



Standards in fire protection

Testing and certification for fire products and systems

A guide for manufacturers,
distributors and service providers

raising standards worldwide™

A Supplement to

FireTimes

BSi

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About BSI

Standards matter. They contribute at least £2.5bn each year to the UK economy and play a key role in enabling innovation, improving competitiveness, increasing reliability, ensuring safety, improving accessibility, controlling quality, managing risk and improving business performance.

Add to this the prestigious and highly trusted Kitemark certification scheme and a business – and its customers – gain significant benefits.

Customers trust Kitemark, look for it, recommend it and feel safe with it. Businesses can become more profitable with it and procurement personnel can be reassured and deliver best practice. Kitemark is available for products and services ranging from glass, windows, fire/smoke alarms and extinguishers to garage servicing, accident repair, window installation and furniture removals.

Kitemark – the symbol and the word – are registered trademarks of BSI. As the world's first national standards body, BSI has a globally recognised reputation for independence, integrity and innovation. It operates in 86 countries worldwide and serves the interests of a wide range of industry sectors, as well as government, consumers, employees and society overall, to make sure that not just British but European and International standards are useful, relevant and authoritative.

BSI's registered firm certification enables companies to demonstrate that their internal systems are effective and that they comply with one or more management system standards.

BSI champions UK interests at home and abroad and is an incubator of many of the world's leading standards. It is the national gateway to all the European and worldwide standards bodies promoting fair trade, technology transfer, economic prosperity and security.

BSI - your one stop shop for certification, testing training and standards

www.bsigroup.com/certification

Risk and Reward

Risk and reward – certification benefits all

The working landscape is changing. We are under increasing pressure to comply with a growing number of regulations and to maintain service while under greater scrutiny than ever before. How can all this be good for fire and rescue services?

We are all in the risk management business. In the current climate, as consumers we are encouraged to claim compensation or sue for damages for almost any negative incident we encounter. Meanwhile businesses, manufacturers and service providers increasingly have to gain consumers' acceptance of terms and conditions or provide disclaimers to their products in order to offset such liabilities.

For the fire and rescue service there are additional challenges and demands to be met in managing and reducing risk as well as ensuring that liabilities are covered, corporate manslaughter obligations addressed and Health & Safety regulations complied with. This is quite a different landscape from the traditional model of some years ago.

Notwithstanding, I don't see this as a negative as it is in everyone's interest to reduce risk. Testing and certification are significant ways to mitigate the risks. Whether testing and certification are legal obligations or voluntary certification marks, they confirm that a risk management ingredient is in the mix, demonstrating that products or services meet certain minimum criteria in terms of quality and safety. As such testing and certification can add much needed reassurance to emergency services, whether they are specified by procurement managers, used by fire and rescue crews or used to help the general public.

The Kitemark

Arguably the most prestigious of certification marks is BSI's own Kitemark. It is a voluntary mark, so clearly the manufacturer or service provider has opted to raise their product standard to meet the more substantial quality and safety requirements of a Kitemark scheme. In so doing, they can proudly stand above other non-Kitemark products and services. Is it worth it? Our experience shows that it is. Consumers have said they believe Kitemark products to be safer and that they trust them. For fire and rescue services it means your staff and those who need your help can rely on the equipment to offer the best protection or assistance.

And while there's a wide range of testing and certification marks around the world that address the 'risk' elements of business development such as legal, safety and regulatory requirements, testing and certification can offer much more. They can also deliver quantifiable business results – from a helping hand when entering new markets to product differentiation; from reducing risk and managing obligations to increasing business and competitiveness.

That's all well and good, but business continues to change and companies – including BSI – have to be adaptable if they are to succeed, or at least



Ken Coveney, Managing Director, BSI, Testing Services

survive. Recognising this global shift in emphasis as well as the rise in importance in the UK of the service sector, BSI adapted its famous Kitemark schemes to address service industries. Through collaboration with industry partners, trade bodies and experts, BSI has developed a range of Kitemark schemes to address specific areas of the service industry related to fire and rescue such as fire alarm system installation and emergency lighting.

But why is all of this important for businesses?

In a global economy, no company can afford to sit idle if it hopes to succeed. Some manufacturers and service providers find that seeking to extend their market reach or enter new markets involves a lot of product redesign to achieve the necessary standards for their target market. For this reason, testing and certification bodies are always encouraging and supporting design led initiatives and consideration of certification requirements at the design stage of product development or specification. If a business can incorporate the needs of worldwide certification, safety and quality standards at the drawing board stage, then it can lead the way in developing superior products and services that meet the needs of emergency services as well as businesses and consumers with very little adaptation.

