

Summary of significant changes to Approved Document B (Wales)

Deletions are in red, strikethrough text; additions in black text

Volume 1 – Dwellinghouses

Pre-introduction:

~~VOLUME 1~~

~~MAIN CHANGES IN THE 2006 EDITION~~

~~This edition of Approved Document B, Fire safety, replaces the 2000 edition. The main changes are:~~

~~General~~

~~a. **Approved Document B:** The Approved Document has been split into two volumes. Volume 1 deals with dwellinghouses, Volume 2 deals with buildings other than dwellinghouses.~~

~~Wherever possible the guidance in Volume 1 has been tailored and simplified to be more directly relevant to dwellinghouses.~~

~~Introduction~~

~~b. **Certification Schemes:** Suitable schemes may be accepted by Building Control Bodies as evidence of compliance.~~

~~c. **Residential Sprinklers:** The use of sprinkler systems in accordance with BS 9251:2005 is recognised.~~

~~d. **Adult Placements:** Reference is made to the code of practice for fire safety in adult placements.~~

~~B4~~

~~e. **Fire Alarms:** The guidance on smoke alarms has been amended such that alarms should be installed in accordance with BS 5839-6:2004.~~

~~Simple guidance has been retained, in the form of a commentary on this standard, so that most users of the Approved Document will not necessarily need to obtain a copy of the standard.~~

~~All smoke alarms should have a standby power supply.~~

~~Where a dwellinghouse is extended smoke alarms should be provided in the circulation spaces.~~

~~f. **Means of escape:** The guidance on means of escape has been restructured to make it easier to use.~~

~~i. Additional guidance has been provided in relation to work on existing houses.~~

~~ii. Locks and child resistant safety stays may be provided on escape windows.~~

~~iii. The alternative approach for loft conversions to two storey houses has been removed.~~

~~iv. New guidance has been provided on the provision of galleries and inner inner rooms.~~

~~v. An option of providing sprinkler protection instead of alternative escape routes has been included for dwellinghouses with a floor more than 7.5m above ground level.~~

~~vi. Guidance on the application of B1 to replacement windows has been included.~~

~~vii. Guidance on the use of air circulation systems in houses with protected stairways is given.~~

~~B3~~

~~g. **Integral Garages:** The provision of a sloping floor has been included as an alternative to the 100mm step between dwellinghouses and integral garages.~~

~~h. **Compartmentation:** Guidance on the junction between compartment walls and roofs has been clarified and expanded.~~

~~i. **Cavity Barriers:** Window and door frames are only suitable for use as cavity barriers if they are constructed of steel or timber of an appropriate thickness.~~

~~B4~~

~~j. **Roof Coverings:** The guidance on roof coverings incorporates the new European system of classification set out in BS EN 13501-5:2005.~~

~~B5~~

~~k. **Vehicle Access:** There should be access for a pump appliance to within 45m of **all** points within a dwellinghouse.~~

~~Appendix B~~

~~l. **Self-Closing Devices:** Other than doors between a dwellinghouse and an integral garage, fire doors need not be~~

~~provided with self-closing devices.~~

Main changes made by the 2010 amendments

~~This 2006 edition incorporating the 2010 amendments reflects the changes made as a result of the Building Regulations 2010, Building Approved Inspector etc. Regulations 2010. The changes mainly reflect regulation number changes as a result of re-ordering. There have been no amendments to the substantive requirements~~

~~in Schedule 1 (i.e. Parts A to P) of the Building Regulations.~~

~~Please note the simplification of the definition of 'room for residential purposes' in regulation 2 of the Building Regulations 2010. Please also note that L1(c) has now become regulation 40.~~

Main changes made by the 2013 amendments

This 2013 edition which replaces the 2006 edition (incorporating the 2010 amendments) is only applicable in Wales. The 2013 version reflects the changes due to the new Regulation XXXXXXXXX which sets out the requirements necessary to comply with the Domestic Fire Safety (Wales) Measure 2011. This comes into effect on dd/mm/year.

B1

Guidance has been provided on the installation of and the type of properties which require residential automatic fire suppression systems.

Appendix F

Guidance on the maintenance of residential automatic fire suppression systems is provided.

Contents

Appendix F – Guidance on maintenance of residential automatic fire suppression systems.

Appendix G – Standards and other publications referred to.

Use of Guidance:

~~Any building work which is subject to the requirements imposed by Schedule 1 of the Building Regulations should, in accordance with Regulation 7, be carried out with proper materials and in a workmanlike manner.~~

You may show that you have complied with Regulation 7 in a number of ways. These include the appropriate use of a product bearing CE marking in accordance with the Construction Products Directive (89/106/EEC)¹, the Low Voltage Directive (73/23/EEC and amendment 93/68/EEC)² and the EMC Directive (89/336/EEC)³, as amended by the CE Marking Directive (93/68/EEC)⁴, or a product complying with an appropriate technical specification (as defined in those Directives), a British Standard, or an alternative national technical specification of a Member State of the European Union or Turkey⁵, or of another State signatory to the Agreement on the European Economic Area (EEA) that provides an equivalent level of safety and protection, or a product covered by a national or European certificate issued by a European Technical Approval Issuing body, and the conditions of use are in accordance with the terms of the certificate.

