



Fire Industry Association

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Environmental Guidance – Legislative overview

This fact file is intended to give a brief overview of the current legislative structure in Europe and the UK. It also details how it affects fire protection companies. It is not intended to be a full and complete list of possible legislative requirements. It is the responsibility of all companies to ensure that they discharge their legal requirements under these and other applicable legislation. The document is written from an Environmental Protection standpoint and does not include requirements related to the Health and Safety at Work Act.

Some of the legislative requirements covered in this fact file are covered in an FIA presentation that is available to members.

This fact file looks at the overall principles in the European legislation and the UK statutes that enact them. The legislation referred to below applies to England and Wales. Different legislation applies in Scotland and more information can be found on the Scottish Executive website www.Scotland.gov.uk, and similarly the one for Northern Ireland.

1. Background

European environmental legislation is generally grouped by the specific environmental issues that concern the European and International legislators. These are:

- Climate Change
 - ODS
 - F-Gas
- Sustainable development
 - Energy-using products
 - CPD/CPR
- Integrated Pollution Prevention and Control
 - Waste Management (EPPR, WEEE, Batteries & Accumulators)
 - Air pollution
 - Water Protection and Management
 - Soil Protection
- Chemical Products
 - RoHS
 - REACH

Fact File No 36

This fact file looks at each area and highlights the main legislative instruments and their requirements that impact on fire protection companies. It looks at the European legislation and the UK enacting legislation. European legislation is normally in two forms – Directives or Regulations.

Directives

These are adopted by the Council in conjunction with the European Parliament or by the Commission alone. A Directive is addressed to the Member States and its purpose is to align national legislation.

A Directive is binding on member states as to the result to be achieved but leaves them the choice of the form and method they adopt to realise the Community objectives within the framework of their internal legal order.

If a Directive has not been transposed into national legislation in a Member State, if it has been transposed incompletely, or if there is a delay in transposing it, citizens can directly invoke the directive in question before the national courts.

Regulations

These are adopted by the Council in conjunction with the European Parliament or by the Commission alone. A Regulation is a general measure that is binding in all its parts. Unlike Directives, which are addressed to the Member States, and decisions, which are for specified recipients, Regulations are addressed to everyone.

A Regulation is directly applicable, which means that it creates a law which takes immediate effect in all Member States in the same way as a national instrument, without any further action on the part of the national authorities. Regulations normally have penalties for non-compliance written within the Regulation.

2. Legislation

Annex A contains an overview of the applicable European Legislation.

2.1 Climate Change

Climate change is currently a major environmental subject and affects fire protection companies in two main areas – ozone depleting substances and greenhouse gases.

- **Ozone Depleting Substances**

Regulation (EC) No 1005/2009 of the European Parliament and of the Council on substances that deplete the ozone layer:

This supersedes EU regulation 2037/2000 and this EU regulation bans the use of Halon 1301 and 1211 in fire protection systems, apart from critical uses.

These critical uses are being reviewed to see if it is still necessary to use Halon in them.

EC 2037/2000 was implemented in the UK in the following regulations:

The Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2002

This set out the requirements on the UK for the removal of Halon systems and the timescales for the removal which was December 2003.

The Ozone-Depleting Substances (Qualifications) Regulations 2009

These replace the Ozone Depleting Substances (Qualifications) Regulations 2006 and the Ozone Depleting Substances (Qualifications) (Amendment) Regulations 2008 and set out the qualifications required for personnel decommissioning Halon systems and for those involved in the maintenance of critical uses.

The FIA is listed as the training body for fire protection in these regulations.

