



Standards in personal protection

Testing and certification for personal protective equipment

A guide for manufacturers,
distributors and service providers

raising standards worldwide™

A Supplement to
Fire Times

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

Managing risk in your business through certification

There are still 1.6 million workplace injuries in the UK every year and health and safety failures currently cost Britain's employers up to £6.5 billion* every year. Around 70%* of workplace accidents could be prevented if employers put proper safety control measures in place.

Business operations today mean taking responsibility for risk management. In the current climate, where the general public, employees and organisations are continually being encouraged to sue for accidents in almost any situation, organisations need to offset such liabilities. This is especially so as the UK's first prosecution under the Corporate Manslaughter Act 2007 commenced in court in February 2010.

With greater and greater attention being drawn to Health and Safety at work issues worldwide, the onus of protection is becoming increasingly important for employers. Now it is a case of protecting your employees to protect your business, as the issues of litigation and compensation raise more concerns than before and need proper risk management strategies in place to offset them.

As part of such a risk management strategy, the selection, allocation and implementation of the protective equipment and systems form a crucial responsibility for many industries and businesses. If there is a potential for injury there is a need for protective equipment. If your employees drive or ride on motorcycles, sports cars or bicycles – competitively or otherwise – they will need protection that meets a standard. Whether you are, or you employ, emergency services personnel, professional sportspeople, construction or development site workers, heavy machinery or vehicle operators they are likely to need protection that meets the required standard and will perform reliably and safely. If they work with industrial processes they may need several types of protection all in one unit.

In light of the latest legislation – Corporate Manslaughter & Corporate Homicide Act 2007 and Health & Safety (Offences) Act 2008 – managers of many organisations in many sectors are under greater pressure to show that they have applied best practice by purchasing or specifying products or services that are fit for purpose and demonstrated that a Duty of Care has been delivered. This means that they need to know which products, services and systems they can be sure of.

Testing and certification can help here as it is a way to identify the level of approval that a product or system has received and will indicate the standards to which it complies.

There are similar challenges for manufacturers of products who must make sure that they gain the necessary approvals and certifications to ensure that they can sell into their markets and secure future business. It is important that their customers recognise their certification, value it and make it part of their decision or selection criteria.



Longevity, expertise and unrivalled reputation

The problem is that there are so many standards and so many approvals – especially in some parts of the PPE sector. How then should manufacturers choose?

Fortunately there is a solution through using one organisation for testing and certification as well as quality systems assessment and training. One that has longevity, expertise and unrivalled reputation for first class, independent certification such as BSI (British Standards Institution).

With its integrated approach to its global markets, BSI can offer a one stop shop for manufacturers of fire and PPE equipment – covering Kitemark certification, CE marking, product testing, management systems assessment and software, training and standards writing.

About 60%* of fatal injuries to workers occurred in construction, transport and storage, agriculture, forestry and fishing industries. So, for the safety of you, your employees and your organisation or community be serious about safety and provide the best protection possible. Before contemplating your next move, come and talk to BSI.

Ken Coveney
Managing Director
BSI Testing Services

* Figures from The Royal Society for the Prevention of Accidents (RoSPA)

Impact protection

Helmets & Hard Hats

The most common kind of accidents involving with fatal injuries are: falling from a height, being struck by a moving vehicle or being struck by moving or falling objects*. Whatever the form of the protection, when it is needed it has to perform its task and therefore it must be 100% reliable. It must contribute to saving your life and protecting your head and its vital organs from superficial wounding or more serious injuries.

The diversity of demands by the fire and rescue service means that head protection equipment covers a wide range of products from a basic pedal cycle helmet to a sophisticated multi function device with integrated respiratory protection and communications equipment. The introduction of more stringent standards and improved testing methods means that helmets are now more comfortable to wear, are of lighter weight construction and have improved hygiene.

For legal road use all helmets and visors for the users of two or three wheeled vehicles must be certified as specified by the Road Traffic Act (Regulation 22.05, BS 6658:1985 and BS 4110:1979).