Spreading this culture and attitude further into the education process will help us to give innovators and designers greater understanding of the market for which they are designing. After all, if the business landscape is changing, businesses themselves have to be prepared to change along with it. And if testing and certification makes that transition run smoother, then it will continue to be a vital ingredient for business building today and tomorrow.

Ken Coveney

Managing Director, BSI Testing Services

Detection



Although termed by many as fire detectors, they are detectors that look for specific products of combustion such as heat, smoke, gas and combinations of these. The key to a reliable and successful fire detection and alarm system in terms of offering the maximum protection of people and assets, while reducing false alarms, is to use the correct type of detector, in the correct site, to cover the risk as appropriate.

Domestic use Smoke/Heat or CO Alarms

The primary purpose of the smoke, heat or CO alarm in domestic dwellings is the protection of life as opposed to the protection of property and assets. The principles employed for the detection of smoke, heat and CO are generally the same as those used in commercial detectors. However, due to the nature of domestic dwellings, smoke, heat and CO alarms are provided with a test button. By pressing this button, the alarm's sensing element and circuitry are subjected to a simulated alarm condition. The alarm's audible warning reassures the user that the alarm is operational.

Combination alarms

Domestic alarms can incorporate three or four types of sensor such as heat, smoke and CO within one alarm unit. Like a single sensor alarm, they have a test button and can be mains or battery powered.

Combustible alarms

Combustible gas alarms warn of the presence of gas. This type of alarm samples air at regular intervals and provides an immediate alert to leaks of natural gas, propane or butane. Many of these alarms are able to operate external devices such as gas shut off valves which greatly reduce the danger of explosion.

Voice alarms

People tend to react quicker and more appropriately to clear instructions than to the sound of bells or sirens. Voice alarms incorporated into a fire detection system can relay clear and precise speech messages, helping to minimise uncertainty and confusion in an emergency situation.

Smoke alarms for the deaf and hard of hearing

Smoke indicators for the deaf and hearing impaired take one of two forms:

- Visual – with the use of a beacon
- Tactile – in the form of a vibrating pad placed under a pillow or devices such as a vibrating pager which can be carried on the person.

Installation of visual smoke alarms in sleeping areas satisfies Part M of the Building Regulations. And certification is available for the smoke/heat or CO detectors and/or the individual component parts.

Commercial Use

In commercial use the fire detector must perform a wider function – it must be linked to Control & Indicating Equipment (CIE) so that the appropriate action is identified and activated. As such they come in a different format to the domestic alarms.

Smoke detectors

Sometimes called sensors, are sensitive to smoke in the surrounding atmosphere.

- Photoelectric/optical smoke detectors use a Light Emitting Diode (LED) and a photodiode sensing element. Smoke particles entering the chamber cause the LED light to scatter which triggers an alarm condition.
- Ionisation smoke detectors use an ionisation chamber. Smoke particles entering the chamber attach themselves to the ions, impeding current flow and causing the detector to enter the alarm condition.

Heat detectors

These detect changes in ambient temperature and send an alarm state to the CIE.

- Rate of rise detectors measure the speed with which the air temperature rises
- Fixed temperature detectors react when a set temperature is reached

Multi Criteria detectors

These are a combination of smoke and heat sensors which enter the alarm condition when exposed to predefined levels of smoke or heat or both. The alarm state is then sent to the Control and Indicating Equipment (CIE).

Fire detection and alarm equipment:

ISO 12239

Specification for fire protection equipment.
Self contained smoke alarms.



BS EN 14604:2005

Smoke alarm devices.

BS EN 50291:2001

Electrical apparatus for the detection of carbon monoxide in domestic premises.

BS EN 50194

Electrical apparatus for the detection of combustible gases in domestic premises.

BS EN 5446-3:2005

Fire detection and fire alarm devices for dwellings. Specification for smoke alarm kits for deaf and hard of hearing people.



BS EN 54-7:2001

Fire detection and fire alarm systems. Smoke detectors. Point detectors using scattered light, transmitted light or ionisation.





BS EN 54-5:2001


Fire detection and fire alarm systems. Heat detectors. Point detectors.


CE marking against Construction Products Directive (fire related products).




CE **BS EN 54-2:1998** 
Fire detection and fire alarm systems control and indicating equipment.


CE **BS EN 54-4:1998** 
Fire detection and fire alarm systems power supply equipment.


CE **BS EN 12094-1:2003** 
Fixed fire fighting systems - components for gas extinguishing systems – requirements and test methods for electrical automatic control and delay devices.


CE **BS EN 54-2:1998** 
Fire detection and fire alarm systems control and indicating equipment.


CE **BS EN 54-4:1998** 
Fire detection and fire alarm systems. Power supply equipment.


EN 60950-1:2006 
Information technology equipment safety. General requirements.

