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To: All NSI Fire Gold and Fire Silver approved companies and applicants

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Publication of BS 5306-8:2023 - Fire Extinguishing Installations and Equipment on Premises – Part 8: Selection and Positioning of Portable Fire Extinguishers – Code of Practice

BS 5306-8:2023 came into effect on 30th November 2023 and supersedes BS 5306-8:2012 which is now withdrawn.

This is a full revision of the standard and includes:

- recognition of current legislation;
- removal of the subclause on training, noting that this is not part of the selection and installation process and that it is covered by legal obligations, i.e. FSO 2005;
- removal of the subclause on commissioning and maintenance, noting that it is covered by the new post installation arrangements subclause of this standard in section 4.2 second paragraph;
- inclusion of new recommendations on environmental impact;
- revision of information on the use of powder;
- clarification on the recommendations for class A hazards;
- changes in the recommendations for class C hazards;
- revision of travel distances;
- revision of calculation examples; and
- inclusion of information on batteries.

This Technical Bulletin (0065) outlines the changes within BS 5306-8:2023.

Implementation timescale for Approved Companies

Existing NSI approved companies with Fire Gold or Fire Silver approval to the BAFE SP101 scheme will have until 30th June 2024 to transition to BS 5306-8:2024. During the transition period, any non-conformances found against the revised standard will be raised as an "Auditor Note".

Any non-conformances found after the transition period will be raised as a formal non-conformance report(s) (Major or Minor non-conformance reports).

For applications received prior to 1st February 2024, applicant companies applying for NSI Fire Gold or Fire Silver approval to the BAFE SP101 scheme will be subject to the transition arrangements, as detailed above, for existing companies.

For new applicants and existing approved companies seeking an extension to their existing scope, applications received from 1st February 2024 for approval to the BAFE SP101 scheme will be audited against the revised standard and any non-conformances found will be raised as a formal non-conformance report(s) (Major or Minor non-conformance reports).

Text colour scheme within this document

Descriptions of new or amended sections of the code of practice are given in italics and the following colour scheme is used to denote which are new and which are amended:

Where descriptions denote new text, these are represented by Green italics.

Where descriptions denote amended text, these are represented by Blue italics.

Where descriptions denote deleted text, these are represented by Red text.

Please also note that this Technical Bulletin is not a definitive list of all the differences between BS 5306-8:2023 and BS 5306-8:2012; only significant differences are listed.

2 Normative references

Now includes reference to BS 5306-10.

3 Terms and definitions

3.1 class B fire hazards

3.1.1 class B fire hazard

New definition:

"hazard involving liquid or liquefiable solid, where the size of any fire is determined by the surface area of the liquid that produces flammable vapours"

3.1.2 contained class B fire hazard

New definition:

"class B hazard where the liquid or liquefiable solid is confined by a physical enclosure (e.g. contained within a tank or bund area)"

3.1.3 uncontained class B fire hazard

New definition:

"class B hazard where the liquid or liquefiable solid is able to flow to a size determined by its volume and viscosity (e.g. escaping or leaking from a pipe, container or physical enclosure)"

3.3 competent person

Definition of competent person removed (replaced by 3.9).

3.9 installer/service provider

New definition:

"person with sufficient training, and experience or knowledge and other qualities, to be able to assist the responsible person or their representative"

NOTE This is often the same person as the defined competent person undertaking the maintenance of extinguishers in accordance with BS 5306-3."

3.11 premises

New definition:

"building(s) and/or land external to a building"

NOTE External areas can include yards, forecourts and outdoor storage areas."

4 Provision of extinguishers – General recommendations

New commentary to the clause added to give information on each type of firefighting media including their firefighting properties and their effects on people, property and the environment.

4.1 Planning and pre-installation arrangements

Clause was previously titled “Importance of early planning”. Now renamed “Planning and pre-installation arrangements” and reworded with additional information and notes.

4.2 The Environment

Clause deleted as environmental information for each media type is included in the commentary on Clause 4.

4.2 Post-installation arrangements

New clause recommends the installer/service provider should inform the “responsible person” to ensure the equipment remains in full working order, that it should be commissioned and maintained in accordance with BS 5306-3 and to review the extinguisher cover following changes in use of the building, or introduction of new hazard(s) to the premises, in case a modification is required.