Helmet tests involve:

- Impact absorption
- Retention strength and effectiveness
- Penetration resistance



- Lateral crush – industrial, firefighters and equestrian
- Flammability – industrial, firefighters and motorsport
- Electrical insulation – industrial and firefighters.

Body Armour

When a product is called into action to save limbs, vital organs and other body parts, knowing that the product has been tested to conventional limits gives reassurance.

Protective body armour can include knee and elbow pads (motorcycling and sport), gaiters and protective footwear, rugby clothing, cricket boxes and football shin pads.

Centurion Safety Products

Established at Thetford in 1879 as the Patent Pulp Manufacturing Company, Centurion originally produced a range of pulpware products, which included pith helmets for the army.

These days, the Centurion brand covers a comprehensive range of industrial safety helmets and accessories including face screens, welding shields and ear defenders. The acquisition of Martindale Protection greatly increased the company's range of respiratory protection equipment, now manufactured under the Martindale brand. This includes sophisticated powered respirators, compressed air equipment as well as fresh air equipment.

With safety ingrained in the company from its earliest beginnings, Centurion cannot afford to take any chances with product quality and consistency, and its long history with BSI is testament to its commitment to these areas. The relationship encompasses ISO 9001 registration, CE marking, the Kitemark and testing, as well as membership of UK and European technical committees tasked with writing standards.

This emphasis on product quality has allowed Centurion to continue expanding its business. March 1999 proved to be a pivotal year in the company's history with the opening of a major new factory extension at Thetford, doubling its manufacturing capability, and the granting of the Kitemark for Centurion's top of the range Martindale branded respiratory equipment. Dr Jacques Forrest, Technical Director of Centurion, outlined the reassurance this gives to customers. He said, "Kitemark certification and our

compliance with ISO 9001 management systems requirements provides our customers with the confidence that not only are they getting a fit for purpose product; they are getting products which will be consistently manufactured to acceptable quality standards."

The continuing association with BSI plays no small part in Centurion's success. Dr Forrest said, "Centurion Safety Products cannot trade without BSI certifying that its products comply with the Personal Protective Equipment Directive. BSI is obviously very credible and respected in the outside world. It provides proof that we are a competent company manufacturing high quality, fit for purpose products, and it facilitates the technical input into the standards writing procedures. At Centurion we continually seek new product development with safety always at the forefront of design."

Centurion has already launched the 'Concept' safety helmet which includes features and benefits that are important to the users themselves, namely lightweight and strong with a good ventilation system. The target weight of approximately 300g was achieved while passing the Lateral Deformation option of EN 397 at BSI.

Centurion's latest unique product is 'Reflex' which is supplied with a silver rear flash as standard but is also available with a high visibility yellow or orange rear flash or as a complete high visibility helmet. Close cooperation with BSI test lab and product certification has ensured an efficient on time launch into the market of this unique safety helmet.

UN ECE Regulation 22.05
Protective Helmets for drivers and passengers of mopeds and motorcycles with or without side car and for visors fitted to such helmets or intended to be added to them.


BS EN 443:2008
Helmets for firefighters.


BS EN 14458:2004
Personal eye equipment face shields and visors for use with firefighters' and high performance industrial safety helmets used by firefighters, ambulance and emergency services.

PAS 016: 1995
Integrated protection helmets.

EN 12492: 2000
Mountaineering equipment – helmets for mountaineers – safety requirements and test methods.

BS EN 13911: 2004
Protective clothing for firefighters. Requirements and test methods for fire hoods for firefighters.

BS 6658:1985 
Protective helmets for vehicle users.

BS 4110:1979 
Visors for vehicle users.

BS EN 397:1995 
Industrial safety helmets.

BS EN 812:1998 
Industrial bump caps.

PAS 028:2002
Marine safety helmets.

BS EN 1621-1:1998
Motorcyclists' protective clothing.

BS EN 1621-2:2003
Motorcyclists protective clothing - back protectors.

BS EN ISO 13998:2003
Protective clothing. Aprons, trousers and vests protecting against cuts and stabs by hand knives.

Respiratory protection

CE **BS EN 140:1999**
Half/Quarter masks.

CE **BS EN 14387:2004
+A1:2008**
Gas filters & combined filters.