You will find further guidance in the Approved Document supporting Regulation 7 on materials and workmanship.

Independent certification schemes

There are many UK product certification schemes. Such schemes certify compliance with the requirements of a recognised document which is appropriate to the purpose for which the material is to be used. Materials which are not so certified may still conform to a relevant standard.

Many certification bodies which approve such schemes are accredited by United Kingdom Accreditation Service (UKAS). This document also reflects the mandatory requirements contained in the relating to the provision of residential sprinklers This document also reflects the mandatory requirements contained in the relating to the provision of residential sprinklers This document also reflects the mandatory requirements contained in the relating to the provision of residential sprinklers This document also reflects the mandatory requirements contained in the relating to the provision of residential sprinklers

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Since the fire performance of a product, component or

~~structure is dependent upon satisfactory site installation and maintenance, independent schemes of certification and accreditation of installers and maintenance firms of such will provide confidence in the appropriate standard of workmanship being provided.~~

~~Building Control Bodies may accept the certification of products, components, materials or structures under such schemes as evidence of compliance with the relevant standard. Similarly, Building Control Bodies may accept the certification of the installation or maintenance of products, components, materials or structures under such schemes as evidence of compliance with the relevant standard. Nonetheless, a Building Control Body will wish to establish, in advance of the work, that any such scheme is adequate for the purposes of the Building Regulations.~~

~~Technical specifications~~

~~Building Regulations are made for specific purposes, such as health and safety, energy conservation and the welfare and convenience of people. Standards and technical approvals are relevant guidance to the extent that they relate to these considerations. However, they may also address other aspects of performance such as serviceability, or aspects which, although they relate to health and safety, are not covered by the Regulations.~~

~~When an Approved Document makes reference to a named standard, the relevant version of the standard is the one listed at the end of the publication. However, if this version of the standard has been revised or updated by the issuing standards body, the new version may be used as a source of guidance provided it continues to address the relevant requirements of the Regulations.~~

~~The appropriate use of a product which complies with a European Technical Approval as defined in the Construction Products Directive will meet the relevant requirements.~~

~~The Department intends to issue periodic amendments to its Approved Documents to reflect emerging harmonised European Standards. Where a national standard is to be replaced by a European harmonised standard, there will be a co-existence period during which either standard may be referred to. At the end of the co-existence period the national standard will be withdrawn.~~

~~1.4 The smoke and heat alarms should be mains-operated and conform to BS 5446-1:2000 or BS 5446-2:2003, respectively: Fire detection and fire alarm devices for dwellinghouses, Part 1 Specification for smoke alarms; or Part 2 Specification for heat alarms. They should have a standby power supply, such as a battery (either rechargeable or non-rechargeable) or capacitor. More information on power supplies is given in clause 15 of BS 5839-6:2004.~~

Introduction

2.1 Automatic fire suppression systems installed in dwellinghouses can reduce the risk to life and significantly reduce the degree of damage caused by fire. Protection by a automatic fire suppression systems can also sometimes be used as a compensatory feature where the provisions of this Approved Document are varied in some way.

2.2 Regulation XXX brings in a mandatory requirement for automatic fire suppression systems in all new premises of Purpose Groups 1a, 1b, 1c, 2a and 2b constructed in Wales with the exception of hospitals, hotels, prisons, and short stay hostels.

General

2.3 Where an automatic fire suppression systems is required or recommended within this document it should be a system designed and installed in accordance with an appropriate, fully implemented, technical standard such as BS 9251: 2005 *Sprinkler systems for residential and domestic occupancies - Code of practice* or an equivalent technical standard.

The components of the automatic fire suppression systems should be in accordance with an appropriate, fully implemented, technical standard such as BS 9252: 2011 *Components for residential sprinkler systems – Specification and test methods for residential sprinklers* or an equivalent technical standard.

Where an alternative technical standard (to BS 9251 or BS 9252) is used the guidance of Appendix A should be followed.

2.4 Where an automatic fire suppression system is provided, it is normal practice to provide protection throughout the building to cover all areas required by the relevant technical standard. However, where the automatic fire suppression system is being installed as a compensatory feature to address a specific risk or hazard it may be acceptable to protect only part of a building.

Further guidance can also be found in *Sprinklers for Safety: Use and Benefits of Incorporating Sprinklers in Buildings and Structures*, BAFSA (2006) ISBN: 0 95526 280 1.

2.5 There are many alternative or innovative fire suppression systems available. Where these are used it is necessary to ensure that such systems have been designed and tested for use in domestic buildings and are fit for their intended purpose.

