

IFEDA Training 2009

Revision of BS5306 Part 3

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Changes and Highlights to BS5306-3 : 2009

The new standard introduces:-

1 The Commissioning Service

- Carried out by a Competent Person
- Immediately prior to placing the extinguisher in its designated place (not at some distant workshop or depot).

2 More guidance for Responsible Person (Duty Holder in Scotland) who now has to, additionally,

- Check for missing parts
- Record the results
- If there is doubt, Responsible Person is guided to consult Competent Person
- N.B. The Responsible Person has a duty to advise the Competent Person of changes likely to affect extinguisher cover

3 There is greater definition given about procedures for ageing and wear to plastic head caps

- New definition of plastic head-caps:
Plastic Head-cap - component manufactured from plastics designed to retain working pressure upon actuation of an extinguisher (or under pressure i.e. stored pressure unit). NB – this includes plastic head-caps retained by a metal collar, but excludes metal head-caps which have a plastic shroud where the plastics component does not retain working pressure.

4 Changes to Basic Service

- 12 monthly +/- 1 month. This allows for the fact that is fairly impossible to attend on the same day every year
- Weight check ALL extinguishers, no longer an exclusion for cartridge operated extinguishers.

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Changes & Highlights

Cont....

5. Gas Cartridges

5.1 The tolerance on a gas cartridge remains at 10% of the content weight, However the tolerance on gas cartridges with a content weight of less than 30 grams is 15%.

Changes to Extended Service

6.1 More detail guidance on frequency of service

- Water / Water based / Powder

5 years from date of commissioning OR 6 years from date of manufacture; whichever is sooner

- Primary sealed powder

10 years from date of commissioning OR 11 years from date of manufacture; whichever is sooner

6.2 Plastic head-caps to be replaced

- Before reassembly
- Before test discharge if UVD could be hidden

7. Advice about extinguishers without a CE mark

- Manufactured post 2002 with no CE mark condemn (does not apply to refurbished extinguishers).

8. Advice about extinguishers for which the main text is not in the English language • Rectify to include English language or condemn.

9. Requirement to check compliance with BS5306-8.

3.5 charge

- mass or volume of extinguishing medium contained in an extinguisher
- *NOTE The charge of a water-based medium is expressed as a volume in litres. Charges for other media are expressed as a mass in kilograms.*

The reference to Chemical Foam Extinguishers has been removed – they were listed as obsolete in the last standard.

3.6 competent person

- **person with the qualifications, training and experience, with access to the relevant tools, equipment and information, manuals and knowledge of any special procedures recommended by the manufacturer of an extinguisher, to carry out the relevant maintenance procedures**
- **NOTE Information on the training which a competent person is expected to undergo is given in Annex A of the standard.**

3.7 extinguishing medium

- substance contained in an extinguisher which causes extinction of a fire

3.8 fire legislation

- **current UK legislation relating to fire safety, i.e.**
 - **Regulatory Reform (Fire Safety) Order 2005 [1];2)**
 - **Fire Safety (Scotland) Regulations 2006 [2];**
 - **Fire Precautions (Workplace) Regulations (Northern Ireland) 2001 [3]**

3.9 gas cartridge

- pressure container that fits into, or is attached to, an extinguisher and that contains an expellant gas that, on operation of the extinguisher, expels the extinguishing medium
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- 2) An equivalent Regulatory Reform Order for Northern Ireland is currently in preparation.
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3.10 gas cartridge extinguisher

- extinguisher from which the extinguishing medium is expelled, on the actuation of the operating mechanism, by pressure released from a gas cartridge

3.11 plastic headcap

- **component manufactured from plastic designed to retain working pressure upon actuation of an extinguisher.**
- **NOTE This includes plastic headcaps retained by a metal collar, but excludes metal headcaps which have a plastic shroud where the plastic component does not retain working pressure.**

3.12 portable fire extinguisher

- extinguisher which is designed to be carried and operated by hand and which, in working order, has a mass of not more than 20 kg
- *NOTE Hereinafter referred to as an “extinguisher”.*