CE **BS EN 54-18:2005** 
Fire detection and fire alarm systems. Input/output devices.

CE **BS EN 54-17:2005** 
Fire detection and fire alarm systems. Short-circuit isolators.

CE **BS EN 54-3:2001** 
The requirements, test methods and performance criteria for fire alarm sounders in a fixed installation - interior or exterior.

CE **BS EN 54-11:2001** 
Fire detection and fire alarm systems manual call points.

CE **BS EN 54-16:2008** 
Voice alarm control and indicating equipment.

CE marking against Construction Products Directive (fire related products).

Central detection systems

Control and indicating equipment

The fire alarm control panel or Control and Indicating Equipment (CIE) is the main switchboard of the fire detection and alarm system and is found in two forms:

Addressable CIE – will display a wide variety of information about a fire/event including the exact location. An addressable smoke, heat, CO or combination detector senses or monitors its environment. The monitored information is returned to the CIE, which interprets whether the monitored environmental conditions are within normal environmental parameters or are abnormal, indicating a fire or sensor contamination (such as dust). If the CIE interprets the information as a fire it then lights its fire alarm LEDs, activates pre programmed outputs and sounds its sounders to evacuate the building.

Conventional CIE - will only display the general information of alarm activation. The less sophisticated conventional CIE in most cases provides all system information by the illumination of labelled LEDs only, which light to indicate a fault or fire. The detectors, connected to a spur, detect changes in environmental conditions and compare these changes to preset or threshold values stored internally. If the environmental condition exceeds this value, then the detector enters the fire alarm condition by lighting its fire alarm LED. The alarm condition is received at the CIE, triggering outputs and sounding sounders to evacuate the building.

Extinguishing Panels

Fire extinguishing panels or Electrical Automatic Control and Delay Devices (ECD) are used to protect specific high risk or high asset value areas such as computer suites. Fire alarm control panels provide an output. When the ECD receives the fire condition the information is processed and any necessary delays taken into account before releasing the CO inert gas or halocarbon gas extinguishant to flood the protected area and extinguish the fire.

Power Supply

These are used as part of, or independent to, the control and indicating equipment. They can be used by any application in a fire system that requires an additional power supply, such as aspirating smoke detectors.

Input/Output Devices

These are used to add extra functionality to a fire system, acting as an interface between the fire system and its peripheral devices. For example, these devices can operate magnetic door holders on fire doors, initiate plant shutdown and activate smoke dampers.

Short circuit isolators

These are used to protect the detection loop from damage due to short circuit fault conditions. The isolators enable the loop to continue to operate while raising a fault warning at the CIE for an engineer to attend.

Sounders

Sounders or fire alarm devices are the fire detection and alarm system's means for alerting the occupants of a building to potential or imminent danger from fire. Sounders vary in size and shape and the sounder output varies in level, frequency range and temporal pattern. However, all must comply with the requirements of the same product standard.

There are two types of sounder – outdoor and indoor. The main difference between the two being the level of protection against the ingress of water or foreign bodies using rubber seals or exterior housing and the severity level of environmental tests applied. The majority of sounders are designed for connection to fire alarm system control panels and are usually rated to operate from a 24V supply. There is, however, variation across the different fire alarm systems and fire alarm equipment manufacturers.

Manual Call Points

Despite advanced technology the most reliable form of fire detection is still human observation. For this reason fire detection and alarm systems always include the Manual Call Point (MCP) which allows a building occupant to raise the alarm to evacuate the building.

Whether linked to addressable or conventional Control and Indicating Equipment (CIE), the operation of the MCP remains the breaking of a glass element and pressing a button or operating a micro switch. The CIE interprets the signal from the button/switch as a fire alarm signal and enters fire condition mode. Due to the reliability of MCP use, the signal from it includes an interrupt signal. This means that the CIE treats it as a priority signal and temporarily suspends all other activities.



System installation

Fire alarm systems

The Chief Fire Officers' Association (CFOA) now strongly recommends third party certification by a UKAS accredited organisations for companies who design, install, commission and maintain fire detection and alarms systems. This is now applied to ALL fire detection and alarm systems as from 1st September 2008.

The SP203 Kitemark scheme recognises that many companies specialise in certain aspects of fire alarm system services and this is reflected in the scheme format. By using a flexible modular

structure the Kitemark scheme for fire alarm system installation allows installers to gain certification in all the modules or just those for which an installer is competent.

Kitemark Fire Alarm Systems Installation scheme modules:

- System design
- Installation
- Commissioning & handover
- Maintenance.

