing pumps at a number of sources and delivering water to the collecting head of a single pump from which it is pumped onto the **fire**

3.75
combination detector
fire detector combining two or more detecting principles in a single housing

combined emergency luminaire, see **emergency luminaire**, **combined** (**3.146**)

3.76
combined medium extinguishing system
system in which more than one **extinguishing medium** is used to **extinguish** a **fire** (e.g. foam and **dry powder**)

3.77
combustible dust
dust that is combustible or ignitable

3.78
combustion
exothermic reaction of a substance with an oxidizer

NOTE **Combustion** generally emits effluent accompanied by flames and/or visible light.

combustion products, see **products of combustion** (**3.620**)

command post, see **control point** (**3.88**)

common balcony escape, see **escape**, **common balcony** (**3.164**)

common escape stair, see **escape stair**, **common** (**3.178**)

compartment, see **fire compartment** (**3.308**)

3.79
compartmentation
division of a building into **fire compartments** intended to contain a **fire** within the compartment of fire origin

compartment, **fire**, see **fire compartment** (**3.308**)

3.80
compartment floor
floor used to separate one **fire compartment** from another

3.81
compartment wall
wall used to separate one **fire compartment** from another

3.82
competent person
person with the necessary training and experience, and with access to the requisite tools, equipment and information, accepted by the relevant authorities as capable of carrying out a defined task

complete discharge, see **<extinguisher> complete discharge** (**3.244**)

compound self-contained emergency luminaire, see **emergency luminaire**, **compound self-contained** (**3.151**)

concentration ratio of a foam solution, see **foam concentrate ratio** (**3.440**)

3.83
conflagration
fire of large extent with a moving front involving a number of buildings or a large area

3.84
continuous dilution
the technique of preventing the formation of an explosive gas/air mixture by the supply of a protective gas at such a rate that the concentration of the gas/air mixture is always kept below the **lower explosive limit**

continuous grade of release, see **grades of release** (**3.465**)

control and indicating equipment, see **fire alarm control and indicating equipment** (**3.274**)

3.85
control centre
permanently staffed room within or near the premises at risk for the receipt of **emergency calls**, equipped with means for indicating the situation in each of the **protected premises** and the communications needed for transmission of calls for assistance to emergency services

control equipment, see **fire alarm control and indicating equipment** (**3.274**); **lift control equipment** (**3.525**)

3.86
control for automatic fire protection system
automatic device used to actuate **automatic fire protection system** after receiving a signal from the **fire alarm control and indicating equipment**

3.87
controlled fire load
fire load that is limited by means of management controls on the quantities of combustible material present

3.88
control point
specially marked position established for tactical command at the scene of a major incident

control room, see **fire brigade control room** (**3.297**)

control unit, see **fire brigade control unit** (**3.298**)

control valve, see **sprinkler control valve** (**3.726**)

3.89
counter fire
practice of starting a controlled **fire** to create a **fire break** in the path of an advancing **conflagration**, usually in forest firefighting

3.90
coupling
device for connecting together hoses, valves, **nozzles**, etc., so as to secure continuity from the source of water supply to the delivery point

3.91
critical fire load
minimum **effective fire load** required in a **fire compartment** to produce a **fire** of sufficient severity to cause failure of **fire resistant** barriers or structural elements

3.92
critical heat flux at extinguishment
incident heat flux, under specified conditions, at the point on the surface of an item where the flame ceases to advance and might subsequently go out

3.93
critical irradiance
minimum irradiance at which **ignition** (**pilot** or **spontaneous** as specified) can be effected, regardless of duration

3.94
critical temperature, structural
temperature at which a structural element is assumed to be unable to support the applied load

3.95
damage control unit
salvage tender
fire appliance which carries a wide range of equipment designed to minimize or to prevent water and other damage occasioned during **fire brigade** operations

3.96
damper, fire
moveable closure, within a duct, which is operated automatically or manually and is designed to prevent the passage of **fire**

3.97
damper, smoke
moveable closure within a duct which is operated automatically or manually and is designed to prevent the passage of **smoke**

3.98
damping down
wetting operations required after a **fire** is believed to have been **extinguished**, to deal with possible hidden smouldering, hot debris, etc.

3.99
data cabinet
cabinet designed to protect media and valuables against the effects of **fire**

NOTE A data cabinet can have doors, drawers, lids and fittings.

3.100
dead end
area from which **escape** is possible in one direction only

3.101
deep-seated fire
fire involving solids subject to smouldering

3.102
deflagration flame arrester
flame arrester designed to prevent a deflagration from being transmitted

delivery hose, see **hose**, **delivery** (**3.477**)

deluge system, see **<sprinkler> deluge installation** (**3.729**)

3.103
depressurization
smoke control using pressure differentials where the air pressure in adjacent spaces is reduced to below that in the protected space

3.104
depressurized space
part of a building from which air and **smoke** are extracted for the purpose of **depressurization**

3.105
design concentration
concentration of gaseous **extinguishing medium** necessary to extinguish a particular fuel, with a specified safety factor

design density, see **sprinkler design density** (**3.730**)

3.106
design escape time
calculated time from ignition until the time at which all the occupants of a specified part of a building should have been able to enter a **place of safety**

3.107
design fire
largest **fire** with which the **fire precautions** in a building are expected to be effective

design point, see **sprinkler design point (3.731)**

3.108
detachable detector
fire detector designed to be easily removed from its normal operating position for maintenance and servicing purposes

3.109
detection pressure
pressure threshold at which a signal is given denoting the occurrence of an **explosion**

3.110
detection signal
signal from a detection device to show that a **fire** or **explosion** has been detected

3.111
detection time
interval between ignition and the detection of **combustion** by an automatic system or otherwise

3.112
detection zone
geographical sub-division of the protected premises in which the detection of a **fire** can be indicated separately from any other sub-division

detector, see **fire detector (3.315)**; **explosion detector (3.204)**; **flammable gas detector (3.416)**

3.113
detonation flame arrester
flame arrester used to prevent the transmission of a detonation

3.114
digital communicator
signalling equipment that automatically communicates using a switched telephone network and exchanges digital information on the state of the alarm system

direct distance, see **<escape> direct distance (3.165)**

3.115
direct line signalling equipment
signalling equipment that is used to transfer information concerned with the state of an alarm system via a dedicated communication channel

discharge rate, see **<escape> discharge rate (3.166)**

discharge value, see **<escape> discharge value (3.167)**

distance of travel, see **<escape> travel distance (3.182)**

3.116
distress signal unit
device carried by **breathing apparatus** wearers which will sound a distress signal when either manually or automatically actuated

distribution pipe, see **sprinkler distribution pipe (3.732)**

dividing breeching, see **breeching, dividing (3.60)**

3.117
division
<building> part of a building separated from the remainder of the building by a **division wall**

division <marine>, see **<marine> division (3.542)**

3.118
division wall
fire-resistant wall carried vertically throughout a building from the lowest level of any basement or sub-basement bounded by the wall, and continued sufficiently far above the roof to prevent **fire** spread between the two sides of the wall

door and shutter assembly, see **doorset (3.121)**

door assembly, see **doorset (3.121)**

3.119
door closer
mechanism attached to a door that will close the door provided that the closing force is not overcome by an **automatic door release mechanism** or obstacle

3.120
door frame
fixed surround into which can be fitted one or more door leaves

3.121
doorset
assembly consisting of a fixed part and one or more moveable parts, intended to allow or prevent access through permanent openings in **separating elements**

NOTE The term **doorset** also covers shutter assemblies.

drainage time of a foam, see **foam drainage time (3.442)**

3.122
draught
current of air towards a **fire**, supplying air for **combustion**

3.123
drencher head
open **sprinkler** fitted to a pipe or **drencher system** and designed to discharge water on to a surface to be protected against fire exposure

3.124
drencher system
automatic system of water pipes fitted with **drencher heads** at suitable intervals and heights, and designed to discharge water on to surfaces to be protected against fire exposure

3.125
drift smoke
smoke which is no longer in a stratified condition

3.126
drill tower
tower-like building primarily used for practising **fire brigade** operations and for drying hose

drop, see **<sprinkler> drop (3.734)**

dry fire main, see **dry riser (3.129)**

3.127
dry powder
powder suppressant
extinguishing medium composed of finely divided solid chemical products

3.128
dry powder appliance
vehicle wholly or mainly used to carry and apply **dry powder** to a **fire**

3.129
dry rising main
dry riser
dry fire main
vertical pipe installed in a building for firefighting purposes, fitted with inlet connections at **fire brigade access levels** and outlet connections at specified points, which is normally dry but capable of being charged with water by pumping from **fire brigade** appliances

3.130
dual entry firefighting lift
firefighting lift provided with two sets of doors, one used for normal operations and the other in the firefighting mode

duration of emergency lighting, see **emergency lighting duration** (**3.141**)

3.131
duration of flame application
period of time during which a pilot flame is applied to a test piece

duration of operation, see **<extinguisher> duration of operation** (**3.245**)

3.132
dust explosion
explosion which results from the **ignition** of a mixture of **combustible dust** and air

3.133
dwelling
single-family house, self-contained flat or maisonette

3.134
dwelling of origin
dwelling in which the initial ignition of a **fire** has occurred

early suppression, see **<sprinkler> early suppression** (**3.737**)

early suppression fast response automatic sprinkler; **ESFR**, see **sprinkler**, **early suppression fast response** (**3.738**)

ease of ignition (deprecated), see **minimum ignition time** (**3.566**)

"E" criterion, see **integrity criterion "E"** (**3.510**)

effective discharge time, see **<extinguisher> effective discharge time** (**3.246**)

effective fire load, see **fire load**, **effective** (**3.351**)

effective fire load density, see **fire load density**, **effective** (**3.349**)

3.135
ejector pump
portable jet pump designed for removing water from depths beyond the maximum practical lift of pumps and/or in confined spaces

NOTE An **ejector pump** can be used in basements, ships' holds, etc. It is operated by water delivered from a pump through standard delivery hose

3.136
electro-magnetic automatic release mechanism
device that converts electrical energy into a magnetic force that acts directly as the holding force, so that cessation of the electrical supply gives an automatic release

3.137
electro-mechanical automatic release mechanism
mechanical holding device that is operated by electrical energy, so that cessation of the electrical supply gives an automatic release

3.138
emergency call
alarm of fire or other emergency received by the **fire brigade**

3.139
emergency door
door (which can be a **fire door**) and which is intended to be used only during an emergency

emergency escape lighting, see **escape lighting** (**3.171**)

emergency exit, see **exit**, **emergency** (**3.192**)

3.140
emergency lighting
lighting for use when the supply to the normal lighting fails; it includes **escape lighting** and **standby lighting**

3.141
emergency lighting duration
period of time for which a luminaire can continuously provide the minimum illuminance required in the emergency condition

3.142
emergency lighting, maintained
lighting system in which all **emergency lighting** lamps are in operation at all times when normal or **emergency lighting** is required

3.143
emergency lighting, non-maintained
lighting system in which all **emergency lighting** lamps are in operation only when the supply to the normal lighting fails

3.144
emergency lighting system
complete but discrete **emergency lighting** installation, from the standby power source to the **emergency lighting** lamp(s), separate from the normal lighting system and able to provide **emergency lighting**

3.145
emergency luminaire, centrally supplied
luminaire for maintained or non-maintained operation which is energized from an emergency power system remote from the luminaire

3.146
emergency luminaire, combined
emergency lighting luminaire containing two or more lamps, at least one of which is energized from the **emergency lighting** supply and the others from normal lighting supply

3.147
emergency luminaire, compound self-contained
a self-contained luminaire providing **emergency lighting** and an emergency supply for operating a satellite luminaire

3.148
emergency luminaire, maintained
luminaire in which the **emergency lighting** lamps are energized at all times when normal or **emergency lighting** is required

3.149
emergency luminaire, non-maintained
luminaire in which the **emergency lighting** lamps are energized only when the supply to the normal lighting fails

3.150
emergency luminaire, satellite
luminaire which derives its emergency operation supply from an associated **compound self-contained emergency luminaire**

3.151
emergency luminaire, self-contained
luminaire providing maintained or non-maintained **emergency lighting** in which all the elements, such as the battery, the lamp, the control unit and the test and monitoring facilities, where provided, are contained within the luminaire or adjacent to it (that is, within one metre)

3.152
emergency luminaire, slave
luminaire supplied from a central emergency power source and not having its own internal secondary supply

3.153
emergency number
special telephone number used to make contact with an emergency service

3.154
emergency tender
rescue tender
fire appliance which carries a wide range of special equipment for use at **fires** or other emergencies

encapsulation, see **type of protection** (**3.852**)

enclosed stairway, see **stairway**, **enclosed** (**3.792**)

3.155
enclosure, electrical
external casing protecting the electrical and mechanical parts of apparatus

NOTE The term excludes cables.

end-centre array, see **<sprinkler> end-centre array** (**3.739**)

end-side array, see **<sprinkler> end-side array** (**3.740**)

3.156
endurance burning condition
steady burning of a stabilized flame at or close to a **flame arrester element**

3.157
endurance burning resistance
ability of a **flame arrester** to withstand the **endurance burning condition** without flame transmission under specified test conditions

engineered system, see **extinguishing system**, **engineered** (**3.259**)

3.158
entry firefighting
firefighting operations which involve voluntary direct entry into flames

3.159
equilibrium pressure
pressure developed within a container when filled with a quantity of solid, liquid and gaseous contents under specified conditions

3.160
equipment protection
protection that is intended to minimize the extent of fire damage to equipment in which **fire** originates

equivalent fire load density, see **fire load density**, **wood equivalent (3.350)**

3.161
escape
movement of persons to a **place of safety** (in case of **fire** or other emergency)

3.162
escape bed lift
escape lift able to carry persons in bed, together with any necessary attendants

3.163
escape chute
open, slide-like escape used for emergency evacuation

3.164
escape, common balcony
walkway, open to the air on one or more sides, forming part of a designated **escape route** from more than one occupancy

3.165
<escape> direct distance
the shortest distance from any point within the floor area, measured within the external enclosures of the building, to the nearest **storey exit** ignoring walls, partitions and fittings, other than the enclosing walls/partitions to protected stairways

3.166
<escape> discharge rate
number of persons which can pass through one unit of exit width in a given time

3.167
<escape> discharge value
maximum number of persons that can pass through a given number of units of exit width in a given period of time, having regard in a multi-storey building to the capacity of the stairs

3.168
escape hatch
means of providing **escape** from a room or part of a building in the form of a moveable or breakable panel

3.169
escape ladder
fixed ladder, leaning ladder or hanging ladder for **escape** use

3.170
escape lift
passenger lift protected to enable it to be used for **escape** purposes in the event of **fire**

3.171
escape lighting
part of **emergency lighting** which is provided to ensure that the **means of escape** can be effectively identified and be sufficiently illuminated to be usable at all times