3.13 primary sealed stored pressure extinguisher

- stored pressure extinguisher in which the operating head and the valves controlling the flow of extinguishing medium during discharge can be detached from the body of the extinguisher without releasing propellant or medium, which are retained in the body by a closure that is ruptured on operation

3.14 recharging

- maintenance procedure carried out after complete or partial discharge of an extinguisher, or as part of a scheduled maintenance procedure, to restore the extinguisher to its full operational condition

3.15 responsible person

- **person or persons responsible for, or having effective control over, fire safety provisions adopted in or appropriate to the premises or building or risk where an extinguisher is installed**
- **NOTE For the purposes of this part of BS 5306, the term “responsible person” includes a nominated representative, and is the person defined by this term in the Regulatory Reform (Fire Safety) Order 2005**

Removed reference to Soda Acid extinguishers which were listed as obsolete in previous standard.

3.16 stored pressure extinguisher

- extinguisher from which the extinguishing medium is expelled, on the actuation of the operating mechanism, by pressure stored within the body

3.17 test discharge

- discharge of extinguishing medium under controlled conditions by, or under the supervision of, a competent person

Removed reference to ‘User’ as we now have the Responsible Person

4. Process of Commissioning

4.1 Commissioning

- The commissioning of an extinguisher should be carried out by a competent person as defined in 3.6. Upon removal from its packaging and transit protection, and immediately prior to placing in its designated place, the extinguisher should undergo the sequence of commissioning service actions described in Annex B, taking into account the safety precautions given in Annex C.
- Additionally, if the manufacturer has not marked the mass of the extinguisher or a nominal range of mass for the extinguisher, the competent person should consult the manufacturer's workshop manual for that model or consult with the manufacturer to obtain this information.

Upon completion of the above procedures the extinguisher should then be installed and positioned in accordance with BS 5306-8.

4.2 Mounting

- Small extinguishers with a total weight up to and including 4 kg should be mounted so as to position the handle approximately 1.5 m from the floor, but the carrying handle of larger, heavier extinguishers should be approximately 1 m from the floor.
- **WARNING.** Care should be taken to ensure that a heavy extinguisher does not itself cause injuries by being dislodged and falling onto limbs or bodies. Extinguishers installed under conditions where they are subject to dislodgement should be installed in specifically designed brackets.
- Extinguishers sited in schools can be particularly susceptible to being dislodged. Where practicable, they should be installed in recessed housings, or in suitable cabinets appropriate to the specific location (e.g. no sharp edges or corners). Any mounting bracket used should conform to BS EN 3-7:2004+A1:2007, Clause 6.

3) An equivalent Regulatory Reform Order for Northern Ireland is currently in preparation.

N.B. This section refers specifically to extinguishers in schools – hence the use of extinguisher stands is not mentioned. Stands are still permitted elsewhere as per BS5306-8 when appropriate.

Visual inspection by the responsible person

Rewording of 'inspection by the user'

5 Visual inspection by the responsible person

- The responsible person should carry out visual inspections of all extinguishers regularly. These visual inspections should be carried out at least monthly. When circumstances require, inspections should be carried out more frequently.
- *NOTE 1 Fire legislation [1–3] and its associated Guidance Notes suggest that good practice is to determine whether the extinguisher has been operated and to check for damage on a weekly basis. N.B the Scottish guidance notes suggest monthly*
- When carrying out these visual inspections, it should be ensured that:
 - a) each extinguisher is correctly located in the designated place;
 - b) each extinguisher is unobstructed and visible;
 - c) the operating instructions of each extinguisher are clean and legible and face outwards;
 - d) each extinguisher has not been operated and is not obviously damaged **or has any missing parts;**
 - e) the reading of any pressure gauge or indicator fitted to an extinguisher is within operational and safety limits;
 - f) the seals and tamper indicators of each extinguisher are not broken or missing.
- The responsible person **should record the results** of these visual inspections and arrange for corrective action, where necessary, by a competent person. In the event of doubt, the responsible person should arrange for a competent person to examine the extinguisher.
- *NOTE 2 Responsible persons have obligations under fire legislation [1–3] to use a competent person to maintain extinguishing equipment in an efficient state, in efficient working order and in good repair, where it is necessary to provide such equipment to safeguard employees in the event of fire.*