Fire Safe Services increasing their reputation with the Kitemark®

Fire Safe Services Ltd of Stoke Prior, Bromsgrove, achieved its Kitemark Fire Alarm Systems licence in May 2007. It had become clear that certification in the fire alarm industry would play a greater role as insurers, risk assessors, fire officers would be required to provide their customers with a certified service. Having researched the options Fire Safe Services Ltd chose to work with BSI to gain certification to the Kitemark Fire Alarm Systems scheme based on BAFE SP203.

Fire Safe Services gained many benefits from the Kitemark process. The assessment process required examination, improvement, management and maintenance of simple procedures providing the company with a level of consistency in its operations and customer satisfaction that led to business simplicity.

Increased revenue

Fire Safe Services was able to increase revenue from more and larger projects through demonstrating competency and expertise through having the Kitemark certification. The company's reputation was enhanced through the certification

and being able to display the Kitemark symbol on its company paperwork and marketing material demonstrating quality, integrity and expertise to work in line with the correct and current regulations and standards.

BSI's role was to provide Fire Safe Services with professional assessment giving the company clear and easy to understand advice, a collaborative approach to help it achieve its potential as well as knowledge and independence delivering added integrity in a complex and competitive market.

Louise Dowell, Director, Fire Safe Services Ltd, said, "We believe that the benefits to us of having the Kitemark are an increased credibility within the industry. It will also reassure our current and prospective customers, allowing us to be considered for larger projects and so have the opportunity to increase turnover and profit. The Kitemark will clearly demonstrate that our company is recognised for its high values, good engineers and quality service – something that can only enhance our reputation. I would recommend the Kitemark to any company considering certification."

Emergency Lighting

Emergency luminaires are a vital Health & Safety feature of any public building, office, old people's home or car park. They provide a degree of illumination in the event of a power cut or fire. Most importantly, if sited correctly, the emergency light

will provide a degree of lighting in what could be a smoke filled property, giving an indication of the location of an exit or simply provide orientation to allow the occupant to determine his or her location in the building.



BS 5839-1:2002 +A2:2008



Fire detection and fire alarm systems for buildings. Code of practice for system design, installation, commissioning and maintenance.

BS 5839-6:2004



Fire detection and fire alarm systems for buildings. Code of practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings.

BS 5839-8:2008



Fire detection and fire alarm systems for buildings. Code of practice for the design, installation, commissioning and maintenance of voice alarm systems.

BS 6266:2002



Code of practice for fire protection for electronic equipment installations.

BS 7273-1:2006



Code of practice for the operation of fire protection measures. Electrical actuation of gaseous total flooding extinguishing systems.

BS 7273-2:1999



Code of practice for the operation of fire protection measures. Mechanical actuation of gaseous total flooding and local application extinguishing systems.

BS EN 60598-1:2004

Luminaires, General requirements and tests.



BS EN 60598-2-22:1999



Luminaires. Particular requirements. Luminaires for emergency lighting.



BS EN 61347-2-7:2006



Lamp control gear. Particular requirements for dc supplied electronic ballasts for emergency lighting.



BS EN 61347-2-13:2006

Lamp control gear. Particular requirements for dc supplied electronic ballasts for emergency lighting.





BS EN 50171:2001



Central power supply systems.


CE marking against Construction Products Directive (fire related products).

CE BS EN 3:2004+A1:2007 
Portable fire extinguishers.


BS EN 3-7:2004 
Portable fire extinguishers.
Characteristics, performance requirements and test methods.

BS EN 3-8:2006
Additional requirements to EN3-7 construction, resistance to pressure and mechanical tests for extinguishers with a maximum allowable pressure equal to or lower than 30bar.

BS EN 3-9:2006
Additional requirements to EN3-7 for pressure resistance of CO2 extinguishers.

BS 6165:2002 
Specification for small disposable fire extinguishers of the aerosol type.

BS EN 1866-1:2007
Mobile fire extinguishers. Characteristics, performance and test methods.

 **The Marine Equipment Directive (MED) 96/98/EC**
This can be applied to any of the fire extinguisher standards. This Directive applies to passenger carrying vessels and BSI's Notified Body status is for safety products such as fire, communications and life saving equipment.

CE Pressure Equipment Directive (PED) 97/23/EC
Any product that has a stored pressure must comply with this Directive. This could be a complete assembly or parts.



Fire fighting apparatus

Fire extinguishers



Ideally all fire fighting should be left to the professionals. However, there may be instances when a fire, discovered at a very early stage, can be quickly put out with a suitable fire extinguisher. Prompt action can prevent the fire escalating into a full scale incident.

All fire extinguishers must be coloured red regardless of content. However, a patch of colour will indicate the type of extinguishing content.