3.172
escape rope
rope forming part of an **escape route**

3.173
escape route
path taken by any person during an **escape**

3.174
escape route, external
escape route, external to a building, e.g. by way of a roof, stair, balcony, bridge, terrace, alleyway, walkway or external courtyard which terminates at a **final exit** or discharges into another **escape route**

3.175
escape route, pressurized
escape route which permanently or in case of **fire** is overpressured compared to the adjacent parts of the building in order to inhibit the spread of **fire** (**smoke**, gas or flames) into the **escape route**

3.176
escape route, protected
escape route which is adequately enclosed and is separated by **fire-resistant** construction from a **fire** in adjoining accommodation

3.177
escape route marker
marker forming part of a way guidance system, provided to clearly delineate a designated **escape route**

3.178
escape stair, common
protected escape stair serving more than one occupancy

3.179
escape stairway
stairway designed as a **means of escape** in case of **fire**

3.180
escape stairway, external
stairway in the open air, separated from possible **fire** in the building by **fire-resistant** structure

3.181
escape time
interval between ignition and the time at which all occupants are able to reach a **place of safety**

3.182
<escape> travel distance
actual distance to be traveled by a person from any point within the floor area to the nearest **storey exit**, having regard to the layout of walls, partitions and fittings

ESFR, see **sprinkler**, **early suppression fast response** (**3.738**)

essential ironmongery, see **ironmongery**, **essential** (**3.516**)

3.183
evacuation drill
rehearsal of the evacuation procedure involving participation of the occupants of the premises

3.184
evacuation level
storey at which **final exits** suitable for the evacuation of persons are available

evacuation lift, see **escape lift** (**3.170**)

3.185
evacuation plan
procedure for ensuring the safety of occupants and for limiting loss and damage to building structure, contents, the environment and business interruption

3.186
evacuation service
operation of a selected **escape bed lift** under an agreed system of management and control for the evacuation of dependent patients in the case of **fire**

3.187
evacuation signal
audible and/or visible signal to indicate to occupants that they have to **escape**

3.188
evacuation time
expected interval between the time at which a warning of **fire** is transmitted to the occupants and the time at which all of the occupants have reached a **place of safety**

exhauster, see **sprinkler exhauster** (**3.741**)

3.189
exit
doorway or other suitable opening allowing egress from an occupied space

3.190
exit direction indicator
part of the **way guidance system** provided to identify **escape routes** and to clearly indicate direction towards an **emergency exit**

3.191
exit direction sign
sign indicating the direction to an **emergency exit**

3.192
exit, emergency
exit, fire
exit on a designated **escape route**

3.193
exit, final
termination of a designated **escape route**, from which there is direct access to a **place of ultimate safety**

3.194
exit indicator
illuminated indicator forming part of the **way guidance system** and provided to clearly identify an **exit**

3.195
exit marking
part of the **way guidance system** provided to clearly identify an **exit** by using luminous marking to outline part or all of the exit surround

3.196
exit, normal
exit intended to be usable at any time while the premises are occupied

3.197
exit sign
sign that indicates an **escape route** or a **final exit**

3.198
exit, storey
doorway giving direct access to a protected stairway, **firefighting lobby**, external **escape route** or **place of ultimate safety**

NOTE A **storey exit** can also be a **final exit**.

3.199
exit, unit of width
minimum width required for a single file of persons to walk through an **exit**

expansion ratio, see **foam expansion ratio** (**3.443**)

3.200
explosibility
ability of a dust to take part in a cloud **explosion** when dispersed in air at a suitable concentration and in the presence of an effective ignition source

3.201
explosible dust
a dust which, when present as a mixture with air, might explode on contact with an ignition source

explosimeter, see **flammable gas detector** (**3.416**)

3.202
explosion
abrupt expansion of gas which can result from a rapid oxidation or decomposition reaction, with or without an increase in temperature

3.203
explosion decoupling
a technique for preventing the propagation of flames and **explosions** from one apparatus to other parts of an installation by the use of special devices, e.g. mechanical high-speed shut-offs, rotary valves, or **flame arresters**

3.204
explosion detector
device or arrangement of apparatus, containing one or more **explosion sensors**, that responds to a developing **explosion**

explosion index, see **explosion indices** (**3.209**)

3.205
explosion index K
constant defining, under specified conditions, the maximum rate of pressure rise with time $(\mathrm{d}p/\mathrm{d}t)_{max}$ of an **explosion** in a volume V, according to the equation $K = (\mathrm{d}p/\mathrm{d}t)\ \max \times V^{1/3}$

3.206
explosion index $\mathbf{K}_{max}$
maximum value of the **explosion index K** determined by tests over a wide range of reactant concentrations

3.207
explosion index $\mathbf{p}_m$
maximum overpressure attained during an **explosion** relative to the pressure in the vessel at the time of ignition

3.208
explosion index $\mathbf{p}_{max}$
maximum value of the **explosion index $\mathbf{p}_m$** determined by tests over a wide range of reactant concentrations

3.209
explosion indices
numerical terms, determined in accordance with standard test methods, which characterize the contained **explosion** of a specified concentration of reactants in a vessel having a specified volume

explosion limits, see **explosive limits** (**3.226**)

3.210
explosion points
temperatures of a combustible liquid at which the concentration of the saturated vapour is equal to the **upper** and **lower explosive limits**

3.211
explosion point, lower
temperature of a combustible liquid at which the concentration of the saturated vapour in air is equal to the **lower explosive limit**

3.212
explosion point, upper
temperature of a combustible liquid at which the concentration of the saturated vapour in air is equal to the **upper explosive limit**

3.213
explosion-pressure resistant
property of vessels and equipment designed to withstand the expected **explosion** pressure without becoming permanently deformed

3.214
explosion-pressure shock-resistant
property of vessels and equipment designed to withstand the expected **explosion** pressure without rupturing, but allowing permanent deformation

3.215
explosion-protected apparatus
electrical equipment having a recognized **type of protection** designed to ensure that it will not cause an explosion of the surrounding atmosphere

3.216
explosion protection system
composite arrangement of devices to detect automatically the onset of an **explosion** and initiate the actuation of a suppression system or other devices to limit destructive effects of the **explosion**

explosion range, see **explosive range** (**3.229**)

3.217
explosion relief
part of the panel-work of an enclosure designed and constructed to release the excess pressure in the event of an **explosion**, in order to prevent injury to persons and further damage to equipment

3.218
explosion resistant
property of vessels and equipment designed to be either **explosion-pressure resistant** or **explosion-pressure shock-resistant**

3.219
explosion sensor
device which is responsive to the changes caused by a developing **explosion** in one or more of the environmental parameters such as pressure, temperature and/or radiation

3.220
explosion suppressant
substance which, when dispersed into a container, can arrest a developing **explosion** in that container

3.221
explosion suppression
abrupt halting of an incipient or developing **explosion** within an enclosure

3.222
explosion suppression system
composite arrangement of devices to detect automatically the onset of an **explosion** and to initiate the actuation of suppression

3.223
explosion suppressor
appliance containing an **explosion suppressant** which can be expelled by the action of internal pressure

3.224
explosive atmosphere
mixture with an oxidizing agent (usually air) of flammable substances in the form of gas, vapour, mist, powder or flock, in such proportions that it can be ignited

3.225
explosive atmosphere, potential
area where there is a possibility that an **explosive atmosphere** could be generated by releases of **flammable gases or vapours**

3.226
explosive limits
explosion limits
limits of the **explosive range**

3.227
explosive limit, lower
LEL
lowest concentration of a flammable substance in air within which an **explosion** can occur

3.228
explosive limit, upper
UEL
highest concentration of a flammable substance in air within which an **explosion** can occur

3.229
explosive range
explosion range
range of the concentration of a flammable substance in air within which an **explosion** can occur

3.230
exposed building
building which might be in danger of taking **fire** by reason of **fire** in another building or other source external to the building

3.231
exposed lining
face of the wall exposed to **fire** in a **fire test**

3.232
exposed surface
surface of a product subjected to the direct heat of a test or a **fire**

3.233
exposing building
building which, being on **fire**, might endanger any other buildings

3.234
exposure hazard
danger directly resulting from nearby **fire**

external escape stairway, see **escape stairway**, **external** (**3.180**)

3.235
extinguish
terminate **combustion**

extinguishant, see **extinguishing medium** (**3.254**)

3.236
extinguisher
appliance containing an **extinguishing medium** which can be discharged on to a **fire** by the action of internal pressure

NOTE **Extinguishers** may be sub-classified by the method of discharge (stored pressure, gas cartridge, etc.) or by the **extinguishing medium** used (water, foam, **dry powder**, etc.).

3.237
extinguisher, aerosol type
small disposable container, incorporating a valve and containing an **extinguishing medium** kept under greater than atmospheric pressure by means of a propellant, from which the contents are discharged when the valve is operated

NOTE **Dry powder extinguishers** of the aerosol type are designed to be discarded after use and not to be refilled. **Extinguishers** containing halon are intended to be returned to the manufacturer for recovery of any residual halon.

3.238
extinguisher body
shell of an **extinguisher**, not fitted with its accessories but fitted with all its welded parts

3.239
extinguisher body fittings
parts of the **extinguisher** that, under normal working conditions, are permanently attached to the **extinguisher body shell** and are subject to the working pressure

3.240
extinguisher body, rechargeable, factory sealed
body of a gas cartridge or of an **extinguisher** (usually the stored pressure type) that is intended to be recharged after use but only by the manufacturer or his approved agent

3.241
extinguisher body, disposable
body of a gas cartridge or of an **extinguisher** (usually of the stored pressure type) that is not designed for recharging and should be discarded after use

3.242
extinguisher body shell
unfinished outer case of an **extinguisher** usually comprising a cylindrical part with dished ends, and containing an aperture or apertures for charging the **extinguisher** or for subsequent fitting of components such as **nozzles**, pressure gauges and closures

3.243
<extinguisher> charge
mass or volume of the **extinguishing medium** contained in the **extinguisher**

NOTE The charge of appliances based on water is expressed in volume and that of other appliances in mass.

3.244
<extinguisher> complete discharge
discharge of an **extinguisher** to the point where the internal and external pressures are equal, the valve control being kept fully open

3.245
<extinguisher> duration of operation
time during which the **extinguishing medium** can continue to discharge, without any interruption in the discharge and with valve fully opened not including the residual propellant gas

3.246
<extinguisher> effective discharge time
time from the commencement of discharge of the **extinguishing medium** at the **nozzle** to the moment at which discharge of the medium (but not necessarily the propellant gas) ceases

3.247
extinguisher, field rechargeable
extinguisher that can be recharged in the field without return to the manufacturer or its approved agent

3.248
extinguisher, portable
extinguisher which is designed to be carried and operated by hand

3.249
<extinguisher> service pressure
equilibrium pressure developed within the **extinguisher body** when it is filled to the maximum recommended charge and at its maximum allowable temperature

3.250
extinguisher, transportable
extinguisher mounted on wheels or skids

3.251
extinguishing concentration, minimum
minimum concentration (as a percentage by volume) of a specified gaseous **extinguishing medium** necessary to **extinguish** a flame of a particular fuel under defined experimental conditions

NOTE See also **extinguishing concentration**, **recommended**.

3.252
extinguishing concentration, recommended
concentration of a gaseous **extinguishing medium** necessary to ensure extinction of flaming combustion of a particular material

3.253
extinguishing foam
finished foam
extinguishing medium consisting of a mass of bubbles mechanically or chemically formed by a liquid

3.254
extinguishing medium
substance which, when discharged on to a **fire**, is intended to terminate **combustion**

3.255
extinguishing medium, residual content
quantity of **extinguishing medium** remaining within the **extinguisher** after the maximum possible discharge

extinguishing powder, see **dry powder** (**3.127**)

3.256
extinguishing system
fixed system consisting of a calculated supply of **extinguishing medium** connected to fixed **nozzle(s)** through which, after manual or automatic initiation, the medium is discharged to extinguish a **fire**

3.257
extinguishing system, balanced
extinguishing system, with more than one discharge **nozzle**, in which the flow of **extinguishing medium** is intended to divide equally at each junction in the pipework

3.258
extinguishing system, dry powder
extinguishing system containing **dry powder** as the **extinguishing medium**

3.259
extinguishing system, engineered
piped **extinguishing system** in which the discharge of **extinguishing medium** is defined according to the nature and location of the combustibles, and in which the piping and central storage of **extinguishing medium** are calculated in order to give the required rates and durations

3.260
extinguishing system, total flooding
firefighting system arranged to discharge **extinguishing medium** into an enclosed volume so as to achieve the appropriate design concentration throughout the volume

3.261
extinguishing system, unbalanced
extinguishing system, with more than one discharge **nozzle**, in which the flow of **extinguishing medium** divides unequally at one or more junctions in the pipework

3.262
extinguishing system, water
extinguishing system utilizing water as the **extinguishing medium**

factory sealed rechargeable body, see **extinguisher body**, **rechargeable**, **factory sealed** (**3.240**)

3.263
falling main
vertical pipe, similar to a rising main but installed in buildings with multi-level basements for the supply of water for firefighting

3.264
false alarm
emergency call made when there is or was no emergency

3.265
false alarm, malicious
false alarm originated by a person knowing that there is or was no emergency

3.266
false alarm of fire
alarm of fire that is false because the **fire** reported does not and did not exist

NOTE This **false alarm** might arise by malicious, mistaken, or accidental intent.

3.267
false alarm, system failure
false alarm originated by defective equipment

3.268
false alarm with good intent
false alarm originated by a person, with good intent, in the mistaken belief that there is or was a **fire** or other emergency

3.269
fault warning
automatic indication giving audible and visible warning that a fault exists in a system

3.270
fault warning receiving station
centre from which the necessary corrective measures can be initiated on receipt of a fault signal

3.271
fault warning routing equipment
intermediate equipment which routes a **fault warning** signal from the **fire alarm control and indicating equipment** to a **fault warning receiving station**

FED, see **fractional effective dose (3.459)**

FFFP, see **foam concentrate, film-forming fluoroprotein (3.436)**

FIC, see **fractional irritant concentration (3.460)**

field rechargeable extinguisher, see **extinguisher**, **field rechargeable (3.247)**

3.272
filling density
in an **extinguisher** or **extinguishing system**, the mass of **extinguishing medium** per unit volume of container (in kg/l)

film-forming fluoroprotein foam concentrate, see **foam concentrate**, **film-forming fluoroprotein (3.436)**

final exit, see **exit**, **final (3.193)**

3.273
fire
1) process of **combustion** characterized by the emission of heat and effluent accompanied by **smoke**, and/or flame, and/or glowing

2) rapid **combustion** spreading uncontrolled in time and space

fire alarm, see **alarm of fire (3.15)**

3.274
fire alarm control and indicating equipment
equipment through which **fire detectors** can be supplied with power and which:

a) is used to accept a detection signal and actuate a **fire alarm signal**;

b) is able to pass on the fire detection signal; and

c) is used to monitor automatically the correct functioning of the system

3.275
fire alarm device
component of a **fire alarm system**, not incorporated in the **fire alarm control and indicating equipment**, which is used to give a perceptible warning of **fire**, e.g. a sounder or visual indicator

3.276
fire alarm device, manual
fire alarm device, manually operated, which gives an audible and/or visible **alarm of fire**

3.277
fire alarm manual call point
device for the manual initiation of an **alarm of fire**

3.278
fire alarm receiving station
alarm receiving centre from which the necessary **fire protection** or firefighting measures can be initiated at any time

3.279
fire alarm routing equipment
intermediate equipment which routes (transmits) an alarm signal from the **fire alarm control and indicating equipment** to a fire alarm receiving station

3.280
fire alarm, self-contained
fire detection device containing, in one housing, all the components (with the possible exception of the energy source) necessary to detect a **fire** and sound an audible alarm

3.281
fire alarm signal
signal, which can be electrical, mechanical, audible, visual, etc., to show that a hazard from **fire** exists in an area

NOTE The signal can be local, addressed to occupants of the area, or remote, addressed to other people or organizations from whom assistance might be required.