Basic service, Extended service and Overhaul

General

- The responsible person should ensure that extinguishers, along with any spare gas cartridges and replacement charges, are maintained regularly. Basic service, extended service and overhaul should be carried out at intervals not less than those recommended in Table 1, in accordance with Annex D, Annex E and Annex F, respectively, taking into account the safety precautions given in Annex C.
- *NOTE 1 The Management of Health and Safety at Work Regulations 1999 [9] require this to be done by a competent person.*
- *NOTE 2 It is good practice for the competent person to assess the suitability of the extinguishers provided for the local risks and to report any that are deemed unsuitable (see 9.4.1.1).*

Extinguisher Labelling

- The following information should be given on the maintenance label:
 - a) type of action (**commissioning**, basic service, extended service, recharge, overhaul, condemned, not maintained);
 - b) name and **postal** address of the maintenance supplier;
 - c) a mark clearly identifying the competent person;
 - d) the date (year and month) of the action in a) above;
 - e) either:
 - 1) the measured mass of the extinguisher at the time of maintenance, in kilograms; or
 - 2) the difference between the measured mass at the time of service and the initial recorded mass at commissioning;
 - f) the date (year and month) of commissioning and the last extended service/overhaul;

NOTE 1 It might also be appropriate to mark the year and month of the next maintenance – this is a legal requirement if the extinguisher is to be installed under the ADR agreement [11].

- g) **a statement to the effect that the extinguisher has been maintained in accordance with this standard, i.e. BS 5306-3 4)**
- This information should be readable without any special equipment.
- Any additional information for the benefit of competent persons may be shown in a more compact form, such as bar codes.
- *NOTE 2 The information on the maintenance label of each extinguisher may additionally be entered into a central record. In this way one aspect of the important information on fire prevention can be kept readily available.*
- **Note 4) Marking BS 5306-3 on or in relation to a product represents the maintainer's declaration of conformity, i.e. a claim by or on behalf of the maintainer that the maintenance has been carried out in accordance with the recommendations given in this standard. The accuracy of the claim is solely the claimant's responsibility. Such a declaration is not to be confused with third-party certification of conformity.**

Example of a Service Label

(published as business memo 40)

Company Insignia, Name & Postal Address				
Service Record				
Extinguisher Type.....				
Date Commissioned		Month/Year	□□/□□	
Month/Year Last Extended Service		□□/□□		
Month/Year last Stamped Date (co2)		□□/□□		
Date	Weight kg	Service Details	ENG	Next Service
				/
				/
				/
				/
				/
				/
				/
				/
				/
CS=Commissioning Service BS=Basic Service ES=Extended Service O=Overhaul R=Recharged C=Condemned NM=Not Maintained				
This fire extinguisher has been serviced in accordance with the requirements of BS5306 part 3 and where indicated recharged in accordance with BS5543 part 1 or to agreed contractual requirements.			Next Extended Service/Overhaul due Month Year □□ / □□	
ISO Emblem/ details		Bafe Emblem		
				
SALES AND SERVICE TEL: 9999 99999 9999 Email: company@fire.co.uk <small>Waste transfer licence number</small>				

Recharging of extinguishers

7.1 Procedure

- The procedures outlined in Annex D should be followed, together with those specified in BS 6643-1 and those detailed by the extinguisher manufacturer. Before recharging, water-based extinguishers (including foam extinguishers) should be thoroughly washed out with clean water, but on no account should this procedure be applied to powder, halon or carbon dioxide extinguishers, which have to be kept completely free from water. [Removed reference to the competent person deciding if the medium can be re-used.](#)
- Refill charges recommended by the extinguisher manufacturer should be used for water-based and powder extinguishers, but for halon and carbon dioxide extinguishers, equivalent charges may be used. An equivalent charge is one that has been shown by test results to achieve the fire extinction rating claimed for the original charge. For halon and CO₂ extinguishers, only halons conforming to BS EN 27201-1 and carbon dioxide conforming to BS EN 25923 should be used.
- *NOTE Under EC Regulation No. 2037/2000 [10] the use of halons as extinguishing media is restricted to a limited number of “critical uses” (see Annex G).*
- When an extinguisher has been recharged for any reason, the date of recharging should be recorded on the extinguisher’s maintenance label attached to the extinguisher (see **6.2.2**).