CE **BS EN 143:2000**
Particle filters.

CE **BS EN 149:2001
+A1:2009**
Filtering half masks to protect against particles.

CE **BS EN 12941:1998
+A1:2008**
Powered filtering devices incorporating a helmet or hood.

CE **BS EN 12942:1998
+A1:2008**
Powered air for full/half masks.

CE **BS EN 405:2001
+A1:2009**
Valved combined filtering half mask.

CE **BS EN 136:1998**
Full face masks - Class 1, 2 or 3.

CE **BS EN 137:2006**
Self contained breathing apparatus.

CE **BS EN 138:1994**
Fresh air hose for use with face mask.

CE **BS EN 14594:2005**
Continuous flow compressed airline breathing apparatus.

CE **BS EN 402:2003**
Self contained breathing apparatus escape mask.

CE **BS EN 1146:2005**
Self contained open circuit compressed air breathing apparatus with escape hood.

CE **BS EN 403:2004**
Filtering Escape Hoods.

CE **BS 8468-1:2006**
Chemical, Biological, Radiological, Nuclear (CBRN) SCBA.

CE **BS 8468-2:2006**
Chemical, Biological, Radiological, Nuclear (CBRN) full face mask.

When the very air that we breathe is contaminated how can we protect ourselves and defend against its hazards?

The most important defence against respiratory hazards is to control the contamination at source and stop it entering the air in the first instance. This, however, does not provide the solution to all circumstances and when it does not it will be necessary to use respiratory protective equipment (RPE).

Hazardous substances that can contaminate the air include dust, gases, fumes, mist, vapours and smoke. Inhaling such contaminants can cause damage to many parts of the body including, most commonly, the nervous system, lungs, nose and throat. In some cases they can trigger allergic reactions such as asthma when inhaled. Oxygen deficient atmospheres (ie when oxygen concentration in the air falls below 17%), also present an unacceptable hazard.

Occasionally work needs to be carried out in conditions that are described as being Immediately Dangerous to Life or Health (IDLH) and can occur when toxic chemicals, gases or particles are present or when there is a deficiency of oxygen. In such situations, individuals can be quickly overcome, are unable to make an escape and could suffer severe and/or irreversible damage.



There are two ways to protect against such hazards:

- Control the contamination at source and prevent it from entering the air in the first place. This can involve isolating the hazard, enclosing the function that is generating the contamination, ventilating the contaminated area and maintaining these systems to ensure they remain effective
- Use respiratory protective equipment. While this is often considered a last resort it is particularly practical when access to the contaminated area is needed for short periods of time or in emergency situations. Respiratory protective equipment suitable for these types of situations include masks, respirators, air fed systems and self contained breathing apparatus.

Respiratory protection for fighting fires:

About three out of four fire fatalities are caused by smoke inhalation, Respiratory Protective Equipment (RPE) plays a vital protective role for the fire and rescue services. When faced with life threatening situations such as hostile environments, exposure to chemical fumes, dust or fire or deficiency of oxygen it is critical to use the best safety equipment.



With increasing threats of terrorism, manufacturers and standards bodies are exploring ways to develop products capable of countering the types of hazards that modern fire and rescue services encounter such as chemical, biological, radiological and nuclear agents.

The most used piece of RPE for the fire and rescue services is self contained open circuit compressed air breathing apparatus. This consists of a single unit covering the eyes, nose and mouth allowing the operative to communicate and move without compromising the level of protection. As with all protective equipment it is important that the compressed air cylinder aspect of the apparatus does not limit the firefighter in terms of weight, design, efficient operation.

Following the rules...

Anyone who comes into contact with hazards affecting the respiratory system should be aware of the need to use the appropriate form of protective equipment and employers certainly must heed the practices laid down in their health and safety policies and those set out in the Personal Protective Equipment at Work Regulations 1992. Specific regulations also exist to address particular issues about personal protective needs. Currently these include The Ionising Radiations Regulations 1999, The Control of Asbestos at Work Regulations 2002 and The Control of Substances Hazardous to Health Regulations 2002 (as amended).