3.282
fire alarm system
combination of components for giving an audible and/or other perceptible **alarm of fire**

NOTE The system can also initiate other ancillary action.

3.283
fire alarm system, automatic
fire alarm system containing components for automatically detecting a **fire**

3.284
fire alarm system, manual
fire alarm system in which the alarm is initiated manually

3.285
fire and smoke control door
doorset meeting the criteria appropriate for both **fire door** and **smoke control door** assemblies

3.286
fire appliance
vehicle used for firefighting and/or rescue

3.287
fire area
geographic area covered by a **fire brigade** or **fire station** and for which they are responsible

3.288
fire barrier
separating element which resists the passage of flame and/or heat and/or effluents for a period of time under specified conditions

3.289
fire beater
implement used for manually beating out **fires**, chiefly in bushland or crops

3.290
fire blanket
flexible sheet of material intended to be used to **extinguish** small **fires** by smothering, or as a protection against radiant heat or small hot objects

3.291
fire boat
river-going or sea-going vessel whose primary purpose is firefighting

3.292
fire break
fire stop
barrier in the path of an advancing **fire**, created by **counter firing**, removal of fuel or wetting down of potential fuel

3.293
fire break door
fire break shutter
door or shutter having a specified **fire resistance**, used to cover openings in **compartment walls** or **compartment floors** and capable of closing automatically in the event of **fire**

fire break floor, see **compartment floor** (**3.80**)

fire break wall, see **compartment wall** (**3.81**)

3.294
fire brigade
fire department
organization with trained personnel, appliances and equipment for dealing with **fires** and other emergencies

3.295
fire brigade access level
level of a building to which the **fire brigade** has access for firefighting vehicles, and from which there is entry to the building suitable for firefighting operations

3.296
fire brigade attendance time
lapsed time between receipt of a report of a **fire** or other emergency and the arrival of **fire appliances** at the scene

3.297
fire brigade control room
permanently staffed and fully equipped room in **fire brigade** premises in which **emergency calls** are received and subsequent action is taken to mobilize firefighters, appliances and equipment

3.298
fire brigade control unit
fire appliance equipped as a mobile control room for use by the officer in charge at major incidents

3.299
fire brigade, private
fire brigade, works
fire brigade established and financed within an organization to provide **fire protection** to its own assets and personnel

3.300
fire brigade, public
fire brigade controlled by statute, which provides firefighting, rescue, other emergency services and, in some circumstances, **fire prevention** services to a community

3.301
fire brigade response time
lapsed time between receipt of a report of a **fire** or other emergency and the **fire appliances** leaving the **fire station**

fire brigade, **works**, see **fire brigade**, **private** (**3.299**)

3.302
fire call
alarm of fire transmitted verbally or by telephone by a person to a **fire brigade control room**

3.303
fire, class A
fire involving solid materials, usually of an organic nature, in which **combustion** normally takes place with the formation of glowing embers

3.304
fire, class B
fire involving liquids or liquefiable solids

3.305
fire, class C
fire involving gases

3.306
fire, class D
fire involving metals

3.307
fire classification
standardized system of classifying **fires** in terms of the nature of the fuel

NOTE See also **fire**, **class A**; **fire**, **class B**; **fire**, **class C**; **fire**, **class D**.

3.308
fire compartment
enclosed space, which may be subdivided, separated from adjoining spaces within the building by elements of construction having a specified **fire resistance**

3.309
fire containment
precautions which contain the fire to the smallest possible area, and control the threat to life safety and the extent of property damage

fire control plan, see **<marine> fire control plan (3.543)**

3.310
fire curtain
moveable screen designed to close an opening or divide an area within a building so as to prevent or restrict the spread of **fire**, **smoke** or **fire gases**

3.311
firedamp
flammable gas, consisting mainly of methane, found naturally in mines

fire damper, see **damper**, **fire (3.294)**

3.312
fire danger
concept including both **fire hazard** and **fire risk**

fire department, see **fire brigade (3.32)**

fire detection and alarm system, see **automatic fire detection and alarm system (3.32)**

3.313
fire detection system
system by which an **alarm of fire** initiated by a **fire detector** is given automatically at a central control panel

3.314
fire detection zone
geographical sub-division of the building such that a **fire** within it will be indicated by a **fire detection system** separately from an indication of fire in any other sub-division

3.315
fire detector
part of a **fire detection system** containing at least one sensor which monitors a suitable physical and/or chemical phenomenon, in order to signal to the **fire alarm control and indicating equipment**

3.316
fire detector, combustion gas
gas sensing fire detector
fire detector sensitive to the gaseous products of **combustion** and/or thermal decomposition

3.317
fire detector, fixed sensitivity
fire detector in which, after the completion of the manufacturing process, the response threshold cannot be varied manually without giving a permanent indication of adjustment which will be clearly visible during servicing

3.318
fire detector, flame
fire detector which responds to the radiation emitted by flames

3.319
fire detector, heat
fire detector which responds to an increase in temperature

3.320
fire detector, line
fire detector that responds to the phenomenon monitored in the vicinity of a continuous line

3.321
fire detector, locally resettable
fire detector which can be reset by a manual operation carried out at the **fire detector**

3.322
fire detector, point
fire detector which responds to the phenomenon sensed in the vicinity of a fixed point

3.323
fire detector, rate of rise
fire detector which initiates an alarm when the rate of change of the measured phenomenon with time exceeds a certain value, for a sufficient time

3.324
fire detector, smoke
fire detector sensitive to aerosol products of combustion and/or pyrolysis

3.325
fire door
fire door assembly
fire shutter
doorset which, as installed in a building, is intended when closed to resist the passage of **fire** and is capable of meeting specified performance criteria

3.326
fire door, self-closing
fire door fitted with a device which fully closes the door, overriding the resistance of any latch

3.327
fire effluent decay characteristics
physical and/or chemical changes in fire effluent due to time and transport

3.328
fire effluent transport
movement of fire effluent, normally away from the location of the **fire**

fire extinguisher, see **extinguisher (3.236)**

fire extinguishing concentration, see **extinguishing concentration, minimum (3.251)**

fire extinguishing system, see **extinguishing system (3.256)**

3.329
firefighter
active participating member of a **fire brigade**

3.330
firefighter, full time
person whose occupation is that of **firefighter**

3.331
firefighter, retained
person whose main occupation is other than that of a **firefighter** but who is employed as a **firefighter** on a part-time basis

3.332
firefighter's boots
waterproof safety boots which will not produce sparks

3.333
firefighter's helmet
headgear intended to ensure protection of the wearer's head against hazards which might occur during operations carried out by **firefighters**

3.334
firefighter's protective clothing
specific garments providing protection for the **firefighter**

3.335
firefighting access
approach facilities provided to enable the **fire brigade** personnel and equipment to gain access to, or within, the premises

3.336
firefighting lift
lift designated to have additional protection with controls that enable it to be used under the direct control of the **fire brigade** during a **fire**

3.337
firefighting lift switch
switch provided to bring a **firefighting lift** under the immediate control of the **fire brigade**

3.338
firefighting lobby
protected lobby providing access from a **firefighting stairway** to the accommodation area and to any associated **firefighting lift**

3.339
firefighting shaft
protected enclosure containing a **firefighting stairway**, **firefighting lobbies** and, if provided, a **firefighting lift** together with its machine room

3.340
firefighting stairway
protected stairway communicating with the accommodation area only through a **firefighting lobby**

3.341
fire gases
gaseous part of the **products of combustion**

3.342
fire ground
area within which **fire brigade** operations are in progress

3.343
fire hazard
potential for injury and/or damage from **fire**

fire hose reel, see **hose reel (3.479)**

3.344
fire hydrant
assembly contained in a pit or box below ground level and comprising a valve and outlet connection from a water supply main

3.345
fire hydrant pit
recess below the road or pavement level in which a **fire hydrant** is located

fire integrity, see **integrity (3.509)**

3.346
fire investigation unit
fire appliance which carries a wide range of equipment for the purpose of determining the cause of a **fire**

fire lift switch, see **firefighting lift switch (3.337)**

3.347
fire load
quantity of heat which could be released by the complete **combustion** of all the combustible materials in a volume, including the facings of all bounding surfaces

NOTE **Fire load** can be based on effective gross or net heat of **combustion** as required by the specifier.

3.348
fire load density
fire load per unit floor area

3.349
fire load density, effective
effective fire load per unit floor area

3.350
fire load density, wood equivalent
fire load density expressed as an equivalent mass of wood per unit floor area rather than in terms of its **heat of combustion**

3.351
fire load, effective
fire load within an enclosure or compartment, modified by factors which take account of the incomplete **combustion** of **protected fire loads** and/or a reduction in the net quantity of heat released resulting from the presence of wet materials

3.352
fire load, wood equivalent
fire load expressed as an equivalent mass of wood rather than in terms of its calorific value

3.353
fire main
system of pipes and valves provided to carry water for firefighting purposes

3.354
fireman's switch
switch fitted externally to a building to enable **firefighters** to isolate electrical apparatus

3.355
fire microphone
microphone for use by the **fire brigade** or other responsible persons as part of a **voice alarm system**

3.356
fire modelling
simulation of some aspects of **fire** by mathematical or physical means

3.357
fire performance
response of an item when exposed to a specific **fire**

3.358
fire precautions
measures which can be taken to reduce the likelihood of ignition occurring and/or to mitigate the consequences should ignition occur

3.359
fire prevention
measures to prevent the outbreak of a **fire**

3.360
fire procedure plan
routine that details information and instructions for all persons present in a building so that they respond appropriately in the event of a **fire**

fireproof (deprecated), see **fire resistant** (**3.371**)

3.361
fire propagation index
comparative measure of the contribution to the growth of **fire** of a combustible material

3.362
fire protection
measures taken in the design or equipment of buildings or other structures to reduce the danger from **fire**

3.363
fire protection, structural
features in a building's layout and/or construction which are intended to reduce the effects of a **fire**

3.364
fire protection system
assembly of fire control or firefighting equipment (such as extinguishing installations, **smoke control doors**, **dampers** or fans) intended to reduce **fire risk** to people, property or the environment

3.365
fire protection system, active
fire protection system which in the event of fire can function only after its operation has been either manually or automatically initiated

3.366
fire protection system, automatic
fire protection system able to function when its operation has been automatically initiated in response to the sensing of heat, flame or **products of combustion**

3.367
fire protection system, manual
fire protection system that functions only when its operation has been initiated manually

3.368
fire protection system, passive
fire protection system that carries out its function without requiring any manual or automatic initiation of its operation in the event of **fire**

3.369
fire resistance
ability of an item to fulfill for a stated period of time the required **fire stability** and/or integrity and/or **thermal insulation**, and/or other expected duty specified in a standard fire resistance test

3.370
fire resistance of a separating element
ability of an element to meet specified criteria of integrity, **fire stability** and/or **thermal insulation** in a standard **fire resistance** test

3.371
fire resistant
possessing the ability to resist **fire** for a stated period of time under specified conditions

fire resisting (deprecated), see **fire resistant** (**3.371**)

3.372
fire retardant, adj.
possessing the ability to suppress, reduce or delay the **combustion** of certain materials

3.373
fire retardant, noun
substance added or treatment applied to a material in order to delay ignition or to reduce the rate of **combustion**

NOTE The use of **fire retardants** does not necessarily suppress **fire**.

3.374
fire risk
product of the probability of occurrence of a **fire** to be expected in a given technical operation or state, and the consequence or extent of damage to be expected on the occurrence of a **fire**

3.375
fire risk assessment
process of identification and evaluation of **fire risk** to people, property or the environment

3.376
fire safety engineer
person meeting specified standards of qualification and experience in **fire safety engineering**

3.377
fire safety engineering
application of scientific and engineering principles to the protection of people, property and the environment from **fire**

3.378
fire safety management
control of the activities within a premises so as to minimize the risk from **fire** to life, property and the surrounding environment

3.379
fire safety manual
document detailing the **fire safety management** procedures that should be implemented on a continuing basis

3.380
fire safety sign
sign giving information about **fire precautions**, diagrammatically and/or by test

3.381
fire safety sign, self-contained
fire safety sign in which all the elements such as the battery, the lamp, the control unit and the test and monitoring facilities, where provided, are concealed within the housing or adjacent to it

3.382
fire safety sign, self-luminous
fire safety sign in which the text and/or graphics are illuminated without the use of a dedicated power supply

fire security routine inspection, see **routine inspection** (**3.663**)

3.383
fire separation
separation or **compartmentation** within a building or area to restrict the spread of **fire**

3.384
fire severity
characteristic of a **fire** determined by the temperature reached at various times during the **fire**

fire shutter, see **fire door** (**3.325**)

3.385
fire stability
ability of an element of building construction, load-bearing or not, to resist collapse for a stated period of time under specified conditions

3.386
fire station
building housing **fire brigade** appliances, equipment and personnel

fire stop, see **fire break** (**3.292**)

3.387
fire stopping
seal provided to close an imperfection of fit or design tolerance between elements or components to restrict the passage of **fire** or heat with the object of maintaining the **fire resistance** of the elements

3.388
fire telephone
telephone provided exclusively for **fire** purposes

3.389
fire telephone line
telephone circuit reserved only for **alarm of fire** transmission

3.390
fire test
procedure designed to measure or assess the response of a product, component, element of construction or any combination of these to one or more aspects of **fire**

3.391
fire tug
standard tug boat which is additionally provided with firefighting equipment

fixed hose reel, see **hose reel**, **fixed** (**3.482**)

fixed sensitivity detector, see **fire detector**, **fixed sensitivity** (**3.317**)

fixed suction installation, see **suction installation**, **fixed** (**3.814**)

3.392
flaked hose
a hose folded backwards and forwards on itself in a series of folds of equal length

3.393
flame application time
time for which the ignition flame is applied to the test specimen under specified conditions