- **7.2 Gas cartridges**

- Replacement gas cartridges for water, water-based (including foam) and powder extinguishers should conform to the appropriate part of BS EN 3, and should be of the correct type and size (capacity and dimensions).

- **CAUTION.** Care should be taken to use the appropriate gas cartridge as specified by the manufacturer.

- Cartridges should be removed from service if more than 10 years have elapsed since the date of manufacture. [Reference to BS5423 removed as there shouldn't be any left in circulation.](#) N.B. BS EN 3 cartridges can be used in BS5423 extinguishers so the lack of 5423 cartridges is not a reason to condemn a 5423 extinguisher.

- **8 Replacement of components**

- Only the components and extinguishing media supplied or specified by the manufacturer of the extinguisher, or equivalents, should be used to replace those found to be unsuitable for continued service.

- **CAUTION.** The recharging of an extinguisher, or the replacement of any of its components, can be detrimental to the performance of the extinguisher **if not carried out correctly.**

Evaluation of fitness for service of extinguishers and actions to be taken

- **General**
- Defective extinguishers should be placed in one of the following categories: “Condemned” or “Not maintained”.
- *NOTE Annex H gives information on extinguishers that were manufactured in accordance with British Standards that have now been withdrawn.*
- **9.2 Extinguishers which are to be condemned**
- **9.2.1 General**
- Any extinguisher with a major defect or defects which make it unsafe for use, and which cannot be rectified during maintenance, should immediately be made safe, removed from its designated place, and marked “CONDEMNED” together with the reason for this assessment. The responsible person should be advised in the written report (see **9.4.1**) that a permanent replacement is needed as soon as possible. Evaluation of whether the damage, wear or corrosion an extinguisher has undergone make it unsafe for use or unfit for service depends on the judgement of the competent person. The competent person should have training and experience with the particular model of extinguisher.
- Non-exhaustive lists of examples of the conditions that might affect the function or safety of an extinguisher are given in **9.2.2** and **9.2.3**. The following conditions do not affect the function or safety of an extinguisher and will not therefore require the extinguisher to be condemned:
 - a) staining or discoloration of linings or diptubes;
 - b) external blemishes or slight scratches;
 - c) light rusting of parts which is not likely to impair function or safety;
 - d) the presence of corrosion products from any metal lining (typically white salts of zinc, or tin and lead).

Removed ‘minor bubbling’ any bubbling or lifting is now a reason to condemn see next section.

Conditions indicating that an extinguisher is unsafe for use

- Potentially the most serious hazard presented by a defective extinguisher is the sudden uncontrolled release of pressure or ejection of parts. This could be caused by any of the following conditions:

- a) corrosion, wear or damage to threads of any pressure retaining part;
- b) corrosion of welds;
- c) extensive general corrosion or severe pitting;
- d) (removed 'significant') dents or gouges in the body;
- e) fire damage to the body or body fittings;
- f) any (removed 'significant') split in a plastics lining;
- g) **lifting or detachment of a plastics lining from the body;**
- h) corrosion of the metal body under a plastics lining;
- i) corrosion of the metal body under a zinc or tin/lead lining.