4.5 Training in the use of extinguishers

Clause deleted as training in the use of extinguishers is not part of the selection and installation process and is covered by legal obligations.

4.5 Fire hazards external to a building

New clause of recommendations regarding fire hazards external to a building:

“Fire hazards external to a building should be subject to a fire risk assessment to identify the types and numbers of extinguishers required.

Extinguishers should be provided as indicated by the fire risk assessment and the provisions of this part of BS 5306.”

4.7 Commissioning and maintenance

Clause deleted as commissioning and maintenance is now covered by the new post-installation arrangements subclause of this standard.

5 Extinguisher characteristics

New commentary to the clause added and includes some of the information previously contained in clause 5.1.

5.1 General

Clause reworded:

"The extinguishers that are provided should be of a size that can conveniently be carried by the occupants of the building in which they are placed and should have the appropriate class as shown in Clause 7.

NOTE The class and fire rating system compare extinguishers by their ability to extinguish different types and sizes of test fire."

5.2 Fire ratings

Clause deleted.

5.2 Temperature range

Clause was previously clause 5.3 of BS 5306-8:2012.

5.3 Distance and direction of discharge

*Clause was previously clause 5.4.1 of BS 5306-8:2012 and titled "**Distance and direction**". Now clause 5.3 and renamed "**Distance and direction of discharge**".*

5.4 Electrical conductivity

*Clause was previously clause 5.4.2 of BS 5306-8:2012 and titled "**Conductivity**". Now clause 5.4 and renamed "**Electrical conductivity**".*

5.4.3 Use of powder extinguishers

Clause deleted as the effects of the use of powder extinguishers are now covered in clause 4(c).

5.5 Colour coding

Clause reworded and now includes reference to BS 5306-10 (previously referred to BS 7863).

5.6 Gaseous extinguishing media

Clause deleted.

6 Suitability of extinguishers for various classes of fire

The information provided in clause 6 was previously included in clause 7 of BS 5306-8:2012.

7 Distribution of extinguishers according to fire classification and fire rating of extinguisher

The information provided in clause 7 was previously included in clause 8 of BS 5306-8:2012.

7.2.1 Minimum provision of class A fire rated extinguishers

Clause was previously clause 8.2.1 of BS 5306-8:2012 and has been amended:

"The minimum quantity of extinguishers with a class A fire rating should be calculated as follows.

- a) For any storey with a floor area less than or equal to 50 m², there should be:
 - 1) at least one extinguisher with a class A fire rating; and*
 - 2) a total minimum fire rating of 26A.**
- b) For any storey with a floor area greater than 50 m² and less than or equal to 400 m², there should be:
 - 1) at least two extinguishers with a class A fire rating; and*
 - 2) a combined minimum total fire rating of 26A.**
- c) For any storey with a floor area exceeding 400 m², there should be:
 - 1) at least two extinguishers with a class A fire rating; and*
 - 2) a combined minimum total rating of 0.065 x floor area of the storey (in square metres)**

NOTE The provisions for class A fires are based on the assumption that a 9l (2 gallon) water extinguisher can achieve a 13A fire rating."

7.3 Class B - Fires involving flammable liquids

Clause was previously clause 8.3 of BS 5306-8:2012.

In addition to powder extinguishers, CO₂ extinguishers are now considered effective for tackling uncontained (spill or running) fires.

7.3.2.2 Minimum provision of class B extinguishers where a single contained hazard exists

Clause was previously clause 8.3.2.2 of BS 5306-8:2012.

Amended Table 1.

7.4 Class C – Fires involving gases

Clause was previously clause 8.4 of BS 5306-8:2012.

New commentary to the clause giving guidance on dealing with fires involving gases.

7.4.1 General

Clause was previously clause 8.4.1 of BS 5306-8:2012.

Amended. Recommends that extinguishers should not be provided to tackle class C fire hazards:

"Extinguishers should not normally be provided to tackle class C fire hazards.