3.394
flame arrester
flame trap
device consisting of an arrester element, an arrester housing and associated fittings, used to prevent the passage of flame into a hazardous atmosphere

3.395
flame arrester element
permeable matrix with any associated immediate mounting which under specified conditions will prevent the transmission of flame

flame detector, see **fire detector**, **flame** (**3.318**)

3.396
flame height
distance from the upper edge of the burner or burning material to the yellow tip of the flame

3.397
flameless combustion
combustion of a material without flame

3.398
flameover
flash-over dominated by an increase in the production of **flammable gases** from surfaces exposed to fire radiation

flameproof enclosure, see **type of protection** (**3.852**)

3.399
flameproof joint
place where corresponding surfaces of two parts of an enclosure come together and prevent the transmission of an internal **explosion** to the **explosive atmosphere** surrounding the enclosure

3.400
flameproof joint, width of
shortest path through a **flameproof joint** from the inside to the outside of the enclosure

3.401
flame retardance
property of a material whereby **flaming combustion** is slowed, terminated or prevented

3.402
flame retardant
substance added, or treatment applied, to a material in order to suppress or delay the appearance of a flame and/or reduce its propagation (spread) rate

3.403
flame retardant treatment
process whereby improved **flame retardance** is imparted to a material or product

3.404
flame retarded
treated with a **flame retardant** or possessing inherent **flame retardance**

3.405
flame spread
propagation of a flame front

3.406
flame spread rate
distance travelled by a flame front during its propagation, divided by the time of travel, under specified conditions

3.407
flame spread time
the time taken by a flame front on a burning material to travel a specified distance on the surface, or to cover a specified surface area under specified conditions

flame trap, see **flame arrester** (**3.394**)

3.408
flaming
undergoing **combustion** in the gaseous phase with the emission of light and heat

3.409
flaming ignition
initiation of sustained **flaming**

3.410
flaming time
time between the first appearance of a visible flame and its final extinction

3.411
flaming time of droplets, average
time during which droplets, released by a test piece, continue to burn after falling

3.412
flammability index
code describing the degree of flammability

3.413
flammability temperature
temperature of a material at which **combustion** is just supported under specified conditions

3.414
flammable
capable of **flaming** under specified conditions

flammable atmosphere, see **explosive atmosphere** (**3.224**)

3.415
flammable gas
flammable vapour
gas or vapour which, when mixed with air, can form an **explosive atmosphere**

3.416
flammable gas detector
device to detect the presence of a **flammable gas** and air mixture concentration within a volume, in order to determine explosion potential

3.417
flammable limits
minimum and maximum concentrations of gas or vapour in air which can sustain a self-propagating flame

3.418
flammable limit, lower
LFL
lowest concentration of a **flammable** substance in air within which a self-propagating flame can occur

3.419
flammable limit, upper
UFL
highest concentration of a **flammable** substance in air within which a self-propagating flame can occur

3.420
flammable liquid
liquid capable of producing a **flammable vapour**

3.421
flammable material
material which is **flammable** of itself, or is capable of producing a **flammable gas**, **vapour** or **mist**

3.422
flammable mist
free suspension in air of droplets of a liquid whose vapour is **flammable**

flammable range, see **explosive range (3.229)**

flammable vapour, see **flammable gas (3.415)**

3.423
flare stack
duct and burner system used to burn off unwanted **flammable gas** in a safe manner and discharge it into the environment

3.424
flashback
flash-over triggered by some change in circumstances which makes new supplies of oxygen available

3.425
flash fire
burning of a **flammable vapour** cloud at a speed such that there is no significant over pressure ahead or behind the flame front

3.426
flash-over
stage in the development of a contained **fire** at which **fire** spreads rapidly to give large merged flames throughout the space

3.427
flooding quantity
mass or volume of **extinguishing medium** required to achieve the design concentration within the protected volume

3.428
floor space factor
estimated floor area per occupant in a specified type of occupancy

NOTE The total floor area divided by the floor space factor gives the number of persons who might need to use **escape routes**.

fluoroprotein foam concentrate, see **foam concentrate**, **fluoroprotein (3.437)**

3.429
foam, aspirated
foam produced by the intimate mixing of air and **foam solution** within the equipment

3.430
foam branch
branch fitted to the end of a delivery hose capable of aerating a **foam solution** to produce foam

3.431
foam burnback time
time taken for the complete or partial burn back of a **fire** covered by foam

3.432
foam, chemical
extinguishing foam formed by the reaction of an alkaline salt solution with an acid solution in the presence of a foam stabilizing agent

3.433
foam concentrate
substance which, when mixed with water in the appropriate concentration, gives a **foam solution**

3.434
foam concentrate, alcohol resistant
foam concentrate suitable for the extinction of **fires** involving water miscible fuel (polar liquids) and other **fires** of fuels destructive to regular foams

3.435
foam concentrate, aqueous film forming
AFFF
foam concentrate forming an aqueous film that floats on the surface of hydrocarbon liquids under specified conditions

3.436
foam concentrate, film-forming fluoroprotein
FFFP
fluoroprotein foam concentrate which has the ability to form an aqueous film on the surface of some hydrocarbons

3.437
foam concentrate, fluoroprotein
protein foam concentrate with added fluorinated surface active agents

3.438
foam concentrate, multipurpose
foam concentrate suitable for the extinguishment of **fires** involving water miscible fuels (polar liquids) and hydrocarbons

3.439
foam concentrate, protein
foam concentrate derived from hydrolized protein materials

3.440
foam concentrate ratio
ratio of the **foam concentrate** volume to the solution volume

3.441
foam concentrate, synthetic
foam concentrate based on a mixture of hydrocarbon surface active agents and which may contain fluorocarbons with additional stabilizers

3.442
foam drainage time
time taken for a specified percentage of the liquid content of a foam to drain out

NOTE Foams are commonly specified by 25 % or 50 % drainage times.

3.443
foam expansion ratio
ratio of the volume of foam to the volume of foam solution from which it is made

NOTE Foams are usually graded as low expansion (expansion ratio less than 20:1), medium expansion (expansion ratio between 20:1 and 200:1) and high expansion (expansion ratio greater than 200:1).

3.444
foam extinguishing system
extinguishing system containing foam as the **extinguishing medium**

foam, **finished**, see **extinguishing foam** (**3.253**)

foam fire extinguisher, see **extinguisher** (**3.236**)

3.445
foam generator
device positioned in a line of hose to produce a **foam solution** which is then aerated

3.446
foam generator, high expansion
foam-making component in which air is forced through a gauze screen that is sprayed with **foam solution** to make the foam

3.447
foam inductor
piece of equipment whereby **foam concentrate** is induced into a water stream

3.448
foam inductor, multiple jet
foam inductor positioned at the pump and capable of inducing sufficient **foam concentrate** into the water stream to supply one or more **foam branches**

3.449
foam inlet
fixed equipment consisting of an inlet connection, fixed piping and a discharge assembly, enabling foam to be introduced into an enclosed compartment

3.450
foam inlet adaptor
adaptor fitted on fixed foam inlets to enable **foam branches** to feed into a fixed installation

foam making branch-pipe, see **foam branch (3.430)**

3.451
foam making equipment, self-aspirating
foam making equipment in which air is induced by the discharge of **foam solution** from a **nozzle** or **nozzles** into the equipment (the induced air is mixed intimately with the **foam solution** within the equipment to produce the foam)

3.452
foam, mechanical
foam, physical
foam formed by introduction of air or inert gas within a **foam solution**

3.453
foam, non-aspirated
foam produced outside the equipment by the mixing of air and a spray of **foam solution**

foam, **physical**, see **foam**, **mechanical (3.452)**

3.454
<foam> rate of application
rate of application of the **foam solution** per unit area of **fire**

3.455
foam solution
mixture of **foam concentrate** and water

3.456
foam solution transit time
time taken for the **foam solution** to flow through the pipework, from the point at which the **foam concentrate** is injected into the water stream to the point at which the air is injected into the **foam solution** to make the foam

3.457
<foam> sub-surface application
introduction of foam beneath the surface of a flammable liquid so that it will rise to the surface and spread to provide an extinguishing foam layer

3.458
foam tender
fire appliance wholly or mainly used for carrying **foam concentrate** and/or equipment

3.459
fractional effective dose
FED
average exposure dose of one or more toxic effluents present in a **fire** over a defined period of time divided by the exposure dose required to obtain a defined toxic endpoint (incapacitation or death)

3.460
fractional irritant concentration
FIC
concentration of one or more irritant effluents present in a **fire** at any time divided by the exposure concentration required to obtain a defined toxic endpoint (escape impairment, incapacitation or death)

3.461
frangible element
single or laminated material, part or all of which will irreversibly fracture under pressure or impact

3.462
friction loss
pressure loss in a hose line due to friction between the flowing liquid and the internal walls of the hose

3.463
fully developed fire
state of total involvement of **combustible** materials in a **fire**

fusible element sprinkler, see **sprinkler**, **fusible link** (**3.744**)

3.464
gas cartridge
pressure vessel that fits into, or is attached to, an **extinguisher** and that contains either compressed or liquefied gas that, on operation, is used to expel the **extinguishing medium**

gas-sensing fire detector, see **fire detector**, **combustion gas** (**3.316**)

glass bulb sprinkler, see **sprinkler**, **glass bulb** (**3.745**)

3.465
grades of release
classification of the release of **flammable gas** or **vapour** into a hazardous area in terms of the probability of release

NOTE Release may be graded as:

— continuous: release which is either continuous or is expected to occur for long periods during normal operation;

— primary: release which can be expected to occur periodically or occasionally during normal operation; or

— secondary: release which is not expected to occur in normal operation and, if it does occur, is likely to do so only infrequently and for short periods.

grid system, see **sprinkler system**, **grid** (**3.776**)

3.466
gross volume of a protected enclosure
volume enclosed by the building elements around the protected enclosure, less the volume of any permanent impermeable building elements within the enclosure

3.467
halon
halogenated hydrocarbon **extinguishing medium**

NOTE Under the Montreal Protocol (1987) [1] the production of halons is to cease and they are to be withdrawn from use.

3.468
hand-controlled branch
branch with the capability to stop or reduce the flow of water, which can be capable of delivering a **jet** or spray or both simultaneously

3.469
hazardous area
area in which **explosive atmospheres** are, or might be expected to be, present in quantities such as to require special precautions for the construction, installation and use of electrical apparatus

3.470
hazard zone
classification within a **hazardous area**, representing the probability of a **flammable gas** or **vapour** and air mixture being present

NOTE Hazard zones may be classified as:

— Zone 0: Area in which an explosive gas/air mixture is continuously present, or present for long periods;

— Zone 1: Area in which an explosive gas/air mixture is likely to occur in normal operation;

— Zone 2: Area in which an explosive gas/air mixture is not likely to occur in normal operation, and if it does occur will only exist for a short time.

heat detector, see **fire detector**, **heat** (**3.319**)

3.471
heat of combustion, potential
thermal energy which could be released by the complete **combustion** of a unit mass of a material

3.472
heat release rate
thermal energy released per unit time by an item during **combustion** under specified conditions

high expansion foam, see **foam expansion ratio** (**3.443**)

high expansion foam generator, see **foam generator**, **high expansion** (**3.446**)

high-rise sprinkler system, see **sprinkler system**, **high rise** (**3.777**)

3.473
high-stacked storage
storage in which goods are held in high-piled free-standing blocks, or in blocks of stackable free-standing pallets

3.474
hold time
period of time during which a concentration of **extinguishing medium** greater than the **fire extinguishing concentration** surrounds the hazard

3.475
hose adaptor
fitting used for connecting lengths of hose which have dissimilar couplings

hose becket, see **hose sling** (**3.486**)

hose bridge, see **hose ramp** (**3.478**)

3.476
hose coupling
means used to join two lengths of hose together or to connect other equipment to a hose

3.477
hose, delivery
hose used to pass water under pressure, usually on the delivery side of a pump

hose laying lorry, see **hose tender** (**3.487**)

3.478
hose ramp
hose bridge
device to enable vehicles to pass over **delivery hose** without damage to the hose

3.479
hose reel
firefighting appliance consisting essentially of a reel with water supplied through the centre, semi-rigid hose, shut-off **nozzle** and, where required, a hose guide

3.480
hose reel, automatic
hose reel fitted with an automatic inlet **stop valve**

hose reel branch, see **hose reel nozzle** (**3.484**)

3.481
hose reel, equipment
hose reel mounted on a **fire appliance**

3.482
hose reel, fixed
hose reel capable only of rotating in one plane with a hose guide adjacent to the reel

3.483
hose reel, manual
hose reel fitted with a manual inlet **stop valve**

3.484
hose reel nozzle
hose reel branch
nozzle or **branch** fitted to the delivery end of a **hose reel**

3.485
hose reel, swinging
hose reel capable of rotating in more than one plane and mounted on one of the following:

— a swinging arm;

— swinging pipe; or

— swinging door

3.486
hose sling
hose becket
rope or webbing sling used for securing hose on a ladder

3.487
hose tender
hose laying lorry
fire appliance used to carry and to lay out hoses

3.488
hose, suction
hose designed to resist external pressure and used exclusively between the water supply and a pump

3.489
hot work
operations requiring the use of open **flames** or the local application of heat or friction

3.490
house in multiple occupation
house that is occupied by persons who do not form a single household

3.491
hybrid mixture
mixture with air of flammable substances in different physical states

NOTE Examples for hybrid mixtures are mixtures of methane, coal dust and air or mixtures of gasoline vapour and gasoline droplets with air.

hydrant, see **fire hydrant (3.344)**

3.492
hydrant stand pipe
piece of equipment used to extend the outlet of a **fire hydrant** to above the ground

3.493
hydraulic platform
fire appliance equipped with a hydraulically operated articulating boom with a cage or platform at the upper level and capable of rotating through 360°

hydraulically calculated, see **sprinkler installation**, **hydraulically calculated (3.751)**

"I" criterion, see **thermal insulation criterion "I" (3.829)**

3.494
ignition, pilot
ignition, by a separate pilot ignition source, of **flammable vapours** emitted from the pyrolysis of a heated material

3.495
ignition, self
spontaneous ignition due to self-heating

3.496
ignition, spontaneous
ignition of a heated material without any separate **pilot ignition** source

3.497
ignition temperature of an explosive gas atmosphere
lowest temperature of a heated surface at which, under specified conditions, the ignition of a **flammable gas** or **vapour** in contact with the surface will occur

3.498
imposed load
force applied to an item other than that associated with its own mass

3.499
imposed radiation
radiation incident on a surface from a source other that than due to local burning; in particular that provided in a test to simulate nearby sources of heat

3.500
incapacitation
inability, caused by exposure to toxicants, to perform a task

3.501
indicating equipment
equipment that provides visual indication of any **alarm of fire** or **fault warning** signal received from control equipment

3.502
inert, adj.
incapable of supporting **combustion**

3.503
inert, verb
suppress or neutralize the ability of an atmosphere to support **combustion**

3.504
inerting concentration
concentration of **extinguishing medium** (usually gaseous) necessary to prevent ignition of a particular material

3.505
inerting system
system designed to introduce an adequate concentration of inert gas to prevent the ignition of an otherwise **explosive atmosphere**

3.506
informative message
situation report to fire control giving details of an occurrence and/or the progress of operation

3.507
inherently flame-retarded
possessing throughout its mass the property of **flame retardance** without special treatment with **flame retardant**

inlet box, see **box**, **inlet** (**3.44**)

in line foam concentrate inducer, see **foam inductor** (**3.447**)

in line foam maker, see **foam generator** (**3.445**)

3.508
inner room
room from which escape is possible only by passing through another room

insulation, see **thermal insulation** (**3.828**)

integrated system, see **security system**, **integrated** (**3.674**)

3.509
integrity
ability of a **separating element** when exposed to **fire** on one side, to prevent the passage of flames and **fire gases** or the occurrence of flames on the unexposed side, for a stated period of time in a standard **fire resistance** test

NOTE This may be assessed as **integrity criterion "E"**.