Additional reasons for condemning an extinguisher include the following (unless rectified by the replacement of the appropriate components):

- 1) overpainting or application of any other coating, film or colouring to any plastic component that could be subject to pressure;**
- 2) UV degradation of plastics components;**
- 3) illegible marking or operating instructions;**
- 4) instructions not in English;**

Extinguishers for which this standard provides no maintenance schedules

- Maintenance schedules for certain extinguishers (because of their type, construction, method of operation, or condition) are not provided in this part of BS 5306. Examples of such extinguishers are as follows:
 - soda acid extinguishers;
 - extinguishers with a riveted body shell;
 - extinguishers with a plastics body shell;
 - extinguishers that require inversion to operate;
 - non-refillable extinguishers that have reached their expiry date; [Removed reference to Chemical Foam](#)
 - **extinguishers manufactured after 2002 which do not carry a CE mark. This excludes refurbished extinguishers (see Note).**
 - ***NOTE Refurbished extinguishers cannot carry the CE mark and cannot be condemned for not carrying it.***
- Any such extinguisher should be marked **“CONDEMNED”** (changed from ‘not maintained’) together with the reason for this assessment, and the competent person should advise the responsible person, in the written report (see **9.4.1**), that the extinguisher has been condemned and that it should be replaced by an extinguisher for which this standard provides a maintenance schedule.

Extinguishers which are not maintained

- When undertaking maintenance in a particular location, the competent person should ensure that they have available the number and types of spare parts that might be required to service the extinguishers involved (see Clause 8).
- If the required spare parts are not available for any of these extinguishers, the maintenance should be interrupted and the extinguisher made safe, removed from its designated place and marked “NOT MAINTAINED”, together with the reason for this assessment; and the competent person should advise the responsible person, in the written report (see 9.4.1), that the maintenance has been interrupted.
- The competent person should return to the site with the spare parts and complete the maintenance, or, if the parts prove to be unobtainable, should mark the extinguisher “CONDEMNED” together with the reason for this assessment, and should advise the responsible person, in the written report (see 9.4.1), that the extinguisher has been condemned and that it should be replaced by an extinguisher for which this standard provides a maintenance schedule.

Documentation

This section has been enlarged and is more prescriptive... takes in information that was referred to in BAFE SP101

- The competent person should advise the responsible person in a written report: a) of any extinguishers that have been condemned, not maintained and/or are missing; b) of any permanent replacement extinguishers required to replace those extinguishers
- reported in a); c) of any additional extinguishers required to ensure that the level of cover at the premises is at least sufficient and, where applicable, in accordance with BS 5306-8; d) that any replacement or additional extinguishers reported in b) or c) should be provided as soon as possible; and e) of the responsible person's obligation under fire legislation to provide an appropriate level of fire-fighting equipment at all times.

9.4.1.2 Maintenance documentation

- A certificate of inspection should be issued in all cases.
The certificate of inspection should include the following information:
 - a) the name, postal address and telephone number of the maintenance company;
 - b) the date of maintenance;
 - c) identification of the maintenance technician;
 - d) a list of all portable extinguishers included in the maintenance programme, including all non-conforming equipment, and recommendations for appropriate corrective action or reference to where this information can be found;
- e) the signature of the responsible person, which should be obtained upon completion of the service visit and prior to the service technician leaving the premises, or a record of the reason why this is not possible (e.g. unmanned sites);
- f) a statement that, apart from non-conforming extinguishers as recorded, all portable fire extinguishers have been inspected and serviced in accordance with this standard, i.e. BS 5306-3.

Permanent replacement of extinguishers

- It is the duty of the responsible person to arrange for permanent replacement extinguishers to be put into place as soon as possible after an inspection has shown that any extinguishers should be replaced. The competent person is responsible for bringing this duty to the responsible person's attention in the written report (see **9.4.1**).
- **Removed reference to 'temporary' replacement of extinguishers**