Installation

The recommendations of Section 1.23 also apply to residential automatic fire suppression systems. It is essential that automatic fire suppression systems are properly designed, installed and maintained. Where an automatic fire suppression system is installed, an installation and commissioning certificate should be provided. Third party certification schemes for fire protection products and related services are an effective means of providing the fullest possible assurances, offering a level of quality, reliability and safety.

For the purposes of meeting the requirements of Regulation XXX:

The 20m height limit stated in BS 9251 may be disregarded. Where town mains are to be used, the designer must consult with the Water Authority to confirm the typical operating pressure range and capacities available.

Where town mains are to be used restrictions such as water meters shall not reduce the pressure and flow available below the performance specification detailed in the relevant technical standard.

Ancillary areas (such as car port, car park, garage etc...) which are normally unoccupied do not require an automatic fire suppression system if they are suitably fire separated from the residential areas (See Tables A1 and A2). The minimum acceptable separation is 30 minutes integrity, insulation and stability

Alternative designs for means of escape

2.8 The guidance in Section 3 for means of escape deals with some common arrangements of residential buildings. Other, less common, arrangements (for example residences entered above or below accommodation level, or residences containing galleries or open plan layouts) are also acceptable where automatic fire suppression is provided.

Guidance on these is given in BS9991: 2011 and The NHBC and BRE *Open Plan Flat Layouts: Assessing life safety in the event of fire*.

~~2.1 If there are floors more than 7.5m above ground level, the risk that the stairway will become impassable before occupants of the upper parts of the dwellinghouse have escaped is appreciable, and an alternative route from those parts should be provided.~~

~~2.3 Any new residential and domestic premises constructed in Wales shall be provided with an automatic fire suppression system (see paragraphs XXXX to XXX) and shall also comply with paragraphs XXX to XXX.~~

~~Designs that follow BS9991 which incorporate residential sprinklers throughout a dwelling are considered to meet the requirements of Sections XXXXX to XXXX.~~

2.7 each storey or level situated 7.5m or more above ground level should be served by a protected stairway (protected at all levels) as per paragraph 2.6a .

~~i. the protected stairway to an upper storey; or ii. a landing within the protected stairway enclosure to an alternative escape route on the same storey; then~~

~~iii. the protected stairway at or about 7.5m above ground level should be separated from the lower storeys or levels by fire-resisting construction, see Diagram 3; or~~

~~the dwellinghouse should be fitted throughout with a sprinkler system designed and installed in accordance with BS 9251:2005~~

2.20 c. Automatic fire suppression systems

Where new habitable rooms are provided then automatic fire suppression should be provided in accordance with paragraph 0.21.

~~3.14 — Thermoplastic lighting diffusers should not be used in fire-protecting or fire-resisting ceilings, unless they have been satisfactorily tested as part of the ceiling system that is to be used to provide the appropriate fire protection.~~

9.15 If a building is fitted throughout with an automatic fire suppression system, it is reasonable to assume that the intensity and extent of a fire will be reduced. The automatic fire suppression system should meet the relevant recommendations of a suitable, fully implemented, technical standard such as BS 9251 *Sprinkler systems for residential and domestic occupancies. Code of practice* or equivalent technical standard. In these circumstances the boundary distance may be half that for an otherwise similar, but unsuppressed, building, subject to there being a minimum distance of 1000mm. Alternatively, the amount of unprotected area may be doubled if the boundary distance is maintained.

Note: The presence of an automatic fire suppression may be taken into account in a similar way when using the BRE report referred to in paragraph 9.14.

Appendix E

Automatic fire suppression System For the purposes of paragraph 2.2 this refers to a system designed and installed in accordance with an appropriate, fully implemented, technical standard such as BS 9251: 2005 or equivalent.

Short Stay Hostel For the purposes of Paragraph 2.2 this is a hostel used for short term accommodation for leisure purposes whilst a person is away from his or her main place of residence.

Appendix F

For an automatic fire suppression system to remain effective it is essential that it is maintained in line with the manufacturer's recommendations and also the relevant technical standard. As noted in paragraph 0.11 the Building Regulations do not impose any maintenance requirements but suitable information regarding the systems must be passed on to the building occupier as required by Regulation XXX.

Currently, the most appropriate technical standard for automatic fire suppression in a residential property is BS: 9251:2005. This British Standard suggests inspection and testing of the system should be carried out annually by a suitably qualified and experienced automatic fire suppression contractor to ensure that; Heat sensing capacity and spray capacity of the sprinkler is not impeded.

Minimum flow rates (as recommended in BS: 9251) are achieved. The alarm is effective and can be heard in all parts of the building. The system has not been modified outside the scope of BS:9251.