When the fire risk assessment determines that extinguishers should be provided to tackle a class C fire hazard (most likely in high-risk, industrial locations by specially trained personnel), the risk assessment should determine the type and number of extinguishers required. Extinguishers with a class C fire rating should then be provided as identified in the fire risk assessment."

7.5 Class D Fires involving metals

Clause was previously clause 8.5 of BS 5306-8:2012.

New commentary:

"Confusion is to be avoided between rechargeable lithium-ion batteries and disposable primary lithium metal batteries.

Disposable primary lithium metal batteries contain flammable metallic lithium and are therefore class D hazards.

Rechargeable lithium-ion batteries contain lithium salts, not metallic lithium. As such they are not Class D hazards (see 7.8).

In addition to the more obvious flammable metals such as magnesium, other more common metals (such as iron, copper, aluminium, titanium and zinc) and their alloys might, depending upon their form (e.g. powder or swarf), also be flammable."

7.6.2 Minimum provision of class F extinguishers

Clause was previously clause 8.6.2 of BS 5306-8:2012.

Amended Table 2.

7.7 Fires involving live electrical equipment

The recommendations regarding tackling fires involving live electrical equipment were previously given in clause 9 of BS 5306-8:2012.

New commentary.

Recommendations have been revised and/or amended.

8 Positioning of extinguishers

The information provided in clause 8 was previously included in clause 6 of BS 5306-8:2012.

8.4 Travel distance

Clause was previously clause 6.4 of BS 5306-8:2012.

Recommendations amended:

"Extinguishers should be sited near to the fire hazard concerned, but not so near as to be inaccessible or to place the operator in undue danger in the event of fire. They should be sited in such a way that it is not necessary to travel from the site of any fire hazard to reach an extinguisher further than the following maximum distances:

a) class A: 30 m;

b) class B: 10 m;

c) class C: subject to assessment on a case-by-case basis, by specialist advice;

d) class D: subject to assessment on a case-by-case basis, by specialist advice;

e) class F: 10 m;

f) fire hazards involving live electrical equipment:

1) general provision of non-dedicated extinguishers: 30 m;

2) provision of dedicated extinguishers for specific hazards: 10 m;

g) fire hazards involving batteries:

1) lithium-ion batteries in individual small rechargeable devices: from existing coverage; and

2) batteries other than lithium-ion batteries: subject to assessment on a case-by-case basis, by specialist advice."

"Where the prospective operator is required to open a door to reach the nearest extinguisher, the above travel distances should be reduced by 5 m for each door, to maintain as short a time as possible between discovery of a fire and the moment at which the prospective operator is able to start fighting the fire with the extinguisher concerned.

The prospective operator should not be required to pass through a security door that has card or keypad access: extinguishers should be located on the fire hazard side of such a door."

8.5 Protection against corrosion and vandalism

Clause was previously clause 6.5 of BS 5306-8:2012.

Clause amended as a commentary:

Extinguishers stored outdoors or in potentially corrosive atmospheres can become unsafe for use or inoperable in a relatively short period.

Extinguishers located in any public access environment, e.g. schools, colleges, public houses, hotels and retail outlets, are susceptible to vandalism or being stolen. Even minor tampering could result in the extinguisher not operating when required in a fire situation.

If extinguishers are sited outdoors or in potentially corrosive atmospheres, then either measures should be taken to protect the extinguisher, or alternative extinguisher types should be specified that are specifically designed to withstand the environment in that location.

In a public access environment, measures should be taken to reduce the possibility of extinguishers being vandalized or stolen if relocation of the extinguisher to a more secure location is neither desirable nor practical.

NOTE Such measures could include, but are not limited to, protection covers, boxes and audible alarms.

Measures should be taken to protect the maintenance record affixed to the extinguisher."

9 Provision of replacement extinguishers

The information provided in clause 9 was previously included in clause 10 of BS 5306-8:2012.

Clause amended:

The installer/service provider should instruct the responsible person to ensure that the provision of extinguishers on site does not fall below the minimum recommended by this part of BS 5306 and the fire risk assessment. Discharged extinguishers should therefore be recharged or replaced after use.

NOTE This can be achieved by making sufficient spare extinguishers available.