2.1.2 Greenhouse Gases

Greenhouse gases included CO₂ and HCFCs and the “Fluorinated Greenhouse regulations 842/2006 (F-Gas regulations) seek to limit the emissions of the HCFCs and establishes training and certification requirements for companies and technicians involved with these gases. Subsequent regulations put more details into the requirements on leak checking, recording and training. These are:

- 1494/2007 the form of labels and additional labelling requirements as regards products and equipment containing certain fluorinated greenhouse gases
- 1493/2007 minimum requirements and the conditions for mutual recognition for the certification of companies and personnel as regards stationary fire protection systems and fire extinguishers containing certain fluorinated greenhouse gases
- 1497/2007 standard leakage checking requirements for stationary fire protection systems containing certain fluorinated greenhouse gases
- 204/2008 the format for the report to be submitted by producers, importers and exporters of certain fluorinated greenhouse gases

The UK Regulations enacting regulations for the F-Gas are:

The Fluorinated Greenhouse Gases Regulations 2009 (SI 261-2009)

These set out the requirements of the regulations in the UK and sets out the penalties for non compliance.

The FIA is listed as the training and certification body for fire protection under these regulations.

More information on the F-Gas regulations can be found on the FIA website.

2.2 Sustainable Development

2.2.1 Energy-using Products Directive

The original Directive 2005/32/EC established a framework for the setting of eco-design requirements for energy-using products. It was transposed in the UK by **The Ecodesign for Energy-Using products Regulations 2007 (SI 2007 2037)**. The Directive was recast in 2009 as the Eco-design Directive 2009/125/EC.

It aims to improve the environmental performance of products throughout the life-cycle, by systematic integration of environmental aspects at a very early stage in the product design.

The eco-design parameters deal with the following phases of the life-cycle of the product:

- (a) raw material selection and use
- (b) manufacturing
- (c) packaging, transport and distribution
- (d) installation and maintenance
- (e) use
- (f) end-of-life, meaning the state of an EuP having reached the end of its first use until its final disposal.

The intent of the Ecodesign Directive is to provide a coherent and integrated framework which allows for setting compulsory ecodesign requirements for some products. For instance, the Ecodesign measure on standby requires that much domestic electrical and electronic equipment such as washing machines, televisions or personal computers do not consume more than 1W in off mode as of 2010, and note more than 0.5W as of 2013. However, such ecodesign requirements shall not lower the functionality of a product, its safety, or have a negative impact on its affordability or consumer's health. A medical device, for example, should not be designed to consume less energy at the cost of quality or patient safety.

The Directive has looked at product groups and has commissioned studies on some of the groups. The first projects are listed below:

- Air-conditioning and ventilation systems
- Electric and fossil-fuelled heating equipment
- Food-preparing equipment
- Industrial and laboratory furnaces and ovens
- Machine tools
- Network, data processing and data storage equipment
- Refrigerating and freezing equipment
- Transformers
- Water-using equipment

As a framework directive there are no requirements within the directive itself. These are dealt with by implementing measures, the first of which are given in the table below together with the perceived savings:

Table 1

Adopted implementing measures	Estimated savings (yearly by 2020)
Standby and off mode losses of electrical and electronic equipment (household and office)	35 TWh
Simple set-top boxes	6 TWh
Domestic lighting	37 TWh
Tertiary sector lighting (office and street)	38 TWh
External power supplies	9 TWh
Televisions	43 TWh
Electric motors	140 TWh
Circulators	27 TWh
Domestic refrigeration	6 TWh

At present fire protection products are not specifically covered, as the directive has concentrated on domestic products, but if they have a standby mode they will be covered by the standby requirements. Emergency lighting is specifically exempt from tertiary lighting requirements. More products will be covered as the EU sponsored research is completed.

2.2.2 Construction Products Directive

Council Directive 89/106EC, The Construction Products Directive has been around for some time now and fire detection and alarm (FD&A) and fire extinguishing/suppression (FES) equipment manufacturers are fully aware of the requirements. The Directive sets out essential safety requirements that construction works and the products used in them must comply with. Products that comply with these requirements are CE marked and should have free access to all EU member markets. The essential safety requirements are:

- ESR1 – Mechanical Resistance and Stability
- ESR2 – Safety in case of fire
- ESR3 – Hygiene, Health and the Environment
- ESR4 – Safety in Use
- ESR5 – Protection against Noise
- ESR6 – Energy Economy and Heat Retention

In order to comply with the Directive products are required to meet the requirements in harmonised product standards drafted to mandates issued by the Commission to CEN, the European Standards body. All FD&A and FES equipment fall under ESR2 and standards have been prepared under Mandate M109. Whilst the main ESR is No.2, products still have to prove they comply with the other ESRs where applicable.