BS: 9251 recommends that testing should involve;
A visual inspection for leaks. If a leak is suspected the pipework should be tested at 1.5 times working pressure of a period of 1 hour
Alarms should be left active in order to determine their effectiveness
The systems should be tested for 1 minute at the drain and test valve or the highest point of installed pipework to ensure required flow rates are met
Stop valves exercised to ensure free movement
Check operation of trace heating, if installed
Documentation of inspection and tests should be recorded, giving details of;
Inspection date
Details of tests and results
Determination of system operational status
Determination of alarm operational status
Recommendations or comments.

In the case of rented accommodation or where residences are owned by parties other than the legal occupants of the building; the landlord / housing association / managing agent shall be responsible for fire safety system maintenance.

Appendix G:

BS EN 14604: 2005 Smoke alarm devices

BS 9252: 2011
Components for residential sprinkler systems. Specification and test methods for residential sprinklers

BS 9991: 2011
Fire safety in the design, management and use of residential buildings – Code of practice

The Domestic Fire Safety (Wales) Measure 2011 (nawm 3)

Natural Resources Wales

Volume 2 – Building other than dwellinghouses

Pre-introduction

Main changes made by the 2013 amendments

This 2013 edition which replaces the 2006 edition (incorporating the 2010 amendments) is only applicable in Wales. The 2013 version reflects the changes due to the new Regulation XXXXXXXXX which sets out the requirements necessary to comply with the Domestic Fire Safety (Wales) Measure 2011. This comes into effect on dd/mm/year.

B1

Guidance has been provided on the installation of and the type of properties which require residential automatic fire suppression systems.

Appendix H

Guidance on the maintenance of residential automatic fire suppression systems is provided.

Use of Guidance:

REQUIREMENT FOR RESIDENTIAL AUTOMATIC FIRE SUPPRESSION SYSTEMS

In April 2011 The Domestic Fire Safety (Wales) Measure brought in the mandatory requirement to provide automatic fire suppression in new residential premises in Wales. This is enacted by Regulation XXXXX of the Building Regulations 2010 and is intended to improve the standard of life safety for occupants within residential premises.

This Approved Document provides guidance on compliance with the requirements of these regulations.

MATERIALS AND WORKMANSHIP

“Any building work which is subject to the requirements imposed by schedule 1 to the Building Regulations shall be carried out in accordance with regulation 7. Guidance on meeting these requirements on materials and workmanship is contained in the Approved Document to support regulation 7.

Building Regulations are made for specific purposes, primarily the health and safety, welfare and convenience of people and for energy conservation. Standards and other technical specifications may provide relevant guidance to the extent that they relate to these considerations.

However, they may also address other aspects of performance or matters which, although they relate to health and safety etc., are not covered by the Building Regulations.

When an Approved Document makes reference to a named standard, the relevant version of the standard to which it refers is the one listed at the end of the publication. However, if this version has been revised or updated by the issuing standards body, the new version may be used as a source of guidance provided it continues to address the relevant requirements of the Regulations.”

~~Any building work which is subject to the requirements imposed by Schedule 1 of the Building Regulations should, in accordance with Regulation 7, be carried out with proper materials and in a workmanlike manner.~~

~~You may show that you have complied with Regulation 7 in a number of ways. These include the appropriate use of a product bearing CE marking in accordance with the Construction Products Directive (89/106/EEC)¹, the Low Voltage Directive (73/23/EEC and amendment 93/68/EEC)² and the EMC Directive (89/336/EEC)³, as amended by the CE Marking Directive (93/68/EEC)⁴, or a product complying with an appropriate technical specification (as defined in those Directives), a British Standard, or an alternative national technical specification of a Member State of the European Union or Turkey⁵, or of another State signatory to the Agreement on the European Economic Area (EEA) that provides an equivalent level of safety and protection, or a product covered by a national or European certificate issued by a European Technical Approval Issuing body and the conditions of use are in accordance with the terms of the certificate.~~

~~You will find further guidance in the Approved Document supporting Regulation 7 on materials and workmanship.~~

Independent certification schemes

There are many UK product certification schemes. Such schemes certify compliance with the requirements of a recognised document which is appropriate to the purpose for which the product is to be used. Products which are not so certified may still conform to a relevant standard.

Many certification bodies which approve such schemes are accredited by the United Kingdom Accreditation Service (UKAS).

Since the fire performance of a product, component or structure is dependent upon satisfactory site installation and maintenance, independent schemes of certification and accreditation of installers and maintenance firms of such will provide confidence in the appropriate standard of workmanship being provided.

Building Control Bodies may accept the certification of products, components, materials or structures under such schemes as evidence of compliance with the relevant standard. Similarly, Building Control Bodies may accept the certification of the installation or maintenance of products, components, materials or structures under such schemes as evidence of compliance with the relevant standard. Nonetheless, a Building Control Body will wish to establish, in advance of the work, that any such scheme is adequate for the purposes of the Building Regulations.