3.510
integrity criterion "E"
criterion by which the ability of a **separating element** to prevent passage of flames and **fire gases** is assessed

NOTE See also **fire resistance**.

intermediate information and exit direction indicators, see **exit direction indicator** (**3.190**)

3.511
intrinsically safe electrical apparatus
electrical apparatus in which all the circuits are **intrinsically safe circuits**

3.512
intrinsically safe circuit
circuit in which the electrical energy is so restricted that no spark or thermal effect produced is capable of causing ignition of a given explosive material or atmosphere

3.513
intumescent
possessing the property of swelling under the influence of heat to form a protective, usually carbonaceous mass with insulating and/or sealing properties

3.514
intumescent seal
material with the property of swelling or foaming when exposed to heat which is designed to maintain the integrity of a fire separating element at the position where services pass through

NOTE See also **penetration seal**.

3.515
ionization smoke detector
fire detector sensitive to products of **combustion** capable of affecting ionization currents within the **fire detector**

3.516
ironmongery, essential
items specified as essential to achieve **fire resistance** performance of a **fire door**

3.517
ironmongery, non-essential
items which are not required to achieve the **fire resistance** performance of a **fire door** but which if fitted might affect the performance

3.518
irradiance at a point on a surface
radiant flux incident on an infinitesimal element of the surface containing the point, divided by the area of that element

3.519
jet
extinguishing medium, usually water, leaving a **nozzle** as a continuous stream, water spray, or water fog (mist)

3.520
jet reaction
nozzle reaction
force acting in the opposite direction to the water stream leaving the **nozzle**

3.521
jet, solid
jet with almost parallel sides to obtain the largest range or force possible

3.522
landing valve
assembly comprising a valve and outlet connection from a **rising main**

LFL, see **flammable limit**, **lower** (**3.418**)

3.523
life and health hazard
potential injury or loss of life to be expected from the effects of exposure to toxic effluent and heat in a **fire**

3.524
life and health risk
expected extent of injury or loss of life from a **fire**, expressed in terms of probability as the product of:

— frequency of occurrence of an undesired event to be expected in a given technical operation or state; and

— life and health hazard

3.525
lift control equipment
electrical switches, door interlocks and apparatus associated with the operation and programming of the lift service

3.526
lighting, noun
illumination

lighting, **emergency**, see **emergency lighting** (**3.140**)

3.527
limiting oxygen concentration
LOC
maximum oxygen concentration in a mixture of a flammable substance and air and an inert gas, in which an explosion will not occur, determined under specified test conditions

3.528
limiting oxygen index
LOI
minimum concentration of oxygen in a mixture of oxygen and nitrogen that will just support **combustion** of a material under specified test conditions

line detector, see **fire detector**, **line** (**3.320**)

3.529
liquefied flammable gas
substance which at normal temperature and pressure would be a **flammable gas**, but which is in liquid form as a result of the application of pressure or refrigeration or both

3.530
loadbearing capacity
ability of a specimen of a loadbearing element to support a defined load without exceeding specified criteria with respect to either the extent of, or rate of, deformation or both

3.531
load bearing criterion "R"
criterion by which the ability of an element or structure to sustain specified actions during the relevant **fire resistance** test is assessed

LOAEL, see **lowest observable adverse effect level** (**3.537**)

lobby approach stairway, see **stairway**, **lobby approach** (**3.796**)

3.532
lobby, ventilated
protected lobby provided with means of ventilation

LOC, see **limiting oxygen concentration** (**3.527**)

3.533
local application nozzle
nozzle which is designed to discharge a **jet** of **extinguishing medium** onto a protected risk

3.534
local application extinguishing system
extinguishing system consisting of a calculated supply of **extinguishing media** arranged to discharge directly on to an identified hazard

locally resettable detector, see **fire detector**, **locally resettable** (**3.321**)

LOI, see **limiting oxygen index** (**3.528**)

3.535
loss prevention
approach to safety distinguished by emphasis upon incorporating safety into the initial design

3.536
loudspeaker zone
part of the area of coverage of a **voice alarm system** to which information can be given separately from any other part

low expansion foam, see **foam expansion ratio** (**3.443**)

low mounted way guidance system, see **way guidance system**, **low mounted** (**3.876**)

lower explosion point, see **explosion point**, **lower** (**3.211**)

lower explosive limit, see **explosive limit**, **lower** (**3.227**)

lower flammable limit, see **flammable limit**, **lower** (**3.418**)

3.537
lowest observable adverse effect level
LOAEL
lowest concentration at which an adverse toxicological or physiological effect has been observed

low-rise system, see **sprinkler system**, **low rise** (**3.779**)

maintained emergency lighting, see **emergency lighting**, **maintained** (**3.142**)

maintained emergency luminaire, see **emergency luminaire**, **maintained** (**3.148**)

3.538
malicious ignition
act of wilfully and maliciously setting **fire** to another person's property, or to one's own with the intention to defraud

3.539
mall
access route for pedestrians in a shopping complex

3.540
mall exit
final exit from a **mall**, or a **storey exit**, or an exit from a **mall** which leads directly to a **storey exit** or **final exit** by way of a **protected corridor**/passageway

3.541
management lighting
part of the general lighting system which in the absence of adequate daylight is intended for use during the whole time the public are on the premises

manual call point, see **fire alarm manual call point** (**3.277**)

manual hose reel, see **hose reel**, **manual** (**3.483**)

manual only changeover device, see **automatic/manual changeover device** (**3.35**)

manual system, see **fire protection system**, **manual** (**3.367**)

3.542
<marine> division
bulkhead, deck, ceiling or lining having a specified **fire performance** when tested in accordance with specified standards

NOTE Divisions can be classified according to their performance.

3.543
<marine> fire control plan
permanently exhibited plan displaying the **fire protection** facilities on board ship

3.544
<marine> main horizontal zone
part of a ro-ro passenger ship incorporating special category spaces and/or ro-ro cargo spaces on one or more decks, the bulkheads and decks forming its boundaries being "A" class divisions

3.545
<marine> main vertical zone
one of the sections of a ship into which the hull, superstructure and deckhouses are divided by "A" class divisions

3.546
<marine> main vertical zone bulkhead
"A" class division forming an end of a main vertical zone in a ship

3.547
<marine> protection method
system of **fire protection** in the accommodation and service spaces of cargo ships in which the requirements for **fire resistance** of bulkheads, ceilings and linings are reduced provided that specified active **fire protection** measures are taken

NOTE Protection methods can be classified.

3.548
<marine> smoke detection cabinet
cabinet, within which samples of air drawn from holds are continuously monitored

NOTE The smoke detection cabinet is normally sited in the wheelhouse of a ship.

3.549
<marine> stairway enclosure
space in a ship, having a boundary of specified **fire resistance**, protecting an **escape stairway**

3.550
mass loss
mass of material consumed or otherwise removed during burning

3.551
mass loss concentration
concentration of **fire effluent** from a material estimated by dividing the mass loss by the volume into which the effluents are dispersed

3.552
mass optical density
MOD
measure of the degree of opacity of **smoke** in terms of weight loss of the material under the conditions of the test

3.553
material conversion factor
MCF
numerical factor that should be used when the minimum design concentration of carbon dioxide for the material at risk exceeds 34 %, to increase the basic quantity of carbon dioxide (as obtained by application of the volume factor) required for protection against surface **fires**

3.554
material of limited combustibility
a material meeting specified criteria of combustibility

3.555
maximum explosion pressure
maximum pressure occurring in a closed vessel during the **explosion** of an **explosive atmosphere** under specified conditions

3.556
maximum rate of explosion pressure rise
maximum rate of increase of pressure occurring in a closed vessel during the **explosion** of an **explosive atmosphere** under specified conditions

3.557
maximum transport time
maximum time taken for aerosols to transfer from the furthest sampling point to the detector in an **aspirating detection system**

MCF, see **material conversion factor** (**3.553**)

3.558
means of escape
structural means whereby (in the event of **fire**) a safe route or routes is or are provided for persons to travel from any point in a building to a **place of safety**

3.559
measured free area
area of a natural heat and **smoke** exhaust ventilator, measured at its throat

mechanical/physical foam, see **foam**, **mechanical** (**3.452**)

mechanical smoke control, see **smoke control**, **mechanical** (**3.691**)

medium expansion foam, see **foam expansion ratio** (**3.443**)

m**edium expansion foam branchpipe**, see **foam expansion ratio** (**3.443**); **foam branch** (**3.430**)

medium expansion foam monitor, see **foam expansion ratio** (**3.443**)

3.560
mimic diagram
diagrammatic representation of the building, carrying active indications which are directly related to the building layout and the indications of the **automatic fire detection and alarm system**

3.561
minimum design concentration
minimum **extinguishing medium** concentration given in the design specification

3.562
minimum ignition energy
smallest quantity of energy that is capable of igniting a specified mixture of a **flammable** material with oxidant

3.563
minimum ignition temperature
lowest temperature of a hot surface at which a given material in contact with the surface will **ignite** under specified conditions

3.564
minimum ignition temperature of a dust cloud
minimum ignition temperature of the most ignitable mixture of the dust with air

3.565
minimum ignition temperature of an explosive atmosphere
ignition temperature of an **explosive** gas atmosphere or the **minimum ignition temperature of a dust cloud** under specified test conditions

3.566
minimum ignition time
duration of exposure of a material to a defined ignition source required for the initiation of **combustion** under specified conditions

MOD, see **mass optical density** (**3.552**)

3.567
modular system
firefighting system consisting of distributed containers of **extinguishing medium**, in which each unit is designed to protect a given volume and which in total provides cover for the whole hazard

3.568
molten debris
molten material separating from the specimen during the test procedure and falling from a burning item without **flaming**

3.569
monitor
branch mounted on a base so that its output can be discharged without reaction on the operator

3.570
monitored wiring
wiring in which specified types of failure will result in a **fault warning**

3.571
monitor, fixed
monitor which is permanently secured to a **fire appliance**, **fire boat**, **fire tug**, **turntable ladder**, **hydraulic platform** or building

3.572
monitor, portable
monitor designed to stand on the ground or on a small trailer and which can be positioned anywhere on the **fire ground**

3.573
monitor system
system of fixed piping with **nozzles** that can be manually directed and operated, locally and/or remotely

3.574
mounting box
box not necessarily specifically designed for containing a **fire alarm manual call point** but into which a **fire alarm manual call point** can be fitted

multiple control, see **sprinkler**, **multiple control** (**3.761**)

multi-purpose foam concentrate, see **foam concentrate**, **multipurpose** (**3.438**)

3.575
multi-sensor detector
fire detector which responds to more than one phenomenon of **fire**

3.576
multi-state detector
fire detector which gives one of a limited number (greater than two) of output states relating to "normal" or "fire alarm" and other abnormal conditions

natural smoke control, see **smoke control**, **natural** (**3.692**)

3.577
natural ventilation
ventilation that is caused by buoyancy forces due to difference in density of the air because of the effects of temperature differences

3.578
net volume of a protected enclosure
gross volume less the volume of any fittings, fixtures, or furniture in the enclosure, including any enclosed volume in, for example, closed cabinets or drawers

3.579
neutral pressure plane
level in a building at which the inside pressure is equal to the outside pressure

3.580
no observable adverse effect level
NOAEL
highest concentration at which no adverse toxicological or physiological effect has been observed

non-aspirated foam, see **foam**, **non-aspirated** (**3.453**)

3.581
non-combustible
not capable of undergoing **combustion** under specified conditions

3.582
non-detachable detector
detector not designed to be easily removed from its normal operating position for maintenance and servicing purposes

3.583
non-durably flame-retarded fabric
fabric that has been chemically treated to render it **flame retardant** but whose **flame retardance** might be adversely affected by wetting or by cleansing procedures

non-essential ironmongery, see **ironmongery**, **non-essential** (**3.517**)

3.584
non-hazardous area
<**explosion**> area in which **explosive atmospheres** are not expected to be present in hazardous quantities and in which special precautions for the construction and use of apparatus are not required

3.585
non-hazardous area
<dust> area in which **combustible** dust-air mixtures are not expected to be present in hazardous quantities and in which special precautions for the construction and use of apparatus are not required

3.586
non-incendive part
part with contacts for making and breaking a potentially-incendive circuit where either the contacting mechanism or the enclosure in which the contacts are housed is so constructed that ignition of a prescribed **flammable gas or vapour** is prevented under specified operating conditions

non-maintained emergency lighting, see **emergency lighting**, **non-maintained** (**3.143**)

non-maintained emergency luminaire, see **emergency luminaire**, **non-maintained** (**3.149**)

3.587
normal condition
condition of a component of a **fire alarm system** in which it is giving neither fault nor fire signals, but in which it has the ability to give a fault or fire signal should such an event occur

3.588
normal mode
state of a **self-contained emergency luminaire** which is ready to operate while the normal supply is on, and, in the case of a normal supply failure, the luminaire automatically changes over to the emergency mode

3.589
normal electrical supply
supply from which the electrical system is expected to obtain its power

3.590
nozzle
fitting at the delivery end of a hose or pipe which changes the cross-sectional area and thereby changes the velocity of the fire **extinguishing medium**

nozzle reaction, see **jet reaction (3.520)**

3.591
numerical fire model
mathematical representation of one or more of different interconnected phenomena governing fire development

3.592
occupant capacity
maximum number of persons assumed to be present within an enclosure for the purposes of design

3.593
occupation density, theoretical
number of persons per unit area of the usable floor area of a defined space for a given activity

3.594
optical path length
total distance traversed by the wavefront between the transmitter and receiver

3.595
optical smoke detector
fire detector sensitive to **products of combustion** capable of affecting the absorption or scattering of radiation in the infra-red, visible and/or ultraviolet regions of the electromagnetic spectrum

outlet box, see **box**, **outlet (3.45)**

3.596
oxidizing agent
any reagent which increases the proportion of oxygen or acid forming element or radical in a compound, leading to **combustion**

