

FIRE SAFETY IN DESIGN

1. New Build, Extensions, Alterations

All plans are to be submitted to the local authority building control or approved inspector who will consult with West Sussex Fire & Rescue Service under an agreed formal consultation procedure.

All new build projects are to satisfy the requirements of the Building Regulations 2000 (as amended) and many other authoritative documents, see Appendix A for guidance.

Architects / Designers should undertake design risk assessments to determine whether automated fire detection / alarm systems and / or fire suppression systems are warranted to control fire risks (see also section 4 below for guidance on sprinklers in schools).

If considered appropriate, pre-build consultation can be offered in conjunction with local authority building control / approved inspector as the lead authority.

The building control authority may issue a "Completion Certificate". West Sussex Fire & Rescue Service will only consider an inspection of major works upon completion at the express request of building control.

2. Legislation

Fire safety is governed by the Regulatory Reform (Fire Safety) Order 2005. The duties are not reproduced in this BCD, however the Statutory Instrument (SI 1541:2005) can be downloaded from web site: - www.opsi.gov.uk/si/si2005/uksi_20051541_en.pdf (see also Appendix A).

The West Sussex Fire & Rescue Service is the enforcing authority for this legislation in West Sussex. They have the right to take appropriate enforcement action if unsatisfactory or dangerous conditions are found or if there has been blatant disregard of fire safety requirements.

REFERENCE

Appendix A

Appendix A

3. **Responsible person for fire safety in WSCC premises**

The "Responsible Person" for fire safety in WSCC premises is the Council where it is the employer of those who work there or where it has control over activities there. This role may be shared where the Council shares premises with another employer or may depend on the terms of a lease where the premises are either leased-in or leased-out.

The "Responsible Person" for operational fire safety in schools is the head teacher. Other fire safety responsibilities will be shared between the Council, the governing body and the head teacher depending upon who owns the school premises, who employs the staff working there and who has control over the maintenance of those premises.

4. **Provision of fire sprinklers in new school buildings and during extensive refurbishment of existing school buildings**

The Government Department for Education and Skills (DfES) now expect all new schools and those undergoing extensive refurbishment to have fire sprinklers installed. This is not compulsory but, in each case, the client must justify not doing so by demonstrating that the fire risk is low and that such an installation would not represent good value for money.

To assist with those decisions The Building Research Establishment has produced two electronic 'tools'; one is a risk assessment tool that ranks new or existing school buildings as *high, medium or low*, the other is a cost / benefit analysis that assists with decisions about value for money, these are supplied on CD-Rom with BB100.

Architects / Designers must consult with Building Bulletin 100, and agree with the WSCC client service/school whether the use of these two 'tools' would be appropriate, as part of their design risk assessments.

WSCC Capital & Asset Management that:

Existing risk assessment (BB100) software is to be used to decide whether to fit or not to fit sprinklers in new schools.

Generally, sprinklers will not be retro-fitted into existing schools unless a capital project extends or requires a school to be re-built to more than 50% of its original size, in which case the above assessment will be undertaken.

Appendix A

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5. **Provision of fire safety information**

Fire safety information must be provided to the WSCC client service at project completion. See Building Regulations, Approved Document B, Volume 2, Appendix G for guidance.

6. **Licensing**

A licence may be required for any form of public entertainment and the relevant District / Borough Council Environmental Health Department should be consulted by the Lead Consultant/ Designer. An operating schedule should be produced by the End User. The West Sussex Fire & Rescue Service will be able to advise on the maximum numbers of persons who may safely resort to an area subject to the provision of adequate data in the form of a plan giving floor area, dimensions of exits, etc.

7.

Portable Fire Fighting Equipment

The West Sussex Fire & Rescue Service will supply and maintain fire extinguishers in WSCC premises on a chargeable basis. Information regarding this service may be obtained from Mrs Barbara Cook or Mr Richard Bond, Telephone 01903 228404.

8.

West Sussex Fire & Rescue Service Contacts

There are 7 Fire Safety District Offices covering West Sussex: -

Arun District Fire Safety Centre

Tel: 01243-837785

Fax: 01243-837787

Email: arundistrictoffice@westsussex.gov.uk

Chichester District Fire Safety Centre

Tel: 01243-786211

Fax: 01243-780411

Email: chichesterdistrictoffice@westsussex.gov.uk

Crawley Borough Fire Safety Centre

Tel: 01293-535753

Fax: 01293-536757

Email: crawleydistrictoffice@westsussex.gov.uk

Horsham District Fire Safety Centre

Tel: 01403-213280

Fax: 01403-213298

Email: horshamdistrictoffice@westsussex.gov.uk

Mid Sussex District Fire Safety Centre

Tel: 01444-452329

Fax: 01444-414512

Email: midsussexdistrictoffice@westsussex.gov.uk

Worthing & Adur Fire Safety Centre

Tel: 01903-228430

Fax: 01903-228438

Email: worthingdistrictoffice@westsussex.gov.uk

Each District Fire Safety Centre has an Assistant Divisional Officer in charge who should be consulted if there are concerns that cannot firstly be resolved with the relevant inspecting officer.