Typical tests for RPE involve:

- Breathing resistance
- Filter penetration (solids)
- Filter penetration (liquids)
- Total inward leakage (TIL)
- CO build up
- Flammability
- Dust clogging
- Field of vision
- Mechanical strength testing
- Practical performance testing
- Gas capacity testing.

Sensory protection

Hearing protection



Around 1.3 million workers are regularly exposed to noise levels above 85dB(A), which puts them at risk of damage to hearing.*

Excessive noise is prevalent in most aspects of fire and rescue whether it is from machinery and tools or alarms and sirens. The use of specialist cutting and rescue equipment on a regular basis may also have a detrimental effect on the users hearing over a sustained period.

The Control of Noise at Work Regulations 2005 defines the levels of noise at which employers must take action as follows:

- 80 decibels – employers must assess the risk to workers' health and provide them with information and training
- 85 decibels – employers must provide hearing protection and hearing protection zones
- 87 decibels – the maximum level that a worker

may be exposed to, taking into account any reduction in exposure provided by hearing protection.

Noise levels:

Decibels	Description
0	Threshold of hearing
10	Rustling leaves
20	Whisper
60	Normal conversation
70	Busy street traffic
80	Vacuum cleaner
90	Large orchestra
100	Walkman at maximum volume
110	Front row of rock concert
130	Threshold of pain
140	Military jet take off
160	Instant perforation of eardrum

Eye protection

Eye protection equipment is used for a variety of situations from industrial to recreational. In many instances the eye protection is integrated into head protection and these systems offer more than just eye protection – they protect the face from impacts, sparks from cutting or welding gear or splashes from molten metals or electrical arcs.

Safety eyewear is graded according to the type of

protection it provides. Where tested to BS EN 166:2002 this can be shown on the product as a series of letters or numbers to help the purchaser select the correct type of protection relevant to the hazard.

It should be noted that standard 'non-safety' prescription spectacles may not provide the wearer with an appropriate level of protection.

Protection offered	Symbol	Product with this protection
Increased robustness	S	Spectacles/Goggles
Low energy impact	F	Spectacles/Goggles
Medium energy impact	B	Goggles/Face screen
High energy impact	A	Face screen
Droplets/Liquid splash	3	Goggles/Face screen
Large dust particles	4	Spectacles/Goggles/Face Screen
Gas and fine dust particles	5	Spectacles/Goggles/Face Screen
Molten metals and hot solids	9	Goggles/Face screen
Short circuit electrical arc	8	Face screen

CE **BS EN 352-1: 2002**
Ear muffs.

CE **BS EN 352-2:2002**
Ear plugs.

CE **BS EN 352-3:2002**
Ear muffs attached to safety helmet.

CE **BS EN 352-4:2001**
Level dependent ear muffs.


CE **BS EN 352-5:2002**
Active noise reduction ear muffs.

CE **BS EN 352-6: 2002**
Ear muffs with electrical audio input.

CE **BS EN 352-7:2002**
Level dependent ear plugs.

When considering choices and applications for hearing protection products a useful guide for fire and rescue service specifiers is BSEN 458: 2004

CE **BS EN 458: 2004**
Hearing protectors: recommendations for use selection, use, care and maintenance. Annexes A to D give guidance on appropriate selection to suppliers, purchasers, safety authorities and wearers.


CE **BS EN 166:2002** 
Personal eye protection.

CE **BS EN 169:2002**
Welding filters.

CE **BS EN 170:2002**
Ultraviolet filters.


CE **BS EN 171:2002**
Infrared filters.

CE **BS EN 172:1995**
Sun glare filters for industrial use.

CE **BS EN 175:1997** 
Welders eye and face protection.

CE **BS EN 1731:2006**
Mesh face screens.

CE **BS EN 1836:2005**
Sunglasses and sun glare filters.

CE **BS 4110:1979** 
Visors for vehicle users.

CE **BS 5883:1996**
Swimming goggles.

BS EN 14605:2005 +A1:2009
Protection against chemicals with spray tight connections (Type 4 equipment).

BS EN 14605:2005 +A1:2009
Protection against liquid chemicals with liquid tight connections (Type 3 equipment).

BS EN ISO 17491-4:2008
Protection against liquid chemicals. Resistance to penetration by spray of liquid.