3.597
oxygen consumption principle
assumption of a proportional relationship between the mass of oxygen consumed during **combustion** and the heat released

3.598
oxygen index at elevated temperature
minimum concentration of oxygen, by volume percentage, in a mixture of oxygen and nitrogen, introduced at an agreed test temperature of greater than 25 °C, that will just support **combustion** of a material under specified test conditions

3.599
partition wall
wall which subdivides a **fire compartment**

passive fire protection system, see **fire protection system**, **passive (3.368)**

pendent sprinkler, see **sprinkler**, **pendent (3.764)**

3.600
penetration seal
system used to maintain the **fire resistance** of a fire **separating element** at a position where there is provision for services to pass through the element

3.601
penetration time
time at which glowing or **flaming** appears on the **unexposed side** of a specimen or the time at which the formation of holes or fissures or collapse of specimen occurs, whichever is the earliest

3.602
permit to work
document issued by an authorized person to permit work to be carried out in a defined area

personal distress signal unit, see **distress signal unit (3.116)**

3.603
phased evacuation
system of evacuation in which different parts of a premises are evacuated in a controlled sequence of phases, those parts of the premises expected to be at greatest risk being evacuated first

pilot ignition, see **ignition**, **pilot (3.494)**

pipe array, see **<sprinkler> pipe array (3.765)**

3.604
place of safety
place in which persons are in no danger from **fire**

3.605
place of relative safety
place in which there is no immediate danger, but in which there might be future danger from **fire**

3.606
place of ultimate safety
place in which there is no immediate or future danger from **fire**

3.607
point detector
detector that responds to the phenomenon monitored in the vicinity of a compact sensor

3.608
pool fire
pool of **flammable liquid** burning with a diffusion flame

portable extinguisher, see **extinguisher**, **portable (3.248)**

potentially explosive atmosphere, see **explosive atmosphere**, **potential (3.225)**

powder extinguishing system, see **extinguishing system**, **dry powder (3.258)**

powder fire extinguisher, see **extinguisher (3.236)**

powder suppressant, see **dry powder (3.127)**

powered smoke curtain, see **smoke curtain**, **automatic (3.695)**

pre-action sprinkler installation, see **sprinkler installation**, **pre-action (3.752)**

3.609
pre-alarm warning
warning that the conditions sensed by a **fire detector** are approaching, but have not yet reached, the level at which an **alarm of fire** would be given

pre-calculated sprinkler installation, see **sprinkler installation**, **pre-calculated (3.753)**

3.610
pre-determined attendance
number and type of appliances scheduled by the **fire brigade** to form the initial response to an emergency

3.611
predictive test
test of a composite of a cover with a standardized filling of known behaviour, or a filling with a standardized cover of known behaviour, such that the expected behaviour of a composite of the same cover with related fillings, or the same filling with related covers, can be predicted

3.612
pre-engineered system
off-the-shelf firefighting system design consisting of a supply of **extinguishing medium** of specified capacity coupled to pipework with a balanced **nozzle** arrangement, capable of covering any space up to a specified maximum

3.613
pre-movement time
interval between the time at which an **alarm of fire** is given and the time at which the first move is made towards an **exit**

3.614
pressure containment lobby
lobby provided at **fire brigade access level** to reduce the loss of pressure from a stair due to a **final exit** door being constantly open

3.615
pressure differential system
smoke control system designed to minimize the spread of **smoke** from one part of a building to another by maintaining a pressure differential relative to the space containing the **fire**

3.616
pressure differential system, dedicated
pressure differential system that does not share components with any other system

3.617
pressurization
a method of protecting spaces against the ingress of **smoke** by maintaining a positive air pressure difference between the protected spaces and adjoining accommodation

pressurized apparatus "p", see **type of protection** (**3.852**)

3.618
pressurized space
space in which the air pressure is maintained at a higher value than that of the space containing the **fire**

primary grade of release, see **grades of release** (**3.465**)

3.619
primary ignition source
ignition source which impinges on the specimen

primary sealed stored pressure extinguisher, see **extinguisher** (**3.236**)

3.620
products of combustion
solid, liquid and gaseous materials resulting from **combustion**

NOTE The **products of combustion** can include fire effluent, ash, char, clinker and/or soot.

3.621
progressive horizontal evacuation
initial evacuation away from a **fire** into a **place of relative safety** on the same level

3.622
progressive smouldering
smouldering that is self-propagating, i.e. independent of the ignition source

3.623
property hazard
potential loss of or damage to property to be expected from the effects of **fire**

3.624
property risk
expected extent of loss of or damage to property due to **fire**, which can be expressed in terms of probability as the product of the frequency of occurrence of an undesired event to be expected in a given technical operation or state and the **property hazard**

3.625
protected
provided with active and/or passive means by which the risk to life and/or property is reduced

3.626
protected area
area having an adequate degree of **fire separation** from other areas and from which there are alternative **means of escape**

3.627
protected circuit
electrical circuit protected against external **fire**

protected corridor, see **protected lobby** (**3.632**)

3.628
protected enclosure
enclosure separated from adjoining accommodation spaces by **fire resistant** construction, and having all communicating openings closed by **fire doors**, **fire dampers** or similar closures

3.629
protected entrance hall
protected entrance landing
in a dwelling, a circulation area consisting of a hall or space enclosed with **fire resistant** construction (other than any part which is an external wall of a building)

protected equipment, see **explosion-protected apparatus** (**3.215**)

protected escape route, see **escape route**, **protected** (**3.176**)

3.630
protected fire load
quantity of **combustible** material that is unlikely to become fully involved in a **fire**, owing to:

a) the characteristics of the material;

b) the form in which the material is stored;

c) the characteristics of any containers in which the material is stored; or

d) the presence of one or more **fire protection systems**

3.631
protected installation
enclosed volume, protected by a **fire detection** and/or **extinguishing system**, in which equipment particularly sensitive to **fire** is installed

3.632
protected lobby
protected corridor
circulation area consisting of a lobby or corridor enclosed with **fire resistant** construction (other than any part that is an external wall of a building)

3.633
protected opening
opening in an internal **fire resistant** wall or floor which may be closed by doors, shutters, or other protection of a specified grade of **fire resistance**

3.634
protected premises
premises or part of premises provided with active and/or passive means by which the risk to life and/or property is reduced

3.635
protected route
route, designated for use as an **escape route**, which is separated from the remainder of the building by **fire resistant** construction, kept clear of **combustible** items or material, and which leads to a **place of ultimate safety**

3.636
protected shaft
shaft which enables persons, air or objects to pass from one **fire compartment** to another, and which is enclosed with **fire resistant** construction

3.637
protected space
space forming part of a **protected route**

NOTE The space can be a corridor, lobby, stair or other construction.

protected stairway, see **stairway**, **protected** (**3.798**)

protein foam concentrate, see **foam concentrate**, **protein** (**3.439**)

3.638
pumping appliance
fire appliance equipped with a pump and usually a water tank, hose, **branches** and other ancillary equipment required to extinguish **fires**

3.639
quenching diameter
diameter of the largest circular aperture which will prevent **flashback** of flame, in a pre-mixed and stationary gas mixture, at a given temperature and pressure

NOTE It is customary to give values for the mixture having the minimum quenching diameter.

3.640
radiant exitance
quotient of the radiant flux leaving an element of a surface divided by the area of that element

3.641
radiant heat flux
power emitted, transferred or received in the form of radiation

range pipe, see **sprinkler range pipe** (**3.766**)

rate of application, see **<foam> rate of application** (**3.454**)

3.642
rate of application, critical
minimum theoretical rate of application of **foam solution** to a **fire** which will extinguish the **fire**

3.643
rate of combustion
mass rate at which fuel is combusted

rate of rise detector, see **fire detector**, **rate of rise (3.323)**

"R" criterion, see **loadbearing criterion "R" (3.531)**

3.644
reaction to fire
response of a material in contributing by its own decomposition to a **fire** to which it is exposed, under specified conditions

recommended extinguishing concentration, see **extinguishing concentration**, **recommended (3.252)**

3.645
reduced explosion pressure
pressure generated by an **explosion** in a vessel protected by either **explosion relief** or **explosion suppression**

3.646
refuge
area that is both separated from a **fire** by **fire resistant** construction and provided with a safe route to a **place of ultimate safety**, thus constituting a temporarily safe space for disabled persons to await assistance for their evacuation

3.647
release rate
quantity of gas or vapour emitted per unit time from the source of release

3.648
relevant boundary
boundary used to assess the separation of buildings, which might be an actual boundary or a notional boundary satisfying specified criteria

3.649
remote centre
premises, remote from those in which the alarm systems are fitted, where the information concerning the state of alarm systems is collected for display or for onward transmission

3.650
replacement air
air entering a compartment to replace exhausted hot **smoke**

rescue tender, see **emergency tender (3.154)**

residual content of extinguishing medium, see **extinguishing medium**, **residual content (3.255)**

3.651
residual holding force
force required to release a door when the **automatic door release mechanism** is de-energized

3.652
residual section
section of uncharred timber calculated to remain after a given period of exposure to specified **fire** conditions

3.653
resistant to ignition
does not undergo **progressive smouldering**, ignition or **flaming ignition**

3.654
response threshold
smoke or gas concentration at which a **fire detector** changes to its **alarm condition**

response time, **fire brigade**, see **fire brigade response time** (**3.301**)

3.655
response time index
RTI
measure of sprinkler sensitivity expressed as RTI = $tu^{0.5}$ where t is the time constant of the heat responsive element and u is the gas velocity

3.656
responsible person
person having control of the premises, whether as occupier or otherwise, or any person delegated by the person having control of the premises to be responsible for **fire** procedures

3.657
rest mode
state of a **self-contained emergency luminaire** which is extinguished while the normal supply is off

3.658
restraint
conditions at the edges, ends or supports of a test specimen through which the movement of the specimen is constrained

3.659
reusable fire blanket
fire blanket that is suitable for reuse after cleaning or washing

3.660
ring fire main system
water main which encircles a building or series of buildings or other construction works and which feeds **fire hydrants**, **rising mains**, etc.

3.661
rising main
vertical pipe installed in high buildings for the supply of water for firefighting

3.662
risk of fire spread
probability of a **fire**, once started, growing to a size and character that could produce life risk or property risk or both

roof screen, see **smoke baffle** (**3.686**)

roof vent, see **smoke vent** (**3.707**)

3.663
routine inspection
check, at regular intervals of the **fire prevention** and **fire protection** arrangements

RTI, see **response time index** (**3.655**)

3.664
safety curtain
fire curtain used to separate a stage from an auditorium

safety lighting, see **standby lighting** (**3.800**)

3.665
safety shut-off device
device for automatically shutting off fuel flow or other energy supply in order to avoid dangerous conditions

3.666
salvage
taking appropriate measures to mitigate damage caused by the effects of **fire** or of firefighting

salvage tender, see **damage control unit (3.95)**

satellite luminaire, see **emergency luminaire**, **satellite (3.150)**

3.667
satellite station
remote centre having facilities for both transmission to an **alarm receiving centre** and on-demand display of information

3.668
seat of fire
location of the maximum intensity of a **fire**, usually as shown by the point of maximum damage

3.669
seat of flame
flame location at the leading edge of the affected area

3.670
seatway
minimum distance between the front of one row of seats and the back of the row in front

secondary grade of release, see **grades of release (3.465)**

3.671
secondary ignition source
ignition source which does not impinge on the specimen, and where a secondary means is used to initiate ignition

3.672
sector
geographical subdivision of premises protected by an alarm system

NOTE A sector will normally contain more than one **zone**, and can cover more than one building.

3.673
sector valve
valve used to direct a gaseous **extinguishing medium** into a particular section of pipework

3.674
security system, integrated
system in which more than one security system share common facilities (such as hardware, software or transmission medium), or in which one or more security systems share common facilities with non-security systems

self-aspirating foam making equipment, see **foam making equipment**, **self-aspirating (3.451)**

self-closing fire door, see **fire door**, **self-closing (3.326)**

self-contained emergency luminaire, see **emergency luminaire**, **self-contained (3.151)**

self-contained fire alarm, see **fire alarm**, **self-contained (3.280)**

self-contained fire safety sign, see **fire safety sign**, **self-contained (3.381)**

self-contained smoke alarm, see **smoke alarm (3.685)**

self-luminous fire safety sign, see **fire safety sign**, **self-luminous (3.382)**

3.675
separating element
constructional element that is intended to prevent the spread of **fire** between two adjacent areas of a building

NOTE A separating element will be required to satisfy specified criteria of **integrity**, insulation and (where applicable) **loadbearing capacity**.

service pressure, see **<sprinkler> service pressure (3.769)**

3.676
shockwave
pressure pulse formed by an **explosion** in which a sharp discontinuity in pressure is created as the wave travels through a fluid medium at greater than sonic velocity

3.677
shut-off nozzle
component at the end of a hose, used to direct and control the discharge of water

3.678
silencing
operation to switch off the audible signal of a sounding device while retaining the ability to be automatically resounded

3.679
simultaneous evacuation
procedure in which all parts of a building are evacuated following the giving of a common **alarm of fire**

single loop system, see **sprinkler installation**, **single loop (3.755)**

3.680
single-stage pressurization system
pressure differential system designed to work only in an emergency

3.681
slave luminaire
luminaire supplied from a central emergency power source and not having its own internal secondary supply

3.682
sliding pole
fixed pole used by **firefighters** for rapid descent from the upper floors of a **fire station**

3.683
slop over
condition that occurs when a water spray (or foam) is applied to the surface of a burning liquid that has developed a hot zone beneath the surface at a temperature in excess of 100 °C; on passing through this zone, the water boils and expands suddenly, causing some of the flammable liquid to pour over the rim of the tank

3.684
smoke
visible part of **fire effluent**

3.685
smoke alarm
self-contained fire alarm operating by the detection of **smoke**

3.686
smoke baffle
ceiling screen
roof screen
vertical subdivision fitted internally to the roof (or ceiling) to create an obstacle to lateral flow of **smoke** and **fire gases**

3.687
smoke clearance system
smoke control system designed to remove **fire effluent** following a **fire** and used at the discretion of the **fire brigade** to assist firefighting operations

3.688
smoke compartment
region of roof or ceiling void isolated from other areas by building structures and/or purpose-made baffles designed to prevent the flow of **smoke** from the compartment

3.689
smoke control
measures to control the spread or movement of **smoke** and **fire gases** during a **fire** within a building

3.690
smoke control door
doorset designed to reduce the rate of spread or movement of **smoke** during a **fire**

3.691
smoke control, mechanical
smoke control with the help of mechanical means

3.692
smoke control, natural
smoke control mainly with the help of the buoyant force of hot **fire gases**

3.693
smoke control zone
sub-division of a building for **smoke control** purposes