The colours and uses are:

- **RED** – Water – for wood, paper, textiles and solid material
- **BLUE** – Powder – for liquid and electrical fires and some metal or gaseous fires with no explosive risk
- **CREAM** – Foam – for all liquid fires and wood, paper, textiles and organic material
- **BLACK** – Carbon Dioxide – for liquid and electrical fires
- **YELLOW** – Wet chemical – for fires involving cooking oils or fat

Fire ratings

Extinguishers are related to risk by class and area of fire for which they are suitable and all fire extinguishers display these prominently for the relevant types of fire:

- **Class A** – fires involving organic solids like paper or wood
- **Class B** – fires involving flammable liquids
- **Class C** – fires involving flammable gasses
- **Class D** – fires involving metals
- **Class F** – fires involving cooking oils or fats
- **Electrical** – fires involving electrical equipment such as fax, printer or photocopier.

It is crucial that extinguishers are all tested to the appropriate standards or specifications and the key certifications and approvals to look for are:

- BSI Kitemark certification
- British Approval for Fire Extinguishers (BAFE) approval
- CE marking on the assembly.

As well as compliance testing to all of the relevant standards, BSI can offer a complete testing package including on site witness testing and integrated multi assessment visits to cover, CE (pressure equipment and marine directives) and Kitemark certification. BSI can also test and certify against BS EN 1866-1 for mobile fire extinguishers.

The Marine Equipment Directive (MED) can be applied to any of the fire extinguisher standards.



Chubb Fire – reassurance and credibility from BSI

Chubb Fire is one of Europe's largest manufacturers of fire extinguishers and ancillary fire safety equipment. The company is also one of the foremost supporters of BSI's certification services, having been hot off the blocks for both Kitemark certification and CE marking for its fire extinguishers.

Chubb's extensive range of fire extinguishers were among the first to bear the Kitemark to EN 3 and Chubb now has several Kitemark licences to this standard. It acts for four other UK companies and supplies extinguishers across the world, based on test reports and approvals from BSI.

Chris Fergusson, European Extinguishers RD&E Manager, explained why Chubb Fire & Security is happy doing business with BSI. He said, "We have more than 280 models and we have tremendous support from BSI with our approvals and testing. BSI's word carries a lot of weight. The test reports Chubb received for EN 3 Kitemark still carry a lot of weight. BSI's influence is ever expanding and it's spreading."

For approvals overseas, for instance, Chubb asks BSI to look at test requirements and it confirms that the technical content is in line with what Chubb has had done. "They won't accept our word for it, but they will accept BSI's. BSI's word carries influence throughout Europe – we've had product approvals in many countries off the back of BSI test reports and approvals." explains Chris Fergusson.

Chubb Fire & Security has also worked with BSI to achieve CE marking for the Marine Equipment and Pressure Equipment Directive.

Chubb is part of UTC Fire and Security, a company that provides fire safety and security solutions to more than one million customers worldwide. Headquartered in Connecticut, UTC Fire & Security is a business unit of United Technologies Corp, which provides high technology products and services to the building and aerospace industries worldwide. More information about Chubb and UTC Fire & Security can be found on their websites at www.utcfireandsecurity.com and www.chubb.co.uk.

Fire blankets

In most instances fire blankets are used to extinguish fires in kitchen environments. However, they are also an effective method of smothering fire on a person, for example, in the event that their clothing catches fire.

Some fire blankets can be multi use and this should be clearly indicated on the packaging. If a blanket is for single use it must not be reused as the blanket's capabilities will have been compromised.

Fire blankets can be either: industrial – for commercial kitchens and environments; or domestic – for home use.



Hose reels

Fire hose reels are a very visible and an effective method of dealing with a fire in a commercial building. There are two main types of reel and both are connected to a continual water supply, can be concealed, fixed, recessed or swinging.

- **Automatic reels** – operate when the reel is rotated, which opens the valve to allow water through.
- **Manual reels** – are operated by a valve located next to the reel.

Fire hoses & connectors

The fire hose is perhaps the most important piece of equipment for fire fighting. It is the firefighter's lifeline which is why it is so important to have the safest and most reliable on the market.



Layflat fire hoses are used by firefighters worldwide and are placed under huge demands in operation as well as storage, transport and handling. Layflat hoses are of three types:

- **Type 1** – hoses to which no external treatment has been applied so are liable to absorb liquids
- **Type 2** – hoses to which an external elastomeric coating has been applied to give some protection against the absorption of liquids and to improve resistance to abrasion

ATEX

ATEX is the name commonly given to the framework for controlling explosive atmospheres and the standards of equipment and protective systems used in them.

The potential for explosive atmospheres can be found in a wide variety of mainly industrial locations such as mines, factories, mills, agricultural silos, oil and gas platforms, water and other chemical processing environments as well as commercial petrol stations.