BS EN 469:2005
Protective clothing for firefighters.

BS EN 531:1995
Protective clothing for workers exposed to heat.

BS EN 13911: 2004
Protective clothing for firefighters.

BS EN 943-1:2002
Protective clothing against liquid and gaseous chemicals, aerosols and solid particles. Performance requirements for ventilated and non-ventilated gas tight (type 1) and non gas tight (type 2) chemical protective suit.

BS EN 943-2:2002
Protective clothing against liquid and gaseous chemicals, aerosols and solid particles. Performance requirements for gas tight (type 1) chemical suits for emergency teams.

BS EN 1073-1:1998
Protective clothing against radioactive contamination. Ventilated protective clothing.

BS EN 1073-2:2002
Protective clothing against radioactive contamination. Non-ventilated protective clothing.

BS EN ISO 6529:2001
Protection against permeation by liquids and gases (ISO 6529:2001).

BS 8467:2006
Protective clothing. Personal protective ensembles for use against chemical, biological, radiological and nuclear (CBRN) agents.

BS EN 471:2003 +A1: 2007
High visibility clothing for professional use.

BS EN 15090:2006
Footwear for firefighters.

BS EN ISO 20345:2004
Safety footwear.

Protective clothing

Protective clothing has had to evolve to accommodate modern fire fighting methods and hazards as well as cater for the use of ancillary equipment such as breathing apparatus. Modern firefighters must now be protected against a range of hazards in addition to fire itself such as chemical exposure or extremes of temperature or splashes. To meet this challenge a range of standards has been designed to assess products offering suit protection against these types of hazard.

All protective clothing will only remain effective if properly maintained and cleaned according to the manufacturers' instructions. Contamination from dust and toxins can increase the risk of the protective suit becoming susceptible to ignition from naked flames. Furthermore, the clothing will only perform within specified parameters and it is



important that all users are familiar with the limitations of the equipment.

Chemical, Biological, Radiological and Nuclear (CBRN)

With this clothing the wearer is sealed in a high strength material suit and is fed clean air for breathing. The pressure within the suit is kept positive and the exhaled air is removed via exhalation valves creating a positive pressure within the suit to prevent ingress of the contaminant. This removes the possibility of the air recirculating within the system. The containment suits can also be used with the powered air filtering devices relative to the situation.



High Visibility Clothing



The standard for high visibility requires that clothing must provide visibility of the use in a hazardous situation under any light conditions by day and under illumination by vehicle headlights in the dark (24hr visibility). This is especially the case for incidents on or near roads or motorways.

The visibility is an assessment of the background

area, the disposition of the reflective material plus the quality of both materials. Effective visibility is provided by a fluorescent fabric and reflective stripes.

Protective clothing designed to provide protection against combined risks, such as flame retardant high visibility warning clothing, must be certified separately for each hazard.

Tests for this clothing include:

Materials tests:

- Colour – chromaticity and luminance
- Colour fastness and physical tests
- Dimensional stability and breathability/water-proof properties

Garment tests:

- Design assessment
- Minimum areas of material

Footwear



The correct safety footwear for the fire and rescue service is vital to ensure that feet are adequately protected. Protection is required from a range of hazards but comfort, functionality and durability are also required.

This type of footwear is categorised as PPE Class 3 (Complex device). In addition to satisfying the

initial requirements of the directive, the manufacturers must also demonstrate annually to a Notified Body that the product continues to comply with the requirements of the standard it was initially tested against.

BS EN ISO 20346:2004
Personal protective equipment.
Protective footwear.

BS EN ISO 20347:2004
Occupational footwear.

Fall arrest equipment



Many fire and rescue situations involve heights which require the use of fall arrest equipment. Such situations may require the crews to work in a confined space or on a natural hazard such as a cliff or high rise environment.

All fall arrest equipment comes under the PPE Directive whether it is used in an industrial, conventional or rescue situation. This means that, with the exception of the anchor point used, there is a range of standards to cover the different types of equipment potentially used by the fire and rescue services.