Technical specifications

Building Regulations are made for specific purposes including: health and safety, energy conservation and the welfare and convenience of people. Standards and technical approvals are relevant guidance to the extent that they relate to these considerations. However, they may also address other aspects of performance such as serviceability, or aspects which, although they relate to health and safety, are not covered by the Regulations.

When an Approved Document makes reference to a named standard, the relevant version of the standard is the one listed at the end of the publication. However, if this version of the standard has been revised or updated by the issuing standards body, the new version may be used as a source of guidance provided it

~~continues to address the relevant requirements of the Regulations.~~

~~The appropriate use of a product which complies with a European Technical Approval as defined in the Construction Products Directive should meet the relevant requirements.~~

~~The Department intends to issue periodic amendments to its Approved Documents to reflect emerging harmonised European Standards. Where a national standard is to be replaced by a European harmonised standard, there will be a co-existence period during which either standard may be referred to. At the end of the co-existence period the national standard will be withdrawn.~~

~~The Construction Products Directive (CPD) is one of the 'New Approach' Directives, which seek to remove technical barriers to trade within the European Economic Area (EEA) as part of the move to complete the Single Market. The EEA comprises the European Community and those states in the European Free Trade Association (other than Switzerland).~~

~~The intention of the CPD is to replace existing national standards and technical approvals with a single set of European-wide technical specifications for construction products (i.e. harmonised European standards or European Technical Approvals). Any manufacturer whose products have CE marking showing that they are specified according to European technical specifications cannot have these products refused entry to EEA markets on technical grounds. In the UK, the CPD was implemented by the Construction Products Regulations, which came into force on 27 December 1991 and were amended on 1 January 1995 by the Construction Products (Amendment) Regulations 1994.~~

~~This document refers to and utilises within its guidance, a large number of British Standards, in relation to Codes of Practice and fire test methods (typically the BS 476 series of documents). In order to facilitate harmonisation and the use of the new technical specifications and their supporting European test standards, guidance is also given on the classification of products in accordance with those standards.~~

~~Guidance is given for the appropriate use and/or specification of a product to which one or more of the following apply:~~

~~1. a product bearing CE marking in accordance with the Construction Products Directive (89/106/EEC) as amended by the CE marking Directive (93/68/EEC);~~

~~2. a product tested and classified in accordance with the European Standards (BS EN) referred to in the Commission Decision 2000/147/EG¹ and/or Commission Decision 2000/367/EC²;~~

~~3. a product complying with an appropriate technical specification (as defined in the Directives 89/106/EC as amended by 93/68/EEC).~~

~~The implementation of the CPD will necessitate a time period during which national (British) Standards and European technical specifications will co-exist. This is the so-called period of co-existence. The objective of this period of co-existence is to provide for a gradual adaptation to the requirements of the CPD. It will enable producers, importers and distributors of construction products to sell stocks of products manufactured in line with the national rules previously in force and have new tests carried out. The duration of the period of co-existence in relation to the European fire tests has not yet been clearly defined.~~

~~As new information becomes available and further harmonised European Standards relevant to this document are published, further guidance will be made available.~~

Designation of standards

~~The designation of 'xxx' is used for the year referred to for standards that are not yet published. The latest version of any standard may be used provided that it continues to address the relevant requirements of the Regulations.~~

Commission guidance papers and decisions

~~The following guidance papers and Commission Decisions are directly relevant to fire matters under the Construction Products Directive:~~

Guidance paper G

~~The European classification system for the reaction to fire performance of construction products.~~

~~Guidance paper J~~

~~Transitional arrangements under the Construction Products Directive.~~

~~Commission Decision of 8 February 2000 (2000/147/EC) implementing Council Directive 89/106/EEC as regards the classification of the reaction to fire performance of construction products.~~

~~Commission Decision of 3 May 2000 (2000/367/EC) implementing Council Directive 89/106/EEC as regards the classification of the resistance to fire performance of construction products, construction works and parts thereof.~~

~~Commission Decision of 26 September 2000 (2000/605/EC) amending Decision 96/603/EC establishing the list of products belonging to Classes A 'No contribution to fire' provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products.~~

~~Corrigenda—Corrigendum to Commission Decision 2000/147/EC of 8 February 2000 implementing Council Directive 89/106/EEC as regards the classification of the reaction to fire performance of construction products.~~

Appendix H: Guidance on the maintenance of residential automatic fire suppression systems.

Appendix I: Standards and other publications referred to.

~~**0.16**—— Sprinkler systems installed in buildings can reduce the risk to life and significantly reduce the degree of damage caused by fire. Sprinkler protection can also sometimes be used as a compensatory feature where the provisions of this Approved Document are varied in some way. Where sprinklers are provided, it is normal practice to provide sprinkler protection throughout a building. However, where the sprinklers are being installed as a compensatory feature to address a specific risk or hazard, it may be acceptable to protect only part of a building.~~

Further guidance can also be found in *Sprinklers for Safety: Use and Benefits of Incorporating Sprinklers in Buildings and Structures*, BAFSA 2006 (ISBN: 0 95526 280 1).