The equipment that is used in these environments must be able to perform safely without adversely reacting to its atmosphere.

Manufacturers of such equipment must ensure that it will not cause an explosion during routine operation. Demonstrating compliance with the ATEX Directive 94/9/EC will provide assurance of equipment safety.

- **Type 3** – hoses are those to which an external elastomeric coating has been applied to give very low absorption of liquids and high resistance to abrasion and heat.

Fire hose connectors

Sometimes known as 'couplings' these are the devices which connect the fire hose to the water supply. They must be safe and reliable as their role in fire fighting is critical.

Hydrant and valves

Underground fire hydrants are connected to the pressurised water mains laid under public roads. The fire hydrant valve is connected to the water mains at regular intervals and is joined to a standpipe to which firefighters connect hoses to fight fires. Permanent rising mains are installed in multiple floor buildings to enable the fire and rescue service to use a BS 336 connection ensuring adequate water is available when required.



There are two types of rising mains:

- **Dry riser** – these are uncharged, rising mains with outlet valves on each floor, usually located at stairwells. Dry risers also have an inlet valve located outside premises or underground for the fire and rescue services to use and pump water
- **Wet riser** – these are kept permanently charged with water.

Water mist systems

Water mist systems operate in a similar way to standard sprinkler systems. However, when activated, instead of a heavy spray they produce a fine mist of water. The steam which is produced effectively uses the energy of the fire against itself, by cooling down hot objects and creating an atmosphere not supportive to combustion.

The three types of mist system are:

- **Low pressure** < 12.5 bar
- **Medium pressure** > 12.5 bar and < 35 bar
- **High pressure** > 35 bar

In order to sell these products in the EU it is mandatory for them to bear both the Distinctive Community Mark (the Ex Mark in hexagon) and CE marking. (ATEX is often specified in contracts for countries outside of Europe.)

Products intended for use in such areas, control equipment and sensors, transformers, fans, pumps, compressors, fork lift trucks, lighting, motors, cables, electrical connectors and fuel pumps.

The ATEX Directive applies to both electrical and mechanical equipment and protective systems. These include:

- Equipment and protective systems for use within potentially explosive atmospheres
- Devices for use outside potentially explosive atmospheres, but which are required for, or contribute to the safe functioning of equipment and protective systems located inside such atmospheres; and components relating to the above.

BS EN 1869:1997

Fire blankets.



BS 6391- Type 1

Fire hoses - no heat treatment applied liquid absorbable.



BS 6391- Type 2

Fire hoses - external coating against liquid absorption.



BS 6391 - Type 3

Fire hoses - external coating against abrasion.



BS EN 694:2001

Fire fighting hoses. Semi rigid hoses for fixed systems.



BS 336: 1989

Fire hose couplings and ancillary equipment.



CE BS EN 671-1:2001

Hose reels with semi rigid hose.



CE BS EN 671-2:2001

Hose systems with lay flat hose.



BS 750:2006

Specification for underground fire hydrants and surface box frames and covers.



CE BS EN 14339:2005

Underground fire hydrants.



BS 5041-1:1987

Fire hydrant systems equipment. Specification for landing valves for wet risers.



BS 5041-2:1987

Fire hydrant systems equipment. Specification for landing valves for dry risers.



BS 5041-3:1975

Fire hydrant systems equipment. Specification for inlet breechings for dry riser inlets.



BS 5041-4: 1975

Fire hydrant systems equipment. Specification for boxes for landing valves for dry risers.



BS 5041-5:1974

Fire hydrant systems equipment. Specification for boxes for foam inlets and dry riser inlets.



FM 5560

Water mist systems.



CE marking against Construction Products Directive (fire related products)

Training

The global business community is extremely dynamic. Change happens quickly. That's why BSI Training is a real advantage to your organisation. We work with you to understand your organisation, your market and your current systems. Then we help you develop an appropriate, focused learning solution that meets your needs and objectives. BSI's training portfolio is vast but the following are particularly relevant to the fire and rescue service, either for operators, specifiers or manufacturers:

Emergency Lighting

- Introduction to BS 5266-1 2006 The code of practice for Emergency Lighting Training Course
- Emergency Lighting for the Fire Safety Order combined with Competent Engineering Certificate (accredited by ICEL) Training Course

Health & Safety

- BS OHSAS 18001 – introduction, implementation, auditor courses
- IOSH Working Safely & Managing Safely – eLearning modules

Business Continuity

- BS 25999 – introduction, implementation, auditor courses
- Writing a Business Continuity Plan – the basics
- Crisis & Incident Management – developing and managing
- Business Impact Assessment
- Business Continuity Foundation Course

Quality Management

- ISO 9001 – introduction, implementation, auditor courses

For full details of training please visit www.bsigroup.co.uk/training

Management systems

Health & Safety



Many organisations are implementing an occupational health and safety management system (OHSMS) as part of their risk management strategy to address changing legislation and to protect their workforce. OHSAS aims to encourage a safe and healthy working environment by providing a framework that allows an organisation to consistently identify and control its health and safety risks and improve overall performance. BS OHSAS 18001 is the nationally accepted standard that sets out how to go about putting an effective health and safety management system in place.