Annex 2 lists the products covered by harmonized standard and where CE marking is currently required. It should be noted that in the UK whilst compliance with the Directive is UK law (Construction Products Regulations 1991) the UK Government does not require CE marking of products manufactured solely for the UK market. However, under the CPD CE marking gives a presumption of conformity so it is the only method of compliance with the Directive and UK regulations that does not require further proof.

The CPD is currently under revision and will become the Construction Products Regulation. The main changes proposed will be mandatory CE marking of products and the addition of a new Basic Works Requirement 7 Sustainability (see ESR). For more details see Fact Files Nos 9 and 37.

2.3 Integrated Pollution Prevention and Control

Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control applies an integrated environmental approach to the regulation of certain industrial activities. This means that emissions to air, water (including discharges to sewer) and land, plus a range of other environmental effects, must be considered together. It also means that regulators must set permit conditions so as to achieve a high level of protection for the environment as a whole. These conditions are based on the use of “Best Available Techniques” (BAT), which balances the costs to the operator against the benefits to the environment. IPPC aims to prevent emissions and waste production and where that is not practicable, reduce them to acceptable levels. IPPC also takes the integrated

approach beyond the initial task of permitting through to the restoration of sites when industrial activities cease.

The general principles of IPPC are given in Article 3 of the Directive and are:

- all the appropriate preventative measures are taken against pollution, in particular through application of BAT
- no significant pollution is caused
- waste production is avoided in accordance with the Waste Framework Directive (2006/12/EC); where waste is produced, it is recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment
- energy is used efficiently
- the necessary measures are taken to prevent accidents and limit their consequences
- the necessary measures are taken upon definitive cessation of activities to avoid pollution risk and return the site of operation to a satisfactory state.

The IPPC Directive is enacted in the UK under the:

Environmental Permitting (England and Wales) Regulations 2007 (SI 358 2007)
The Environmental Permitting (England and Wales) Regulations 2009 (SI 1799 2009).

2.3.1 Waste Management

2.3.1.1. WEEE

The primary purpose of the WEE Directive and UK regulations is the control of waste electrical and electronic equipment (WEEE) and to require the re-use, recycling and other forms of recovery of such waste so as to reduce volumes being disposed to landfill or incineration.

In the UK the Waste Electrical & Electronic Equipment (Producer Responsibility) Regulations 2006 were laid before parliament on 12 December 2006 and come into force on 2 January 2007. They require obligated Producers to label all EEE products from 1 April 2007 and to pay for the recovery and recycling of WEEE from the 1 July 2007.

Categories of electrical and electronic equipment covered by the WEE Directive are:

1. Large household appliances
2. Small household appliances
3. IT and telecommunications equipment
4. Consumer equipment
5. Lighting equipment
6. Electric and electronic tools (with the exception of large-scale stationary industrial tools)
7. Toys, leisure and sports equipment
8. Medical devices (with the exception of all implanted and infected products)
9. Monitoring and control instruments
10. Automatic dispensers

Fire protection products fall within category 9 and smoke detectors are specifically mentioned.

Category 9 equipment – Monitoring and control instruments

- Smoke detectors
- Heating regulators
- Thermostats
- Measuring, weighing or adjusting appliances for household or as laboratory equipment
- Other monitoring and control instruments used in industrial installations (e.g. control panels)

In 2009 FIA reviewed its position on WEEE and concluded that all electronic components of fixed fire protection systems, both for domestic (B2C) and Commercial (B2B) markets are within the scope of the Directive and UK regulations and recommended that producers of this equipment should join a compliance scheme as soon as practicable. See Fact Files 12 and 20 for more information.

2.3.1.2 Environmental Permitting/Waste/Hazardous Waste

The Environmental Permitting Regulations (EPR) came into force on 6 April 2008. As a first step, they combined Pollution Prevention and Control (PPC) and Waste Management Licensing (WML). If you already have a PPC permit or a Waste Management Licence it automatically became an Environmental Permit from 6 April 2008.