3.694
smoke curtain
curtain that is fixed into position, or moves from a retracted position to its operational position when activated by **smoke detector** or other means, in order to restrict the movement of **smoke** in a **fire**

3.695
smoke curtain, automatic
curtain that moves from its retracted position to its operational position when activated by a **smoke detector** or other means

NOTE Drop curtains are mounted horizontally and lower to the operational position, by power or gravity.

smoke damper, see **damper**, **smoke** (**3.97**)

smoke detection cabinet, see **<marine> smoke detection cabinet** (**3.548**)

smoke detector, see **fire detector**, **smoke** (**3.324**)

3.696
smoke dilution
smoke control achieved by mixing the smoky gases with clean air to achieve less hazardous conditions

smoke ejector, see **smoke extractor** (**3.701**)

3.697
smoke exhaust fan
fan used to remove **smoke** and hot **fire gases** in the event of **fire**

3.698
smoke exhaust ventilation system
smoke control system designed to remove a sufficient volume of **smoke** to minimize the possibility of inter-connected spaces becoming untenable as a result of the spread of **smoke**

3.699
smoke extraction
measures taken to remove **smoke** and **fire gases** from a building

3.700
smoke extraction system
system consisting of smoke outlet, smoke extractor, switch, etc. permanently installed in a building for the purpose of clearance of **smoke**

3.701
smoke extractor
equipment providing a mechanical means of removing **smoke** from a building or other structure involved in **fire**

3.702
smoke outlets
readily breakable panels in walls or floors which can be broken to release **smoke** and **fire gases** from a building involved in **fire**

3.703
smoke reservoir
volume provided for the collection of **smoke** resulting from a **fire**

3.704
smoke shaft
shaft provided to remove **smoke** in the event of **fire**

3.705
smoke stopping
seal provided to close an imperfection of fit or design tolerance between elements or components to restrict the passage of **smoke**

3.706
smoke transfer duct
channel/duct utilized to move **smoke** from an otherwise stagnant region within the **smoke** layer to another part of that layer

3.707
smoke vent
opening in the enclosing walls or roof of a building, intended to release heat and **smoke** in the event of **fire**, automatically and/or manually opened

3.708
smoke ventilator, automatic
ventilator that is installed into a building and is designed to open automatically after the outbreak of **fire** to allow **smoke** and **fire gases** to escape

NOTE Such ventilators are sometimes referred to as fire vents.

3.709
smoke ventilator, automatic powered
powered ventilator that is installed into a building and is designed to open automatically after the outbreak of **fire**, to allow **smoke** and **fire gases** to be extracted

3.710
smoke venting
practice of creating openings in a building to facilitate the relief of **smoke** and **fire gases** during firefighting operations

smoke zone, see **smoke control zone** (**3.693**)

3.711
specialized firefighting
firefighting operations involving **approach or entry firefighting**

special protection "s", see **type of protection (3.852)**

3.712
specific optical density
D_s
measure of the opacity of the **smoke** produced by a specimen taking into account the optical density and factors characteristic of the specified test method

NOTE Specific optical density is a dimensionless number.

3.713
spill fire
fire resulting from the ignition of an unconfined spillage of **flammable liquid** onto a flat or nearly flat surface

spontaneous ignition, see **ignition**, **spontaneous (3.496)**

sprayer, see **<sprinkler> sprayer (3.772)**

3.714
sprayer, high-velocity
open **nozzle** used to extinguish **fires** of high-flashpoint liquids

3.715
sprayer, medium-velocity
sprayer of sealed or open type used to control **fires** of lower-flashpoint liquids and gases, or to cool surfaces

spread of flame, see **surface spread of flame (3.817)**

3.716
sprinkler
thermosensitive device designed to react at a predetermined temperature by automatically releasing a stream of water and distributing it in a specified pattern and quantity over a designated area

3.717
sprinkler accelerator
device that reduces the delay in operation of a dry **alarm valve**, or composite **alarm valve** when in dry mode, by early detection of the drop in air pressure when a **sprinkler** operates

3.718
sprinkler alarm test valve
valve through which water can be drawn to test the operation of the **sprinkler water motor alarm** and/or of any associated electric **fire alarm**

3.719
sprinkler alarm valve
valve of the check type designed to permit flow of water to a sprinkler system and to provide an alarm under flow conditions

3.720
sprinkler arm pipe
pipe, other than the last section of a **range pipe**, feeding a single **sprinkler**

3.721
<sprinkler> assumed maximum area of operation
AMAO
maximum area over which, it is assumed for design purposes, **sprinklers** will operate in a **fire**

3.722
<sprinkler> assumed maximum area of operation, hydraulically most favourable location for
location in a sprinkler array of an **AMAO** of specified shape at which the water supply pressure required to give the specified **sprinkler design density** is the minimum

3.723
<sprinkler> assumed maximum area of operation, hydraulically most unfavourable location for
location in a sprinkler array of an **AMAO** of specified shape at which the water supply pressure required to give the specified **sprinkler design density** is the maximum

3.724
sprinkler booster pump
automatic pump supplying water to a **sprinkler system** from an elevated private reservoir or a town main

sprinkler branch system, see **sprinkler system**, **branch** (**3.775**)

sprinkler check valve, see **check valve** (**3.69**)

3.725
sprinkler, concealed
recessed **sprinkler** having a cover plate that disengages when heat is applied

3.726
sprinkler control valve
valve which can be opened or closed to regulate the flow of water to all or part of a **sprinkler installation**

3.727
sprinkler, conventional
sprinkler that gives a spherical pattern of discharge

3.728
sprinkler, cut-off
sprinkler protecting a door or window between two areas, only one of which is protected by **sprinklers**

3.729
<sprinkler> deluge installation
installation or **tail-end extension** fitted with open **sprayers** and a control arrangement so that an entire area is sprayed with water on operation of the installation

3.730
sprinkler design density
minimum density of discharge (in mm/min of water) for which a **sprinkler installation** is designed, determined from the discharge of a specified group of **sprinklers** (in l/min) divided by the area covered (in m^2)

3.731
sprinkler design point
point on a **sprinkler distribution pipe** of a **pre-calculated sprinkler installation**, downstream of which pipework is sized from tables and upstream of which pipework sized by hydraulic calculation

3.732
sprinkler distribution pipe
pipe feeding one or more **range pipes**

3.733
sprinkler, drencher
device used to distribute water over a surface to provide protection against **fire** exposure

3.734
<sprinkler> drop
vertical pipe feeding a **sprinkler distribution pipe** or **range pipe**

3.735
sprinkler, dry pendent pattern
unit comprising a sprinkler and dry drop pipe unit with a valve, at the head of the pipe, held closed by a device maintained in position by the sprinkler head valve

3.736
sprinkler, dry upright pattern
unit comprising a sprinkler and dry rise pipe unit with a valve, at the base of the pipe, held closed by a device maintained in position by the sprinkler head valve

3.737
<sprinkler> early suppression
system performance whereby the first few sprinklers to operate are able to provide sufficient water to the **fire** early enough such that the **fire** is promptly reduced to an acceptable level, if not extinguished

3.738
sprinkler, early suppression fast response
ESFR sprinkler
device designed to react to a **fire** by automatically releasing a stream of water and distributing it in a specified pattern and density over a designated area so as to promptly reduce the **fire** to an acceptable level

NOTE See also **<sprinkler> early suppression**.

3.739
<sprinkler> end-centre array
pipe array with **range pipes** on both sides of a **sprinkler distribution pipe**

3.740
<sprinkler> end-side array
pipe array with **range pipes** on one side only of a **sprinkler distribution pipe**

3.741
sprinkler exhauster
device to exhaust the air from a dry or alternate installation to atmosphere on sprinkler operation to give more rapid operation of the **sprinkler alarm valve**

3.742
sprinkler flow switch
device which generates an electrical signal for a remote alarm as a result of flow in a **sprinkler system**

3.743
sprinkler, flush pattern
pendent sprinkler for fitting partly above, but with the thermosensitive element below, the lower plane of the ceiling

3.744
sprinkler, fusible link
sprinkler which opens when a component provided for the purpose melts

3.745
sprinkler, glass bulb
sprinkler which opens under the influence of heat by the bursting of a liquid-filled glass bulb

3.746
<sprinkler> gridded configuration pipe array
pipe array in which water can flow to each **sprinkler** by more than one route

sprinkler head, see **sprinkler** (**3.716**)

3.747
sprinkler, horizontal
sprinkler arranged in such a way that the water stream is directed horizontally against the distribution plate

3.748
sprinkler installation
part of a **sprinkler system** comprising a set of installation main **control valves**, the associated downstream pipes, fittings and **sprinklers**

3.749
sprinkler installation, alternate
sprinkler installation in which the pipework is selectively charged with either water or air according to the ambient temperature expected

3.750
sprinkler installation, dry pipe
sprinkler installation in which the pipework is charged with air under pressure

3.751
sprinkler installation, hydraulically calculated
term applied to pipework which has been sized by calculation of the pressure drops resulting from expected maximum flow rates

NOTE Installations in which all the pipework downstream of the main **sprinkler control valves** is so calculated may be referred to as being fully hydraulically calculated.

3.752
sprinkler installation, pre-action
dry (or alternate in dry mode) installation in which the **sprinkler alarm valve** can be opened by an independent **fire detection system** in the protected area

3.753
sprinkler installation, pre-calculated
term applied to pipework which has been sized by reference to a standard set of tables

3.754
sprinkler installation, recycling
pre-action sprinkler installation in which the **sprinkler alarm valve** can be opened and closed repeatedly by a heat detection system

3.755
sprinkler installation, single loop
pipework system for a **sprinkler installation** in which the **sprinkler distribution pipe** forms a closed loop

3.756
sprinkler installation, staggered layout
sprinkler layout in which the **sprinklers** on each **range pipe** are displaced by one half pitch relative to those on the next **range pipe(s)**

3.757
sprinkler installation, standard layout
rectilinear layout of **sprinklers**, with the **sprinklers** aligned perpendicularly to the run of the **range pipes**

3.758
sprinkler installation, wet pipe
sprinkler installation in which the pipework is always charged with water

3.759
sprinkler, intermediate
sprinkler installed below, and additional to, the roof or ceiling **sprinklers**

3.760
<sprinkler> jockey pump
small pump used to replenish minor water loss, to avoid starting an automatic booster or **suction pump** unnecessarily

3.761
sprinkler, multiple control
valve, normally held closed by a temperature-sensitive element, suitable for use in a **deluge system** or for the operation of a pressure switch

3.762
<sprinkler> node
point in pipework at which pressure(s) and flow(s) are calculated and which is used as a datum point for the purpose of hydraulic calculations

3.763
sprinkler, open
sprinkler not sealed by a temperature-sensitive element

3.764
sprinkler, pendent
sprinkler designed to be installed in such a way that the water stream is directed downwards against the distribution plate

3.765
<sprinkler> pipe array
pipework feeding a group of **sprinklers**

3.766
sprinkler range pipe
pipe feeding **sprinklers** either directly or through short **arm pipes**

3.767
sprinkler, recessed
sprinkler in which all or part of the heat sensing element is above the plane of the ceiling

3.768
sprinkler, residential
sprinkler giving an outward and downward water discharge and suitable for use in a domestic or residential occupancy

3.769
<sprinkler> service pressure
static water pressure at the inlet to a **sprinkler check valve**

3.770
sprinkler, sidewall pattern
sprinkler having a deflector plate designed to discharge most of the water away from the nearby wall in a pattern resembling one quarter of a sphere, with a small portion of the discharge directed at the wall behind the **sprinkler**

3.771
sprinkler, spray
sprinkler which has a paraboloidal water distribution directed towards the ground and which directs from 80 % to 100 % of the total water flow initially in a downward direction

3.772
<sprinkler> sprayer
sprinkler that gives a downward conical-pattern discharge

sprinkler stop valve, see **stop valve** (**3.807**)

3.773
<sprinkler> suction pump
automatic pump supplying water to a **sprinkler system** from a suction tank, river, lake or canal

3.774
sprinkler system
entire means of providing **sprinkler** protection in premises, comprising one or more **sprinkler installations**, the pipework to the installations, and the water supply/supplies, except town mains and bodies of water such as lakes or canals

3.775
sprinkler system, branch
system in which the **range pipes** are supplied from one end only and by a single secondary or principal pipe

3.776
sprinkler system, grid
pipework system for a **sprinkler installation** in which the **range pipes** are supplied from both ends

3.777
sprinkler system, high rise
sprinkler system in which the highest **sprinkler** is more than 45 m above the lowest **sprinkler** or the **sprinkler** pumps, whichever is the lower

3.778
sprinkler system, life safety
sprinkler system forming an integral part of measures required for the protection of life

3.779
sprinkler system, low rise
sprinkler system in which the highest **sprinkler** is not more than 45 m above the lowest **sprinkler** or the **sprinkler** pumps, whichever is the lower

3.780
sprinkler system pressure
static water pressure at the outlet of a **sprinkler check valve**

3.781
<sprinkler> tail-end extension
extension to a wet pipe **sprinkler installation** such that the extension can be either dry pipe or alternate

3.782
<sprinkler> terminal main configuration
pipe array with only one water supply route to each **range pipe**

3.783
<sprinkler> terminal range configuration
pipe array with only one water supply route from a **sprinkler distribution pipe**

3.784
<sprinkler> trunk main
pipe connecting two or more water supply pipes to the installation main **sprinkler control valve** set(s)

3.785
sprinkler, upright
sprinkler designed to be installed in such a way that the water stream is directed upwards against the distribution plate

3.786
sprinkler water motor alarm
hydraulically actuated device which provides a local audible alarm as a result of flow through the **sprinkler alarm valve**

3.787
sprinkler zone
sub-division of an installation, fitted with a subsidiary **stop valve** or **multiple control**

stability, see **fire stability (3.385)**

3.788
stabilized burning
steady burning of a flame stabilized at or close to a **flame arrester element**

3.789
stack pressure
stack effect
pressure difference caused by the differences in density of two interconnected columns of air at different temperatures

3.790
staff alarm
restricted **alarm of fire** given to certain staff following the operation of an automatic **fire detector**, to permit investigation prior to evacuation

3.791
staged alarm system
alarm system in which two or more stages of alarm (such as “alert” and “evacuate”) can be given within a given area

staggered sprinkler layout, see **sprinkler installation**, **staggered layout (3.756)**

3.792
stairway, enclosed
stairway physically separated from the accommodation through which it passes by walls, partitions, screens, etc. so as to prevent the passage of **smoke** and/or **fire gases**, but not necessarily a **protected stairway**

3.793
stairway enclosure
space in a ship having a boundary division of specified **fire resistance** and protecting an **escape stairway**

3.794
stairway, external
stairway in the open air separated from the building by a **fire resistant structure**

3.795
stairway, firefighting
protected stairway designed for use by the **fire brigade** to obtain access to a building for firefighting purposes and which can be provided with **firefighting access** lobbies

3.796
stairway, lobby approach
stairway separated from the accommodation space in a building by protected lobbies

3.797
stairway, open
stairway which is not enclosed, within a building

3.798
stairway, protected
stairway which discharges through a **final exit** to a **place of safety** (including any exit passageway between the foot of the stair and the **final exit**) and which is adequately enclosed with **fire resistant** construction

3.799
standard flame
standardized test flame
flame having specified characteristics

3.800
standby lighting
safety lighting
part of a lighting system which might be provided to enable normal activities to continue or to be safely terminated after failure of the normal lighting

NOTE See also **emergency lighting**.