Any general administrative enquiries may be addressed to Mrs Jane Robinson at West Sussex Fire & Rescue Service Headquarters on 01243 786211.

Access and Water Supplies

9. See Appendix B (WSF&RS Information Sheet FS 10) for guidance on access to the site and water supplies.

Outstanding Doubts and Queries

10. Outstanding doubts and queries should be referred to the relevant Capital & Asset Management Project Officer.

CONCLUSION
(Appendices A & B follow)

Appendix B

Appendix A - Main Reference Documents

Note: This list is for information only. It is not exhaustive and becomes inaccurate over time as documents are withdrawn, replaced etc. Reference should always be made to the appropriate authoritative body for current in-date information / standards.

- Building Regulations 2000 – Approved Document B, Volumes 1 and 2.
- Government Fire Safety Guides. See web site: -
www.communities.gov.uk/fire/firesafety/firesafetylaw/aboutguides
- DfES Building Bulletin 100 – Designing and Managing Against the Risk of Fire in Schools, published September 2007 –
<http://www.teachernet.gov.uk/management/resourcesfinanceandbuilding/schoolbuildings/legislation>
- DfEE Guide 6 – Fire Safety – Managing School Facilities, 2000
- WSF&RS Information Sheet FS10 – Access and Water Supplies. See Appendix B
- Fire-related British Standards. See list below: -

General:

BS EN 2:1992 Classification of fires

Fire safety and building design:

BS 9999 2008	Code of practice for fire safety in the design, construction and use of buildings
BS 476 Series	Fire tests on building materials and structures
BS 5499 Series	Graphical symbols and signs. Safety signs, including fire safety signs
BS 5502-23:2004	Buildings and structures for agriculture. Code of practice for fire precautions
BS EN 12101 Series	Smoke and heat control systems. Specification for pressure differential systems. Kits
BS 7899 Series	Code of practice for assessment of hazard to life and health from fire
BS 7974 Series	Application of fire safety engineering principles to the design of buildings
BS 8300:2001	Design of buildings and their approaches to meet the needs of disabled people. Code of practice
BS EN 1127	Explosive atmospheres. Explosion prevention and protection.
BS EN 13501 Series	Fire classification of construction products and building elements
BS EN 13478:2002	Safety of machinery. Fire prevention and protection
BS EN ISO 13943:2000	Fire safety. Vocabulary

BS ISO 10294 Series	Fire-resistance tests. Fire dampers for air distribution systems
Fire detection and alarm:	
BS 5446 Series	Fire detection and fire alarm devices for dwellings
BS 5839 Series	Fire detection and alarm systems for buildings
BS EN 54 Series	Fire detection and fire alarm systems
Emergency exit devices:	
BS EN 1125:2008	Building hardware. Panic exit devices operated by a horizontal bar for use on escape routes. Requirements and test methods
Emergency lighting:	
BS 5266 Series	Emergency lighting
BS EN 1838:1999	Lighting applications. Emergency lighting
BS EN 50172:2004	Emergency escape lighting systems
Fire suppression/fighting:	
BS 5041 Series	Fire hydrant systems equipment
BS 5306 Series	Fire extinguishing installations and equipment on premises
BS EN 12416-2:2001	Fixed firefighting systems. Powder systems. Design, construction and maintenance
BS 7273 Series	Code of practice for the operation of fire protection measures
BS 7863:1996	Recommendations for colour coding to indicate the extinguishing media contained in portable fire extinguishers
BS EN 3 Series	Portable fire extinguishers.
BS EN 671 Series	Fixed fire fighting systems
BS EN 1568 Series	Fire extinguishing media
BS EN 1866 Series	Mobile fire extinguishers
BS EN 12094 Series	Fixed firefighting systems
BS EN 12259 Series	Fixed firefighting systems. Components for sprinkler and water spray systems
BS EN 12416 Series	Fixed firefighting systems - Powder systems
BS EN 12845:2004	Fixed firefighting systems. Automatic sprinkler systems. Design, installation and maintenance
BS ISO 14520 Series	Gaseous fire-extinguishing systems. Physical properties and system design
Explosive atmospheres:	
BS EN 60079 Series	Explosive atmospheres.