You will need an Environmental Permit if you are in one (or more) of the following categories:

- Chapter 1 : Energy : combustion, gasification, liquefaction and refining activities
- Chapter 2 : Metals : ferrous metals, non-ferrous metals, surface treating metals and plastic materials
- Chapter 3 : Minerals : production of cement and lime, activities involving asbestos, manufacture of glass and glass fibre, other minerals, ceramics
- Chapter 4 : Chemicals : organic, inorganic, fertiliser production, plant health products and biocides, pharmaceutical production, explosives production, manufacturing involving carbon disulphide or ammonia, storage in bulk
- Chapter 5 : Waste Management : incineration and co-incineration of waste, landfills, other forms of disposal waste, recovery of waste and production of fuel from waste
- Chapter 6 : Other : paper, pulp and board manufacture, carbon, tar and bitumen, coating activities, printing and textile treatments, dyestuffs, timber, rubber, food industries, intensive farming
- Chapter 7 : Solvent Emission Directive : where not already prescribed in Chapters 1 to 6.

If you transport waste from clients' sites then you should have registered as a waste carrier.

Waste/controlled waste is defined as any kind of household, commercial or industrial waste. It includes any waste from a house, shop, office, factory or any other trade or business premises. Such waste is controlled waste whether it is liquid or solid and even if it is not hazardous or toxic.

Controlled waste includes:

- Unwanted surplus substances
- Building or demolition waste
- Anything that is disposed of as broken, worn out, contaminated or spoiled in some other way.

Different registration regimes operate in UK and Wales, Northern Ireland and Scotland. In England and Wales registration is via the Environment Agency and the cost is £152 for a new registration. In Scotland registration is from SEPA (Scottish Environment Protection Association) and is £149. In Northern Ireland it is the Northern Ireland Environment Agency and is £120. Registration is valid for three years.

For hazardous waste (Special Waste in Scotland) further licensing is required under the Hazardous Waste Regulations (England & Wales) 2005 (amended 2009), Hazardous Waste Regulations (NI) 2005 and Special Waste Regulations 1996 and The Special Waste Amendment (Scotland) Regulations 2004.

Movement of hazardous waste (Special Waste) is tracked through a **consignment note** system. You must keep consignment notes for **three years** and you must ensure that all hazardous waste is stored and transported with the **correct packaging and labelling**. For example waste F Gas (FM200) is a hazardous waste categorised with waste code 14 06 01 in the European Waste Catalogue (EWC 2002).

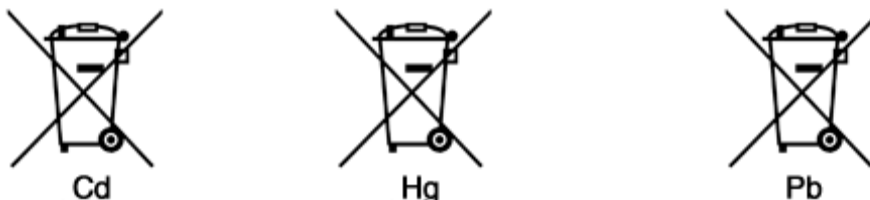
2.3.1.3 Batteries and accumulators

EU Directive 91/157/EEC bans the placing on the EU market of batteries containing more than agreed levels of cadmium and mercury. It controls the marking of batteries and sets design requirements on producers of electrical and electronic equipment that contain batteries.

The Batteries and Accumulators (Placing on the Market) Regulations 2008 came into force on 26 September 2008 and implement the placing on the market obligations of the EU Directive. The National Measurement Office (NMO) is the UK's enforcement body.

The Main requirements of the Directive and UK regulations are:

- All types of waste batteries and accumulators must be collected separately for recycling
- Batteries and accumulators must be marked with the separate collection symbol



- Battery and accumulator markings must include symbols to indicate the presence of specific levels of certain toxic metals
- Product documentation must show the end user how to properly remove the battery or accumulator for recycling (when such removal is possible)

- The end user must be advised of the hazards of improper disposal of the batteries and accumulators.