There are many alternative or innovative fire suppression systems available. Where these are used, it is necessary to ensure that such systems have been designed and tested for use in buildings and are fit for their intended purpose.

0.17 — Where a sprinkler system is specifically recommended within this document it should be provided throughout the building or separated part and be designed and installed in accordance with either:

a. for dwellings and residential buildings, BS 9251:2005 *Sprinkler systems for residential and domestic occupancies — Code of practice* and BS DD 252 *Components for residential sprinkler systems — Specification and test methods for residential sprinklers*; or

b. for non-residential buildings or dwellings and residential buildings outside the scope of BS 9251, either:

i. the requirements of BS 5306-2:1990, including the relevant hazard classification together with the additional requirements for life safety; or

ii. the requirements of BS EN 12845:2004, including the relevant hazard classification together with the special requirements for life safety systems.

Note: Any sprinkler system installed to satisfy the requirements of Part B of the Building Regulations should be regarded as a life safety system. However, there may be some circumstances where a particular life safety requirement, specified in BS 5306-2 or BS EN 12845 is inappropriate or unnecessary.

0.18 — Water supplies for non-residential sprinkler systems should consist of either:

a. for systems designed and installed to BS 5306-2:

i. two single water supplies complying with BS 5306-2, clause 13.1.2 where each is independent of the other; or

ii. two stored water supplies, where:

1. gravity or suction tanks should be either Type A, Type D or their equivalent, (see BS 5306-2 clause 17.4.11.6); and

~~2. any pump arrangements should comply with BS 5306-2 clause 17.4.1.5; and~~

~~3. the capacity of each tank should be equivalent to at least half the specified minimum water volume of a single full capacity tank, appropriate to the hazard; or~~

~~4. one tank should be equivalent to half the specified water volume of a single full capacity tank and the other shall not be less than half the minimum volume of a reduced capacity tank (see BS 5306-2, Table 25), appropriate to the hazard; and~~

~~**Note:** The requirements for inflow should be met.~~

~~5. whichever water storage arrangement is used at (3) or (4) above, the total design capacity of the water supply, including any inflow for a reduced capacity tank should be at least equivalent to a single full holding capacity tank complying with Table 21, 22, 23 or 24, as appropriate to the hazard and pipework design.~~

~~b. for systems designed and installed to BS EN 12845:~~

~~i. two single water supplies complying with BS EN 12845, clause 9.6.1 where each is independent of the other; or~~

~~ii. two stored water supplies, where:~~

~~1. gravity or suction tanks should satisfy all the requirements of BS EN 12845 clause 9.6.2 b) other than capacity; and~~

~~2. any pump arrangements should comply with BS EN 12845 clause 10.2 and~~

~~3. the capacity of each tank is equivalent to half the specified minimum water volume of a single full capacity tank, appropriate to the hazard; or~~

~~4. one tank should be at least equivalent to half the specified water volume of a single full capacity tank and the other shall not be less than the minimum volume of a reduced capacity tank BS EN12845 clause 9.3.4, appropriate to the hazard; and~~

~~**Note:** The requirement for inflow should be met.~~

~~5. whichever water storage arrangement is used at (3) or (4) above, the total capacity of the water supply, including any inflow for a reduced capacity tank should be at least equivalent to a single full holding capacity tank~~

~~complying with BS EN12845, Table 9, 10 or clause 9.3.2.3 as appropriate to the hazard and pipework design.~~

~~Where pumps are used to draw water from two tanks, then each pump should be arranged to draw water from either tank and arranged so that any one pump or either tank could be isolated.~~

~~The sprinkler water supplies should generally not be used as connections for other services or other fixed firefighting systems.~~

0.22 Where a building is provided with an automatic fire suppression system to comply with Regulation XXX, the building as a whole should be no less compliant with Regulation XXX after a material alteration or building works occur. The automatic fire suppression system should cover all areas required by Regulation XXX and should be re-certified to include any altered, extended and additional controlled areas.

Section 2 provides guidance on automatic fire suppression systems.

1.5 The smoke and heat alarms should be mains-operated and conform to BS EN 14604: 2005, Smoke alarm devices or BS 5446-2: 2003, Fire detection and fire alarm devices for dwellinghouses, Part 2 Specification for heat alarms, respectively

~~The smoke and heat alarms should be mains-operated and conform to BS 5446-1:2000 or BS 5446-2:2003 respectively: Fire detection and fire alarm devices for dwellings, Part 1 Specification for smoke alarms; or Part 2 Specification for heat alarms. They should have a standby power supply such as a battery (either rechargeable or non-rechargeable) or capacitor. More information on power supplies is given in clause 15 of BS 5839-6.~~

2.3 However, alternative systems are not considered suitable to meet the requirements of The Domestic Fire Safety (Wales) Measure 2011. Sprinkler systems installed to meet the requirements of The Domestic Fire Safety (Wales) Measure 2011 shall be designed and installed in compliance with BS9251: 2005.