- CE **EN 341:1993**
Descender devices.
- CE **BS EN 360:2002**
Retractable type fall arresters.
- CE **BS EN 361:2002**
Full body harnesses.
- CE **BS EN 362:2004**
Connectors.
- CE **BS EN 363:2008**
Fall arrest systems.
- CE **BS EN 813: 2008**
Sit harnesses.
- CE **BS EN 1496:2006**
Rescue lifting devices.
- CE **BS EN 1497:2007**
Rescue harnesses.
- CE **BS EN 1498:2006**
Rescue loops.
- CE **BS EN 358: 2000**
Work positioning belts and lanyards.
- CE **BS EN 1891:1998**
Low stretch kernmantel ropes.

Gloves

Gloves that are used for protection – with a very few exceptions – fall firmly into the realm of Personal Protective Equipment (PPE) and, as such, are covered by the European PPE Directive 89/686/EEC. Protective gloves intended for use in medical procedures are, instead, covered by the Medical Devices Directive 93/42/EEC.

Many gloves are designed to protect against one specific type of hazard. Firefighters gloves are multi hazard resistant including additional protection against upper hand impact and the inclusion of high visibility strips. Add to this the watertight anti slip capacity and the firefighters' gloves offer protection against almost any hazard.

Gloves are grouped into three categories:

- **Category 1** – self assessment of risk involved. Protection against superficial mechanical effects such as gardening
- **Category 2** – significant level of hazard that could lead to serious but not life threatening consequences. Eg moving boxes and materials around in a warehouse.
- **Category 3** – protection against life threatening dangers, or against dangers which could cause serious and irreversible harm to health, and where the user is unlikely to be able to identify the problem in sufficient time to avoid its effects. Eg protection against the effects of aggressive chemicals, and those designed for use by fire-fighters.

- CE **BS EN 420:2003 +A1: 2009**
Protective gloves.

- CE **EN374-1:2003**
Protective gloves against chemicals and micro organisms. Terminology and performance requirements.

- CE **EN374-2:2003**
Protective gloves against chemicals and micro organisms. Determination of resistance to penetration.

- CE **EN374-3:2003**
Protective gloves against chemicals and micro organisms. Determination of resistance to permeation by chemicals.

- CE **EN381-4:1999**
Protective clothing for users of hand held chainsaws. Test methods for chainsaw protective gloves.

- CE **EN381-7:1999**
Protective clothing for users of hand held chainsaws. Requirements for chainsaw protective gloves.

- CE **EN388-2003**
Protective gloves against mechanical risks – abrasion, blade cuts, tear resistance and puncture resistance.

- CE **EN407:2004**
Protective gloves against thermal risks (heat and/or fire).

- CE **EN420:2003 +A1:2009**
Protective gloves – general requirements and test methods.

- CE **EN421:1994**
Protective gloves against ionising radiation and radioactive contamination.

- CE **EN511:2006**
Protective gloves against cold.

- CE **EN659:2003 +A1:2008**
Protective gloves for firefighters.

- CE **EN1082-1:1997**
Protective clothing – gloves and arm guards protecting against cuts and stabs by hand knives. Chain mail gloves and arm guards.

- CE **EN1082-2:2000**
Protective clothing – gloves and arm guards protecting against cuts and stabs by hand knives. Gloves and arm guards made of material other than chain mail.

- CE **EN1082-3:2000**
Protective clothing – gloves and arm guards protecting against cuts and stabs by hand knives. Impact cut test for fabric, leather and other materials.

- CE **EN ISO 10819:1997**
Mechanical vibration and shock – hand-arm vibration – method for the measurement and evaluation of the vibration transmissibility of gloves at the palm of the hand.

- CE **EN12477:2001**
Protective gloves for welders.

- CE **EN13594:2002**
Protective gloves for professional motorcycle riders – requirements and test methods.

- CE **BS EN14328:2005**
Protective clothing – gloves and armguards protecting against cuts by powered knives – requirements and test methods.

- CE **BS EN60903:2003**
Live working - gloves of insulating material.

Personal Protective Equipment (PPE) Directive 89/686/EEC (CE).

Medical Devices Directive (MDD) 93/42/EEC (CE marking) (CE).

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