Fire companies that have products that incorporate batteries should consider the design of products to allow for easy removal of batteries, provide means at your offices for collecting waste batteries and accumulators for recycling.

Amend product documentation to show the end user how to properly remove the battery or accumulator for recycling (when such removal is possible) and advise the end user of the hazards of improper disposal of the batteries and accumulators.

2.4 Chemical Products

2.4.1 ROHS (Restrictions on Certain Hazardous Substances)

The ROHS Directive was adopted by the EU in December 2002.

The hazardous substances referred to in the Directive are heavy metals and flame retardants. These are:

- Mercury
- Cadmium
- Lead
- Hexavalent Chromium
- Polybrominated Biphenols (PBB)
- Polybrominated Diphenyl Ethers (PBDE)

The Directive restricts the use of these substances and was seen as “likely to enhance the possibilities and economic profitability of recycling of WEE and decrease the negative health impact on workers in recycling plants”.

ROHS applies to products given in the 10 WEEE categories and a Fire protection equipment ‘fall within’ category.

The UK ROHS Regulations were laid before Parliament on 7 October 2005 (SI 2005 No 2748). The Regulations were revised in 2008 (SI 2008 No 37).

Equipment within Categories 8 & 9 of WEEE were exempt from the requirements of ROHS. However, quite often the suppliers of components for this were not so changes were required for fire protection equipment.

In 2008 the EU Commission launched a review of the ROHS Directive and the proposed recast will remove the exemption for Categories 8 & 9 from 2014.

2.4.2 REACH (Registration, Evaluation, Authorisation of Chemicals)

REACH is a new European Union regulation concerning the **R**egistration, **E**valuation, **A**uthorisation and restriction of **C**hemicals. It came into force on 1 June 2007 and replaces a number of European Directives and Regulations with a single system.

REACH has several aims:

- To provide a high level of protection of human health and the environment from the use of chemicals

- To make the people who place chemicals on the market (manufacturers and importers responsible for understanding and managing the risks associated with their use)
- To allow the free movement of substances on the EU market
- To enhance innovation in, and the competitiveness of, the EU chemicals industry
- To promote the use of alternative methods for the assessment of the hazardous properties of substances e.g. quantitative structure-activity relationships (QSAR) and read across

REACH covers most chemical substances that are either manufactured in, or imported into, the EU. This can be:

- A substance on its own
- A substance in a 'preparation' (a mixture e.g. ink or paint or extinguishing powder)
- A substance that makes up an 'article' (an object that is produced with a special shape, surface or design e.g. a car, a battery, a smoke alarm, an extinguisher etc)

The actual responsibility for registration for manufacturers and importers is limited to the following scope:

Registration is required if:

- The substance is manufactured/imported in quantities >1 metric tonne per year
- The substance is intended to be released from the article

Notification (a simplified registration) is required if:

- The substance appears on the candidate list for authorisation
- The substance is manufactured/imported in quantities >1 metric tonne per year
- The substance is in the article at >0.1% concentration

The first registration deadline runs out in December 2010. See table 3 below:

Table 3

1 December 2010 Phase 1	By this date the following pre-registered 'phase-in' substances should have been registered when supplied at: <ul style="list-style-type: none"> • >1000 tonnes per annum (tpa) or • >100 tpa and classified under CHIP as very toxic to aquatic organisms or • >1 tpa and classified under CHIP as Cat 1 or 2 carcinogens, mutagens or reproductive toxicants
1 June 2013 Phase 2	Registration of Substances 100 – 1000 tonnes
1 June 2018 Phase 3	Registration of Substances 1 – 100 tonnes