Example of Commissioning Service : Stored Pressure

- **COMMISSIONING SERVICE (new or refurbished units):**
- **TYPES OPERATED BY STORED PRESSURE (Water, water-based including foam, powder and primary sealed powder).**
- **It is not possible or necessary to perform every action on every type of extinguisher.**
- **1 Check the safety clip and indicating devices to determine whether the extinguisher has been operated.**
- **2 Check the pressure-indicating device where fitted. If it is not operating freely or if the indicated pressure is outside the specified limits, refer to the extinguisher manufacturer's instructions to ascertain the appropriate action to be taken. Check that any dust covers needed on pressure indicating or pressure-relief devices are in place and are of a size that does not obscure the reading of the gauge. Where a pressure-indicating device is not fitted, verify, by means of the connection provided for this purpose, that the internal pressure is correct. If it is not correct, refer to the extinguisher manufacturer's instructions to ascertain the appropriate action to be taken.**
- **3 Examine the exterior for corrosion, dents, gouges or damage that could impair the safe operation of the extinguisher. Competent persons carrying out initial service actions on new extinguishers finding these conditions should refer the extinguisher back to the supplier.**
- **4 Weigh the extinguisher according to the extinguisher manufacturer's instructions and record this on the maintenance label. In the event of a loss of content of more than 10%, either return the extinguisher to the manufacturer for replacement, or recharge the extinguisher if practicable to do so.**

Commissioning – stored pressure cont...

- **5 Check the operating instructions for correctness and legibility, ensuring that the text is in English.**
- **6 Clean if necessary and pass air through the air passages, paying particular attention to the vent holes (or other venting device) in the head cap. Check that the strainer (where fitted), internal discharge tube and breather valve (where fitted) are unobstructed. Rectify any problems or replace with a new tube or valve if necessary. Check the operating mechanism and discharge control (where fitted) for free movement. Rectify any problems or replace with a new operating mechanism or discharge control as necessary. Protect moving parts and threads against corrosion with a lubricant as recommended by the extinguisher manufacturer.**
- **7 Where the extinguisher is designed to have the operating mechanism removed without the discharge of contents or loss of pressure, remove and check the operating mechanism and discharge control (where fitted) for free movement. Clean and lubricate the operating mechanism, rectify any problems, or replace with a new operating mechanism as necessary.**
- **8 Remove the safety pin and check that the operating lever is undamaged and its movement is unobstructed. Safety precautions should be taken to avoid inadvertent operation. Return the safety pin or, where necessary, a replacement pin to the extinguisher.**
- **9 Ensure that all seals for the discharge horn, the hose, the nozzle and the valve body are in place, as prescribed in the extinguisher manufacturer's instructions.**
- **10 Affix the maintenance label to the extinguisher in an appropriate position on the extinguisher body, and complete the details on the maintenance label.**

Table E.1 – Extended service procedures

Action

No Procedure

- 1 Prior to performing the test discharge, the extinguisher should be examined externally for any obvious signs of damage to the body or operating mechanism. If a plastic headcap is coated in such a way as to disguise degradation (e.g. by painting), replace with a new headcap before proceeding to action 2. In the case of stored pressure extinguishers, additional safety precautions should be observed.
 2. Perform the test discharge on the extinguisher.
 3. Examine the body internally and in detail for corrosion, dents, cuts, gouges or lining damage (see Clause 9). Pay special attention to the welds. Follow the extinguisher manufacturer's instructions where there are any doubts about the welds.
 4. Examine and check all closures for thread wear, damage and corrosion as applicable (see Clause 9).
 5. Return the extinguisher to operational condition. **If the extinguisher was fitted with a plastic headcap, it should be fitted with a new headcap, if this has not already been fitted in action 1.** Reassemble and recharge the extinguisher in accordance with the extinguisher manufacturer's instructions (see Clause 7).
- *NOTE The precautions described in Annex C should be taken when handling a powder extinguisher.*
 - *Note. In all circumstances if an extinguisher has a plastic head-cap it must be replaced with NEW at 'Extended Service'*
 - *Action 1 defines the procedures' to be observed prior to carrying out ES – with both stored pressure models and cartridge models with plastic head-caps which show signs of degradation additional safety precautions means the use of a safety cage to protect the competent person and others during the discharge of the unit.*
 - *The reason for this is is that the failure of plastic head-caps occurs mostly in the initial stages of de-pressurisation due to the sudden changes in pressure.*