



Llywodraeth Cymru
Welsh Government

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Welsh Government

Implementing the Domestic Fire Safety Regulations 2013

Changes to the Approved Documents

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Provision of Information

It is recommended that the sprinkler contractor provide sufficient information for persons to maintain the system.

Further information can be found in BS9251 and the new Appendix of ADB

Material Alterations

Where a building is currently unsprinklered it is not usually required to provide sprinklers.

However, if the changes are significant in terms of means of escape then this should be reviewed on a case by case basis.

Material Alterations

Where a building is provided with an automatic fire suppression system to comply with Regulation 37A, the building as a whole should be no less compliant with Regulation 37A after a material alteration or building works occur.

The automatic fire suppression system should cover all areas required by Regulation 37A and should be re-certified to include any altered, extended and additional controlled areas

New Section 2

BS9251 or an equivalent technical standard should be followed.

Where an alternative is used ADB Section 2.5 and also ADB Appendix A Section 1 and 2 should be followed.

New Section 2

Clause amended:

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.

New Section 2

Clause to be maintained:

- The 20m height limit stated in BS 9251 may be disregarded.

This is currently under review by the British Standards committee.

New Section 2

Clause amended:

- Ancillary areas (such as car port, car park, garage etc...) which are fire separated by a minimum of 30 minutes fire resistance do not need suppression.

New Section 2

Clause amended:

- Alternative designs addressed by other documents:
 - BS9991: 2011
 - The NHBC and BRE *Open Plan Flat Layouts: Assessing life safety in the event of fire*

New Section 2

Clauses added:

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

This means that systems designed to comply with BS9251 that are mains fed are supported.

New Definition

Short Stay Hostel:

A hostel used for short term accommodation for leisure purposes whilst a person is away from his or her main place of residence.

These premises are not covered by Building Regulation 37A.

New Appendix H

Maintenance of residential automatic fire suppression systems

Design Benefits of Suppression

The provision of automatic fire suppression within a building decreases the risk to life from fire.

Correspondingly the design requirements are less onerous and the benefits associated with the installation of sprinklers are being maintained and automatically applied.

Design Benefits of Suppression: ADB Volume 1

- Houses over 4.5m can be served by a single protected stair (2006 Volume 1 Section 2.7).
- For loft conversions – Lower levels in open plan arrangements are acceptable if fire separated from upper levels (2006 Volume 1 Section 2.20b).
- Boundaries for external fire spread can be halved (2006 Volume 1 Section 9.15).

Design Benefits of Suppression: ADB Volume 2

- Flats over 4.5m can be served by a single protected stair without the need for an alternative exit or increased smoke detection coverage (2006 Volume 1 Section 2.16).
- Boundaries for external fire spread can be halved (2006 Volume 2 Section 13.17).

Design Benefits of Suppression: ADB Volume 2

Residential care homes (2006 Volume 2 Section 3.52):

- No door-closers required to fire doors on bedrooms.
- More than 10 beds permitted in any one protected area.
- More than 1 bed permitted per bedroom.

Design Benefits of Suppression: ADB Volume 1 and Volume 2

- New fire fighting access requirements extended to allow for 60m hose distances.
- New references to BS9991 and The NHBC / BRE *Open Plan Flat Layouts: Assessing life safety in the event of fire* for the potential of providing Alternative design solutions.

Types of Suppression System:

- Water Sprinkler – approved systems
- Water Mist – not standardised
- Gas – not suitable for residential use

Current requirements of Building Regulation 37A are based on water sprinkler systems.

This may change in the future.

Categories of sprinkler system

- Commercial – Designed to BSEN12845
- Residential – Designed to BS9251

To meet the requirements of Building Regulation 37A both types of system are acceptable.

However, there are a number of key differences between the systems such as:

- Water supply – tank size, duration time, flow rate
- Power supply,
- Pump sets,

Installation of systems

With regards to BS9251 systems the key elements are:

- Pipework – can be plastic.
- Sprinkler heads – can be concealed.
- Power supplies – no alternate power supply needed.
- Certification – all installations should be certified.
- Building Height – no restrictions (20m limit can be disregarded for the purpose of meeting Building Regulation 37A).

Installation of systems

With regards to BS9251 systems the key elements are:

- Water meters – to be in line with water providers requirements but must not restrict system design parameters.
- Water supply – town mains or tank.
- System info – installer required to pass on system information to user.
- Common areas – Not normally sprinklered but need to be considered on a case by case basis.
- Ancillary areas – Not normally sprinklered if fire separated.

Water Supply

For a BS9251 System there are three options for water supply:

- Direct mains connection – Pressure and flow rates need to be available.
- Boosted mains connection – Flow rates available but pressure needs boosting with a pump.
- Tank and pumps – System is filled by incoming mains but not reliant on mains pressure or flow rates.

All three strategies follow BS9251 but all three are subject to appropriate design by qualified specialists and liaison with water providers.

Maintenance of domestic and residential systems

Sprinkler systems need regular maintenance:

BS9251 Systems:

- Maintenance to be carried out by suitably qualified and experienced contractor.
- Annual inspection.

Maintenance of domestic and residential systems

BS9251 recommends systems inspection to include:

- System integrity – leaks, bulbs, heads, valves etc.
- System interfaces – alarm, flow switches, valves etc.
- Water supply – flow rates, tank, valves etc.

Maintenance of commercial systems

BSEN12845 Systems:

- Weekly maintenance to be carried out by the user.
- Other maintenance to be carried out by suitably qualified and experienced contractor.

Maintenance of commercial systems

BSEN12845 recommends systems inspection to include :

- Weekly inspection of gauges, valves, system integrity and pump testing.
- Monthly battery or other components as per supplier recommendations.
- Quarterly hazard and change review, cleaning of heads or other components, system integrity check, system interface check, and component testing.

Maintenance of commercial systems

BSEN12845 recommends systems inspection to include :

- Half-yearly dry alarm valve exercise and remote monitoring check.
- Yearly flow test, storage valve checks, suction pump maintenance.
- Three-yearly system corrosion check with tank draining, stop / non-return valve maintenance.
- Ten-yearly tank maintenance.
- 25-year full system, inspection, testing and maintenance.

Maintenance of systems

Potential issues:

- Lack of maintenance in private dwellings.
- No enforcement of maintenance for private dwellings.
- Lack of knowledge of system requirements e.g. painting over a sprinkler head or closing valve sets.

Maintenance of systems

Potential mitigation strategies:

- It is **NOT** intended to create a legislative mandatory maintenance requirement.
- Mains fed systems require less maintenance.
- Self testing equipment is available.
- Insurance companies could require maintenance reports.
- Raise public awareness and produce guidance.