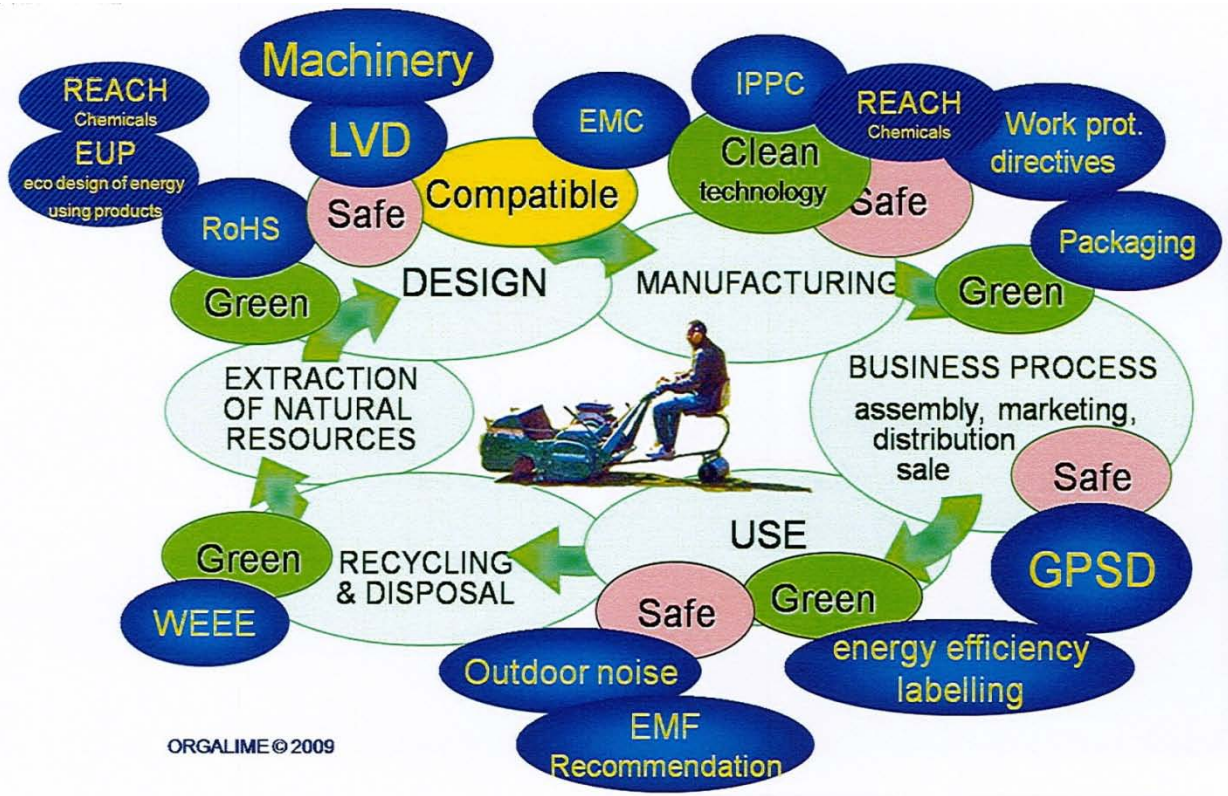
Further details on REACH can be found in FIA Fact File 34.

3. Sources of further information

The following websites provide more information on environmental issues and legislations:

- Department of Trade and Industry
<http://www.berr.gov.uk/whatwedo/sectors/sustainability/index.html>
- Environment Agency
<http://www.environment-agency.gov.uk>
- Environment Agency NetRegs
<http://www.netregs.gov.uk>
- Envirowise
<http://www.envirowise.gov.uk>
- Scottish Regulations
<http://www.scotland.gov.uk>
- Scottish Environment Agency
<http://www.sepa.org.uk>
- Water Environment (Controlled Activities) (Scotland) Regulations 2005 Guidance Document
<http://www.sepa.org.uk/wfd/index.htm>