2.4 Where an automatic fire suppression system is specifically required or recommended within this document it should be provided throughout the building or separated part and be designed and installed in accordance with an appropriate, fully implemented, technical standard such as:

a. for dwellings and residential buildings, BS 9251: 2005 *Sprinkler systems for residential and domestic occupancies - Code of practice.*

The components of the automatic fire suppression systems BS 9252: 2011 *Components for residential sprinkler systems – Specification and test methods for residential sprinklers.*; or

b. for non-residential buildings or dwellings and residential buildings outside the scope of the relevant technical standard, the requirements of BS EN 12845:2009, including the relevant hazard classification together with the special requirements for life safety systems. Or.

c. an equivalent technical standard

Note: Any automatic fire suppression system installed to satisfy the requirements of Part B of the Building Regulations should be regarded as a life safety system. However, there may be some circumstances where a particular life safety requirement, specified in BS EN 12845 is inappropriate or unnecessary.

2.5 The recommendations of Section 1.23 also apply to residential automatic fire suppression systems. It is essential that automatic fire suppression systems are properly designed, installed and maintained. Where an automatic fire suppression system is installed, an installation and commissioning certificate should be provided. Third party certification schemes for fire protection products and related services are an effective means of providing the fullest possible assurances, offering a level of quality, reliability and safety.

2.6 For the purposes of meeting the requirements of Regulation XXX relating to dwellings and residential buildings:

The 20m height limit stated in BS9251 may be disregarded.

Where town mains are to be used, the designer must consult with the Water Authority to establish the typical operating pressure range and capacities available.

Where town mains are to be used restrictions such as water meters shall not reduce the pressure and flow available below the performance specification detailed in the relevant technical standard.

Ancillary areas (such as a car port, car park, garage etc...) which

are normally unoccupied do not require an automatic fire suppression system if they are suitably fire separated from the residential areas (See Tables A1 and A2). The minimum acceptable separation is 30 minutes integrity, insulation and stability.

~~2.7a. for systems designed and installed to BS 5306-2:~~

~~i. two single water supplies complying with BS 5306-2, clause 13.1.2 where each is independent of the other; or~~

~~ii. two stored water supplies, where:~~

~~1. gravity or suction tanks should be either Type A, Type D or their equivalent, (see BS 5306-2 clause 17.4.11.6); and~~

~~2. any pump arrangements should comply with BS 5306-2 clause 17.4.1.5; and~~

~~3. the capacity of each tank should be equivalent to at least half the specified minimum water volume of a single full capacity tank, appropriate to the hazard; or~~

~~4. one tank should be equivalent to half the specified water volume of a single full capacity tank and the other shall not be less than half the minimum volume of a reduced capacity tank (see BS 5306-2, Table 25), appropriate to the hazard; and~~

~~**Note:** The requirements for inflow should be met.~~

~~5. whichever water storage arrangement is used at (3) or (4) above, the total design capacity of the water supply, including any inflow for a reduced capacity tank should be at least equivalent to a single full holding capacity tank complying with Table~~

~~21, 22, 23 or 24, as appropriate to the hazard and pipework design.~~

~~b. for systems designed and installed to BS EN 12845:~~

Alternative designs for residential means of escape

2.8 The guidance in Section 3 for means of escape deals with some common arrangements of residential buildings. Other, less common, arrangements (for example flats entered above or below accommodation level, or flats containing galleries or open plan layouts) are also acceptable where automatic fire suppression is provided. Guidance on these is given in BS9991: 2011 and The NHBC and BRE *Open Plan Flat Layouts: Assessing life safety in the event of fire*.

2.9 Where an existing residential property is not provided with an automatic fire suppression system and the material alteration does not form a new residence then the introduction of a suppression system to the new or existing areas of the building is not normally required.

However, there will be some cases where the material alteration would result in significant changes to the existing means of escape strategy for the building or residence. Where this occurs an automatic fire suppression system may be required if the material alteration results in the fire safety provisions being less satisfactory than previously. This should be determined on a case by case basis. Reference should be made to paragraph 0.22.

3.25 This document assumes that a building will be appropriately managed (see Paragraph 0.13). In most cases an automatic fire suppression system need only be provided within the individual flats, they would not normally be required in the common areas such as stairs, corridors or landings. However, if there are concerns at the design stage related to fire safety management or the level of fire safety management is unknown, the provision of automatic fire suppression may provide suitable risk reduction measures within those common areas, particularly where a single means of escape exists. This would need to be assessed on a case by case basis in consultation with the relevant approval authorities.