3.801
standby supply
electricity supply, commonly from a rechargeable battery, which is automatically connected when the normal supply fails

3.802
standpipe
pipe used on a **fire hydrant** to bring the outlet above the ground level

3.803
static detector
fire detector which initiates an alarm when the magnitude of the measured phenomenon exceeds a static or fixed value for a specified time

3.804
static water supply
water source capable of providing a large volume of water for **fire brigade** purposes

3.805
stirrup pump
small pump used in conjunction with a bucket of water, worked by hand and held steady by a foot stirrup

3.806
stop message
report indicating that a **fire** is sufficiently controlled that further spread is not expected

3.807
stop valve
manually operated valve for controlling the flow of water in pipework

3.808
storage hazard
general dangers of storage of goods, having regard to their fire grading, flammability, method of packing, storage, etc.

3.809
stored pressure system
extinguishing system in which the propellant gas is stored within, and permanently pressurizes, the container(s) for the **extinguishing medium**

storey exit, see **exit**, **storey** (**3.198**)

3.810
strainer, suction hose
filter connected to the end of a suction hose to prevent debris, etc., entering the pump

3.811
structural critical temperature
temperature at which a structural element is assumed to be unable to support the applied load

structural fire protection, see **fire protection**, **structural** (**3.363**)

3.812
substrate
material used, or representative of that used, immediately beneath a surface in end use, e.g. fibre cement board beneath a floor covering

sub-surface application, see **<foam> sub-surface application (3.457)**

3.813
sub-system
part of an integrated security system which performs an individual function such as **alarm of fire**, intruder alarm, building management

suction pump, see **<sprinkler> suction pump (3.773)**

3.814
suction installation, fixed
fixed pipe incorporating a suction strainer and **fire brigade** installation located at a static water supply

3.815
supply grille
grille or diffuser connected to a ductwork system and through which air is discharged into a room or space

3.816
surface fire
fire involving **flammable liquids**, **gases** or solids not subject to smouldering

3.817
surface spread of flame
propagation of flame away from the source of ignition across the surface of a liquid or a solid

3.818
suspended ceiling
ceiling hung at a distance from the floor or roof above

3.819
suspended ceiling, fire protecting
suspended ceiling which contributes to the **fire resistance** of the floor or roof above

3.820
suspended open-cell ceiling
ceiling of regular open-cell construction through which water from **sprinklers** can be discharged freely

3.821
sustained ignition
presence of a flame on the surface of the specimen that persists for a specified minimum period of time after withdrawal of the ignition source

NOTE The period of time required will vary across different standards, but it is usually of the order of four seconds.

swinging hose reel, see **hose reel**, **swinging (3.485)**

synthetic foam concentrate, see **foam concentrate**, **synthetic (3.441)**

system pressure, see **sprinkler system pressure (3.780)**

tail-end alternate wet and dry pipe extension, see **<sprinkler> tail-end extension (3.781)**

tail-end dry extension, see **<sprinkler> tail-end extension (3.781)**

3.822
tank chamber
fire resistant compartment enclosing a tank or tanks

3.823
temperature control system
heat control system, using the principles of **smoke** exhaust ventilation, so as to reduce gas temperatures in a **smoke** layer and to permit the use of construction/glazing systems which, whilst capable of preventing the passage of **smoke**, are not **fire resistant**

3.824
temperature-time curve, standardized
time-related variation of temperature prescribed in a specified way during a standard **fire resistance** test

3.825
tenability limit
maximum exposure to physical **fire** parameters that a person can tolerate without incapacitation

3.826
test fire rating
designation of the largest test **fire** that an **extinguisher** extinguishes when tested in a specified manner

3.827
thermal imaging camera
portable device which detects infra-red radiation and displays it as a thermal image

3.828
thermal insulation
ability of a **separating element** of building construction to prevent transmission of heat

3.829
thermal insulation criterion "I"
criterion, determined from the results of a **fire resistance** test, by which the ability of a **separating element** to prevent the passage of heat is assessed

NOTE See also **fire resistance**.

3.830
thermal radiation screen
wall or screen erected in the open air to avoid risk of radiated heat from or to building, structure, plant or piece of apparatus

3.831
thermally actuated device
device which performs a fire-related action (such as releasing a **fire damper** closing mechanism) when the temperature in the vicinity of the device rises to a predetermined value

3.832
thermic lance
device using oxygen to achieve high temperature for cutting metal or concrete

3.833
thin film
discrete surface layer or coating having a thickness less than or equal to 50 μm

time of flame application, see **duration of flame application (3.131)**

time-temperature curve, **standardized**, see **temperature-time curve**, **standardized (3.824)**

3.834
top sealer coat
material applied to the surface of an **intumescent** coating as a protection against environmental degradation

3.835
total discharge value
maximum number of persons that can evacuate a building through all available exits within a given time

3.836
total flooding
act of filling a volume with an **extinguishing medium** (such as gas or **high expansion foam**) in order that **fire** can be suppressed within that volume

total flooding extinguishing system, see **extinguishing system**, **total flooding** (**3.260**)

3.837
total flooding nozzle
nozzle which is designed to produce homogeneous distribution of **halon** or carbon dioxide throughout a **protected enclosure**

3.838
toxic potency factor
number relating the toxicity of a material to that of wood, when tested under identical test conditions which are representative of the actual **fire** conditions

3.839
toxic potential dose
toxic potential concentration multiplied by the time over which it is measured and summed throughout the duration of the **fire**, and which provides an estimate of the dose available to a potential victim in the **fire**

3.840
toxic potential mass
product of mass loss and **toxic potency factor** in a **fire**

NOTE **Toxic potential mass** is an indication of the potential toxic effect of a **fire**, expressed as the mass of material of normal toxicity consumed in the **fire**.

3.841
transient ignition
transitory ignition
appearance of flashes, or flames, which are not sustained for a specified continuous period after withdrawal of the ignition source

3.842
transitory surface ignition
inception of any flame at the surface of the specimen which is not sustained until the next application of the pilot flame

3.843
transport time
time for aerosols to travel from a sampling point to a **fire detector**

transportable fire extinguisher, see **extinguisher**, **transportable** (**3.250**)

3.844
transverse gangway
flat gangway parallel to rows of seating

3.845
travel distance
actual distance to be travelled by a person from any point within the floor area to the nearest **storey exit**, having regard to the layout of walls, partitions and fittings

3.846
travel time
time needed, once movement towards an exit has begun, for all the occupants of a specified part of a building to reach a **place of safety**

3.847
trigger device
device capable of being operated automatically or manually to initiate an alarm, e.g. a **fire detector**, a **fire alarm manual call point** or a pressure switch

trunk main, see **<sprinkler> trunk main (3.784)**

3.848
turbulence index
numerical term which characterizes the degree of turbulence in the experimental conditions under which the **explosion indices** are determined

3.849
turntable ladder
fire appliance equipped with a mechanically operated sectional extending ladder, usually hydraulically operated, capable of rotating through 360° about a vertical axis

3.850
two-stage alarm system
fire alarm system in which initially the alarm is given only in a restricted part of the premises, with an alert signal being given in the remainder of the premises

3.851
two-state detector
fire detector which gives one of two output states relating to either "normal" or "fire alarm" conditions

3.852
type of protection
classification of methods used to prevent ignition of **explosive atmospheres** by electrical equipment

NOTE The classifications include:

— **Type "d": flameproof enclosure**. Apparatus in which parts that can ignite an **explosive atmosphere** are placed in an enclosure which can withstand the pressure developed during an **explosion** of the atmosphere within the enclosure and which can prevent the transmission of the **explosion** to the atmosphere surrounding the enclosure.

— **Type "e":** (Applied only to apparatus which in normal service produces no arcs or sparks, and will have no parts exceeding a specified limiting temperature). Additional measures to give increased security against the possibility of excessive temperatures and of the occurrence of arcs and sparks during the service life of the apparatus.

— **Type "i": intrinsic safety**. Apparatus in which the contained energy is such that no spark or thermal effect produced under specified test conditions (which include normal operation and specific fault condition) is capable of causing ignition of a given **explosive atmosphere**. This type of protection will normally place consequent requirements on associated apparatus and connecting cables.

— **Type "m": encapsulation**. Electrical apparatus in which any part which could ignite an **explosive atmosphere** by either sparking or heating is enclosed in a compound in such a way that this **explosive atmosphere** cannot be ignited.

— **Type "n":** Electrical apparatus such that, in normal operation, it is not capable of igniting a surrounding **explosive atmosphere**, and in which a fault capable of causing ignition is not likely to occur.

— **Type "o": oil immersion**. Electrical apparatus which, wholly or in part, is immersed in a protective liquid in such a way that an **explosive atmosphere** which can be above the liquid or outside the enclosure cannot be ignited.

— **Type "p": pressurization.** Electrical apparatus whose enclosure is filled with a protective gas maintained at a higher pressure than that of the surrounding atmosphere.

— **Type "q": powder filling**. Electrical apparatus whose enclosure is filled with a material in a finely granulated state so that, in the intended conditions of service, any arc, spark or high temperature occurring within the enclosure will not ignite the surrounding atmosphere.

— **Type "s": special protection**. Electrical apparatus that, by its nature, does not comply with the constructional or other requirements specified for apparatus with established types of protection, but which, nevertheless, can be shown, where necessary by test, to be suitable for use in hazardous areas in prescribed hazard zones.

UEL, see **explosive limit**, **upper (3.228)**

3.853
ullage
vertical distance or free volume between the liquid surface in an open vessel and the rim of the vessel

3.854
unacceptable hazard
degree of hazard that is regarded by society in general as too great to be allowed to occur repeatedly

unbalanced system, see **extinguishing system**, **unbalanced (3.261)**

3.855
unexposed side
face of the element which is remote from the **fire** in a **fire test** of a **separating element**

3.856
unprotected area
part of a side or external wall of a building having a lower **fire resistance** than that required for elements of structure of the building, or clad with combustible material such that if ignited it would produce significant thermal radiation

3.857
unventilated floor and roof assembly
assembly in which the cavity between the floor or roof soffit and the suspended ceiling is entirely surrounded by barriers which have the effect of restricting the transfer of **fire gases**

upper explosion limit; **upper explosive limit**, see **explosive limit**, **upper (3.228)**

upper explosion point, see **explosion point**, **upper (3.212)**

upper flammable limit, see **flammable limit**, **upper (3.419)**

upright sprinkler, see **sprinkler**, **upright (3.785)**

3.858
user
person responsible for or having effective control over fire safety provisions adopted in or appropriate to the premises or the building

valve, **alarm test**, see **sprinkler alarm test valve (3.718)**

3.859
vapour cloud explosion
VCE
explosion in the open air of a cloud made up of a mixture of **flammable gas or vapour** with air

3.860
voice alarm system
sound distribution system that provides means for automatically broadcasting speech messages and warning signals

3.861
volume factor
numerical factor that, when applied to the volume of an enclosure, indicates the basic quantity of carbon dioxide required for protection against surface fires

3.862
warden
person appointed to undertake prescribed duties leading to the effective and orderly evacuation of all or part of the premises in the event of **fire**

3.863
warning sign
safety sign that gives warning of a hazard

water extinguishing system, see **extinguishing system**, **water (3.262)**

3.864
water flow indicator
device, electrical or mechanical which indicates a water flow

3.865
water fog
water discharged from a **nozzle** in finely dispersed form (mist) at high pressure, used to rapidly absorb heat, eject **smoke** and minimize water damage

3.866
water fog nozzle
hand-controlled **nozzle** which produces water in finely dispersed (mist) form, generally at high pressure

3.867
water relay, pumping
transfer of water to the **fire ground** from a remote water supply by the interposing of intermediate pumps in the hose line

3.868
water relay, shuttle
transport of water to the **fire ground** from a remote water supply using water tankers

3.869
water spray
water discharged from a **nozzle** in dispersed form used to obtain maximum spread of the **extinguishing medium**

3.870
water spray projector
nozzle fitted to a water pipe and designed to produce a high pressure **water spray**

3.871
water spray projector system
system of water pipes fitted with **water spray projectors** and the means of bringing them into operation

3.872
water spray system
system, similar in principle to a **sprinkler system**, that is designed to extinguish **flammable liquid** fires, or to provide cooling to an exposed area likely to be subjected to intense heat radiation from a neighbouring **fire**

3.873
water tender
self-propelled appliance having a built-in pump, water tank and extension ladder, respectively of specified throughput, capacity and length

3.874
water tender escape
water tender carrying a wheeled escape

3.875
way guidance system
system of markers or indicators provided to delineate the designated **escape routes**

NOTE The guidance provided should be such that persons are not left in doubt as to the route to be followed.

3.876
way guidance system, low mounted
way guidance system designed to be seen below **smoke** level

3.877
wet riser
vertical pipe installed in a building for firefighting purposes, fitted with **landing valves** at specified points and permanently charged with water from a pressurized supply

3.878
wheeled escape
wheeled extending ladder, usually mounted on a **fire appliance** from which it can be removed and manoeuvred into position for rescue or firefighting purposes

3.879
width, doorway
clear width of a doorway when the door is open, but ignoring small obstructions such as door hardware which do not intrude more than 100 mm into the doorway

3.880
width, escape route
clear width of a corridor or other designated **escape route**, measured at 1 500 mm above floor level, defined by walls or other fixed obstructions, but ignoring small obstructions such as door hardware which do not intrude more than 100 mm

3.881
width, stairway
clear width of the stairway measured between the walls or balustrades, maintained clear for a vertical distance of two metres measured from the pitch line or landing floor level, but ignoring small obstructions such as door hardware, handrails, etc. which do not intrude more than 100 mm

width of flameproof joint, see **flameproof joint**, **width of** (**3.400**)

zone, see **alarm zone** (**3.18**); **detection zone** (**3.112**); **hazard zone** (**3.470**); **smoke control zone** (**3.693**); **sprinkler zone** (**3.787**)

3.882
zone indicator
part of indicating equipment which visually indicates the **zone** of origin of a **alarm of fire** or **fault warning**

3.883
zoned smoke control
system that combines **depressurization** of the **smoke control zone** containing the **fire** and **pressurization** for all contiguous spaces requiring protection

Bibliography

[1] UNITED NATIONS. The Montreal Protocol on Substances that Delete the Ozone Layer 1987 (www.unep.org)

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