APPENDIX B - FS 10

FIRE & RESCUE SERVICES ACT 2004 – ACCESS AND WATER SUPPLIES PLANNING APPLICATIONS

Satisfactory access **to the site** for fire brigade appliances will be provided if the following guidance is followed:

CLEARANCE & WEIGHT FACTORS FOR ACCESS ROAD, GATEWAYS & HARDSTANDING

Access routes may be public highways, private roads, or specially strengthened and defined routes through the surrounding landscape to the building.

The access requirements for the various types of appliances are as follows:

Table 1

Type of appliance	Min width of access road	Min clearance height	Turning circle between kerbs	Turning circle between walls	Min width of gateways	Laden weight
Pump	3.7m	3.7m	17m	19.2m	3.1m	17 tonnes
High Reach Appliance	3.7m	4m	29m	29m	3.1m	27 tonnes

Note: Because the weight of high reach appliances is distributed over a number of axles, it is considered that their infrequent use of a carriageway or route designed to 17 tonnes should not cause damage. It would, therefore, be reasonable to design the road base to 17 tonnes although structures such as bridges should have the full 27 tonnes capacity.

Cul-de-Sacs

Turning facilities should be provided on cul-de-sacs roads exceeding 20m in length. This can be a hammerhead or turning circle designed on the basis of Table 1. This turning facility should be provided within 20m from the end of the access road so that fire service vehicles do not have to reverse more than 20m.

Access Roads – High Reach Appliances

The nearer edge of the road should normally be not less than 2m and its further edge not more than 8m from the face of the building. The high reach appliance must, however, have a road or hardstanding not less than 6m in width to allow for the jacks.

There should also be at least 3m of unobstructed space beyond the further edge of the hardstanding to allow for the sweep of the boom. **Note:** Roads, including any manhole covers and public utility service pits should be capable of carrying the weights set out above. Any road hump provided should conform in design and marking to the Highways (Road Humps) Regulations 1999.

WATER SUPPLIES

Arrangements should also be made for the provision of adequate water supplies for firefighting purposes. Guidance on water supplies and other firefighting facilities are contained within BS 5588-5:2004. Any specific queries, please contact West Sussex Fire & Rescue Service, Northgate, Chichester, West Sussex PO19 1BD (Telephone 01243 786211).

BUILDING REGULATIONS 2000 – PART B5

Building Regulations 2000 Part B5 requires that provision shall be made **within the site** of the building to enable appliances to gain access to the building. The following information is extracted from Document B5. Compliance with this does not indicate approval by the Fire Service, as your local authority Building Control Department are responsible for enforcing the Building Regulations, including B5.

To meet the requirements of B5:

- (1) The building shall be designed and constructed so as to provide reasonable facilities to assist firefighters in the protection of life.
- (2) Reasonable provision shall be made within the site of the building to enable fire appliances to gain access to the building.

ACCESS REQUIREMENTS

Access requirements increase with building size and height. Table 2 does not apply to blocks of flats and maisonettes. These premises should have vehicle access to within 45m of every dwelling entrance door.

Table 2

VEHICLE ACCESS TO BUILDINGS NOT FITTED WITH FIRE MAINS			
Total floor area of building (aggregate of all floors excluding basement)	Height of floor of top storey above ground	Provide vehicle access to: See NOTE	Type of appliance
Up to 2000m ²	Up to 11m	15% of the perimeter or within 45m of any point on the projected plan area or footprint of the building whichever is the least onerous	Pump
Up to 2000m ²	Over 11m	15% of perimeter	High Reach Appliance
2000 – 8000m ²	Up to 11m	15% of perimeter	Pump
2000 – 8000m ²	Over 11m	50% of perimeter	High Reach Appliance
8000 – 16000m ²	Up to 11m	50% of perimeter	Pump
8000 – 16000m ²	Over 11m	50% of perimeter	High Reach Appliance
16000 – 24000m ²	Up to 11m	75% of perimeter	Pump
16000 – 24000m ²	Over 11m	75% of perimeter	High Reach Appliance
Over 24000m ²	Up to 11m	100% of perimeter	Pump
Over 24000m ²	Over 11m	100% of perimeter	High Reach Appliance

Note: Every elevation to which vehicle access is provided in accordance with this table should have a suitable door not less than 750mm wide, giving access to the interior of the building.

The West Sussex Fire and Rescue Service does recommend the installation of domestic sprinklers especially where the requirements given above cannot be fully met.