Annex A



Annex B Harmonised EN's for CPD CE Marking

Harmonized EN	CE Marking required from
EN 12094-1 Fixed firefighting systems - Components for gas extinguishing systems - Part 1: Requirements and test methods for electrical automatic control and delay devices	2006-04-30
EN 12094-2 Fixed firefighting systems - Components for gas extinguishing systems - Part 2: Requirements and test methods for non-electrical automatic control and delay devices	2006-04-30
EN 12094-3 Fixed firefighting systems - Components for gas extinguishing systems - Part 3: Requirements and test methods for manual triggering and stop devices	2005-09-30
EN 12094-4 Fixed firefighting systems - Components for gas extinguishing systems - Part 4: Requirements and test methods for container valve assemblies and their actuators	2007-07-31
EN 12094-5 Fixed firefighting systems - Components for gas extinguishing systems - Part 5: Requirements and test methods for high and low pressure selector valves and their actuators	2009-04-30
EN 12094-6 Fixed firefighting systems - Components for gas extinguishing systems - Part 6: Requirements and test methods for non-electrical disable devices	2009-04-30
EN 12094-7 Fixed firefighting systems - Components for gas extinguishing systems - Part 7: Requirements and test methods for nozzles for CO2 systems	2005-07-31
EN 12094-8 Fixed firefighting systems - Components for gas extinguishing systems - Part 8: Requirements and test methods for connectors	2009-04-30
EN 12094-9 Fixed firefighting systems - Components for gas extinguishing systems - Part 9: Requirements and test methods for special fire detectors	2005-09-30
EN 12094-10 Fixed firefighting systems - Components for gas extinguishing systems - Part 10: Requirements and test methods for pressure gauges and pressure switches	2006-04-30
EN 12094-11 Fixed firefighting systems - Components for gas extinguishing systems - Part 11: Requirements and test methods for mechanical weighing devices	2005-09-30
EN 12094-12 Fixed firefighting systems - Components for gas extinguishing systems - Part 12: Requirements and test methods for pneumatic alarm devices	2005-09-30
EN 12094-13 Fixed firefighting systems - Components for gas extinguishing systems - Part 13: Requirements and test methods for check valves and non-return valves	2002-12-31
EN 12259-1 Fixed firefighting systems - Components for sprinkler and water spray systems - Part 1: Sprinklers	2006-02-28
EN 12259-2 Fixed firefighting systems - Components for sprinkler and water spray systems - Part 2: Wet alarm valve assemblies	2002-12-31 A2 2007-08-31
EN 12259-3 Fixed firefighting systems - Components for	2002-12-31

automatic sprinkler and water spray systems – Part 3: Dry alarm valve assemblies	A2 2007-08-31
EN 12259-4 Fixed firefighting systems - Components for sprinkler and water spray systems - Part 4: Water motor alarms	2002-12-31
12259-5 Fixed firefighting systems - Components for sprinkler and water spray systems - Part 5: Water flow detectors	2005-09-01
EN 54-2 Fire detection and fire alarm systems - Part 2: Control and indicating equipment	2009-08-31
EN 54-3 Fire detection and fire alarm systems - Part 3: Fire alarm devices - Sounders	
EN 54-4 Fire detection and fire alarm systems - Part 4: Power supply equipment	2009-08-31
EN 54-5 Fire detection and fire alarm systems - Part 5: Heat detectors - Point detectors	2005-06-30
EN 54-7 Fire detection and fire alarm systems - Part 7: Smoke detectors - Point detectors using scattered light, transmitted light or ionization	2005-06-30
EN 54-10 Fire detection and fire alarm systems - Part 10: Flame detectors - Point detectors	2007-08-31
EN 54-11 Fire detection and fire alarm systems - Part 11: Manual call points	2008-09-30
EN 54-12 Fire detection and fire alarm systems - Part 12: Smoke detectors - Line detectors using an optical light beam	2005-12-31
EN 54-16 Fire detection and fire alarm systems - Part 16: Voice alarm control and indicating equipment	2011-03-31
EN 54-17 Fire detection and fire alarm systems - Part 17: Short-circuit isolators	2008-12-31
EN 54-18 Fire detection and fire alarm systems - Part 18: Input/output devices	2008-12-31
54-20 Fire detection and fire alarm systems - Part 20: Aspirating smoke detectors	2009-06-30
EN 54-21 Fire detection and fire alarm systems - Part 21: Alarm transmission and fault warning routing equipment	2009-05-31
EN 54-24 Fire detection and fire alarm systems - Part 24: Components of voice alarm systems - Loudspeakers	2011-04-30
EN 54-25 Fire detection and fire alarm systems - Part 25: Components using radio links	2011-03-31

DISCLAIMER

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