BS OHSAS 18001
Health and Safety Management.

Business Continuity Management

Continued operations in the event of a disruption, whether due to a major disaster or a minor incident, is a fundamental requirement for any organisation. Fire and the resulting damage and disruption is just one such incident – but what if the emergency services themselves suffer from such incidents? How will they continue to deliver

the specialist services to their communities? Business Continuity Management is an evolving discipline which covers this critical subject and is becoming more widely used in the private as well as public sector. Many emergency service organisations have already adopted the standard.

BS 25999
Business Continuity Management.

Fire Extinguisher Maintenance

The purpose of this is to specifically enhance the requirements of ISO 9001 to unique areas of the fire protection industry and in this instance the maintenance of portable fire extinguishers.

Certification to this standard enables organisations requiring fire extinguisher maintenance to easily meet the requirements of the Regulatory Reform (Fire Safety) Order by employment of a third party approved organisation and service personnel with proven competency in fire extinguisher service and maintenance.

SP101 (incorporating ST1104)
Contract Maintenance of Portable Fire Extinguishers and Registered Fire Extinguisher Service Technicians.

Lead the way – Regional business forum

These forums are designed to create access for existing or potential clients to find out more about BSI and how it can help your business or organisation achieve its potential and address the

challenges of the current regulatory, compliance and risk environments. Register to join BSI at any one – or more – of the following forums:

Date	City	Venue
29 April 2010	Birmingham	Hilton Birmingham Metropole Hotel, B40 1PP
27 May 2010	Manchester	The Lowry Hotel, M3 5LH
10 June 2010	London	Hilton London Metropole, W2 1JU
7 October 2010	Cardiff	Millennium Stadium, CF10 1NS
11 November 2010	Edinburgh	Sheraton Grand Hotel, EH3 9SR
25 November 2010	Nottingham	Village Hotel, NG9 6DL

Register online at www.bsigroup.co.uk/forum10

Kirklees Council – an innovative solution to fire protection

The Regulatory Reform (Fire Safety) Order (RRFSO) places the onus for fire safety in buildings firmly on the owners and occupiers of those buildings. The Chief Fire Officers' Association (CFOA) issues strict guidelines relating to false alarms. As such councils throughout the UK face a significant challenge in devising effective fire protection strategies.

Kirklees Council, a metropolitan borough of West Yorkshire and with a population of around 401,000, found that the key to addressing this challenge was gaining Kitemark certification from BSI for its fire protection operations.

The council, like many others in the UK, faced two major issues: the need to nominate a responsible person for every building in its care;

and take steps to minimise the occurrence of false alarms from its properties.

Kirklees Council could have used outside companies to help it to address these issues but after careful consideration, it decided that gaining certification for its own activities would give the council a lot more flexibility and would ultimately save it money. This was a pioneering move as no other council in the country has third party certification for its fire protection operations.

Kirklees Council chose to work with BSI as it already had a relationship with quality approvals for its building control operations as well as BSI's universally recognised reputation and the prestigious Kitemark integrity.

On completion of the certification Kirklees

Council has achieved a range of benefits including improved efficiency, confidence in the responsibilities taken on under the scheme, credibility with representatives of the fire and rescue services and enhanced revenue and reputation through its ability to provide their services to other organisations.

"While it seemed a big step at the outset, gaining Kitemark certification for our fire protection services has proved to be an exceptionally worthwhile and cost effective exercise," said Neville Stanley, Principal Fire Safety Officer, Kirklees Council. "Not only are we now able to easily meet our own obligations in relation to fire protection, we are also in a position to help other organisations to meet their obligations."

Kitemark® for everyone



Kitemark has long been understood as one of the world's premier symbols of product or service quality. It is widely trusted and chosen by business and

consumer buyers for its unrivalled quality and safety benefits. As the demands of health and safety, the Corporate Manslaughter Act and increased liability risks and tighter budgets impact all sectors, choosing to achieve Kitemark certification for your products or services or demanding Kitemark quality in any purchasing activities will bring significant benefits to you, your organisation and your community.