3.53 Where a flat is intended to serve as a workplace for its occupants and for persons who do not live on the premises, the following additional fire precautions will be necessary:

a. The maximum travel distance to the flat entrance door or an alternative means of escape (not a window) from any part of the working area should not exceed 18m; and

b. Any windowless accommodation should have escape lighting which illuminates the route if the main supply fails. Standards for the installation of a system of escape lighting are given in BS 5266-1:2005.

Either the whole unit is provided with an automatic fire suppression system in line with paragraphs 2.2 to 2.4 or the work area is fire separated from the remaining areas of the unit in line with paragraph 2.6d, in which case only the residential area need be provided with an automatic fire suppression system

3.52 Care homes shall comply with Section 2.

13.17 If a building is fitted throughout with an automatic fire suppression system, it is reasonable to assume that the intensity and extent of a fire will be reduced. The automatic fire suppression system should be in accordance with paragraph 2.2 to 2.4. In these circumstances the boundary distance may be half that for an otherwise similar, but unsuppressed, building, subject to there being a minimum distance of 1m. Alternatively, the amount of unprotected area may be doubled if the boundary distance is maintained.

Note: The presence of an automatic fire suppression system may be taken into account in a similar way when using the BRE report referred to in paragraph 13.15.

16.2 There should be vehicle access for a pump appliance to small buildings (those of up to 2000m² with a top storey up to 11m above ground level) to either:

- a. 15% of the perimeter; or
- b. within 45m (60m if provided with automatic fire suppression in line with Section 2) of every point on the projected plan area (or 'footprint', see Diagram 48) of the building; whichever is the less onerous.

16.3 There should be vehicle access for a pump appliance to blocks of flats to within 60m of all points within each dwelling (45m if not provided with automatic fire suppression in line with Section 2).

Note 1: If the provisions in paragraph 16.2 or 16.3 cannot be met, a fire main should be provided in accordance with paragraph 15.3 and vehicle access should meet paragraph 16.6.

Appendix E

Automatic release mechanism A device which will allow a door held open by it to close automatically in the event of each or any one of the following:

- a. detection of smoke by automatic apparatus suitable in nature, quality and location;
- b. operation of a hand-operated switch fitted in a suitable position;
- c. failure of electricity supply to the device, apparatus or switch;
- d. operation of the fire alarm system if any.

Automatic fire suppression System For the purposes of paragraphs 2.2-2.4 this refers to a system designed and installed in accordance with an appropriate, fully implemented, technical standard such as BS9251: 2005, BSEN12845: 2009 or equivalent.

Short Stay Hostel For the purposes of Paragraph 2.2 this is a hostel used for short term accommodation for leisure purposes whilst a person is away from his or her main place of residence.

Appendix H

For an automatic fire suppression system to remain effective it is essential that it is maintained in line with the manufacturer's recommendations and also the relevant technical standard. Common areas of domestic premises area are covered by the regulatory reform fire safety order. Any residential automatic fire suppression system provided in common areas will therefore need to be maintained in line with Article 17 of the RRFSSO. System design and maintenance information shall be provided in line with Regulation 38 of the Building regulations (see appendix G)

For individual As noted in paragraph 0.11 the Building Regulations do not impose any maintenance requirements within individual residences but suitable information regarding the systems must be passed on to the building occupier as required by Regulation XXX..

Currently, the most appropriate technical standard for automatic fire suppression in a residential property is BS: 9251:2005. This British Standard suggests inspection and testing of the system should be carried out annually by a suitably qualified and experienced automatic fire suppression contractor to ensure that; Heat sensing capacity and spray capacity of the suppression system is not impeded.

Minimum flow rates (as recommended in BS: 9251) are achieved. The alarm is effective and can be heard in all parts of the building. The system has not been modified outside the scope of BS:9251.

BS: 9251 recommends that testing should involve;
A visual inspection for leaks. If a leak is suspected the pipework

should be tested at 1.5 times working pressure of a period of 1 hour

Alarms should be left active in order to determine their effectiveness

The systems should be tested for 1 minute at the drain and test valve or the highest point of installed pipework to ensure required flow rates are met

Stop valves exercised to ensure free movement

Check operation of trace heating, if installed

Documentation of inspection and tests should be recorded, giving details of;

Inspection date

Details of tests and results

Determination of system operational status

Determination of alarm operational status

Recommendations or comments.

In the case of rented accommodation or where residences are owned by parties other than the legal occupants of the building; the landlord / housing association / managing agent shall be responsible for fire safety system maintenance.

Appendix G

BS9252: 2011

Components for residential sprinkler systems. Specification and test methods for residential sprinklers

BS9991: 2011

Fire safety in the design, management and use of residential buildings – Code of practice

BS EN 14604: 2005

Smoke alarm devices

The Domestic Fire Safety (Wales) Measure 2011 (nawm 3)

The Benefits of Automatic Fire Suppression Systems in Residential Care Premises, BAFSA 2009

Natural Resources Wales