For manufacturers:

- **Gain the certification that means the most:** As an independent and impartial organisation, the BSI Kitemark stands apart from other certification marks – it proves your commitment to delivering safe, quality products.
- **Stand out from the competition:** Companies need to be able to make their products or services stand out from the competition. Kitemark will do this for you.
- **Access to wider markets:** Purchasing professionals and organisations are increasingly demanding Kitemark quality products and services to help them meet their obligations.
- **Increase profitability:** Through reducing costs and waste you should be able to realise a more healthy profit in your business. A Kitemark scheme is a blueprint for better, more efficient business performance and less mistakes.
- **Increase customer confidence and satisfaction:** Happy, confident customers will bring true benefits to your business. Providing quality, safe and reliable products will help you retain existing and attract new customers as well as generating recommendations.

Chris Fergusson, Product Development Manager at Chubb Fire Limited in the UK, said, "BSI is our one stop shop for testing manual fire fighting equipment to comply with all types of directives and standards, worldwide. They understand the industry so well, working closely with people like myself on the standards technical committee, and they get things done very efficiently – the way they are integrated internally saves times, cost and paperwork."

For specifiers:

- **Demonstrate best practice:** The essence of Kitemark schemes is the continual assessment which ensures that products or services are regularly reassessed so you can be sure that they will perform consistently and reliably.
- **Achieve best value:** Buying quality, safe products or services is always the best long term option as it saves you the cost of replacement and so allows you to demonstrate that you have spent money wisely.
- **Save time and money:** Kitemark licence holders need to have robust quality systems in

place to help them reduce or eliminate excessive cost and waste. As such Kitemark products and services can be more competitive on price.

- **Faster decision making:** Selecting Kitemark products or services can help you be reassured that they will deliver a safety, quality and consistency. Because they are all assessed before receiving their licence and they have robust quality systems in place you will know at the outset that they will meet your specification criteria – saving you time in checking. "The value and importance of the Kitemark in ensuring confident purchasing decisions cannot be underestimated," commented a Policy Implementation Manager, Gas Distribution Network, UK

For consumers and customers:

- **Help customers make a choice:** By showing your Kitemark status you can make sure your products or services are chosen. 75% of UK adults state that the presence of the Kitemark helps them choose between products.
- **Trust & Confidence:** Lives can depend on products performing their function when required, safely and reliably – such as smoke alarms, fire extinguishers or fire blankets. Kitemark delivers this reassurance and 93% of UK adults believe that a Kitemark product is safer and 88% of them have more trust in Kitemark products.*
- **Peace of mind:** All Kitemark products and services deliver real peace of mind to those who buy and use them. With so many competitors in the market, customers find it reassuring to be able to look for and trust the product they buy. Errol Taylor, Deputy Chief Executive, RoSPA (Royal Society for the Prevention of Accidents), said, "Testing and certification services by organisations such as BSI, play a valuable role in helping to ensure that products designed to protect and prevent accidents and injuries do just that – whether in the workplace or home. We would encourage everyone to look for products that have been tested and certified to relevant safety standards and where possible to look for the Kitemark when selecting safety and protective products."

Kitemark® – a Business Superbrand

For the third successive year, BSI Kitemark, one of the UK's most widely recognised and respected indicators of quality, has achieved the accolade of being listed in the prestigious Top 500 Business Superbrands chart. In 2010 Kitemark, which was evaluated in the Support Services – Associations and Accreditations category, was placed 170 in the chart overall. BSI is also a Business Superbrand.



*GfK NOP Survey 2006

CE Marking

Products to be sold in the European Union (EU) that come under certain European Directives must bear the CE mark – it is a legal requirement. CE marking on a product is the manufacturer's declaration that the product complies with the essential requirements of all the Directives that apply to it. It indicates to the appropriate bodies that the product may be legally offered for sale in their country. The requirements for CE marking differ across all the Directives and may also vary for different products within the Directive. Depending on the product, CE marking may be as simple as formulating a technical file, or as complex as having to submit products to regular independent scrutiny. Third party testing, systems assessment and technical file assessments may be mandatory, but sometimes the manufacturer's unverified claim is all that's asked for.



How do I get CE marking for my product?

Where a Directive requires products or systems to be independently tested, certified or inspected you will need to use the services of a 'Notified' or 'Competent' or 'Approved' body. This is an organisation that has been notified to the European Commission by a Member State. BSI is a Notified Body (number 0086) for many of the European New Approach Directives.

Fire related EU Directives

- Pressure Equipment Directive (PED) 97/23/EC
- Construction Products Directive (CPD) 89/106/EC
- ATEX Directive 96/98/EC
- Marine Equipment Directive (MED) 96/98/EC
- Low Voltage Directive (LVD) 73/23/EC
- Transportable Pressure Equipment Directive (TPED) 1999/36/EC

PPE related EU Directives

Personal Protective Equipment (PPE) 89/686/EEC