Footwear and Leather Industries
Health & Safety
Committee

FIRE SAFETY –

FIRE RISK ASSESSMENT

A guide to fire safety in the footwear and leather industries

INTRODUCTION

This document is for guidance on the new fire regulations and gives outline advice on how to avoid fires in the footwear and leather industries and how to ensure people's safety if a fire does start. For further information you should consult the publications listed at the end of this paper.

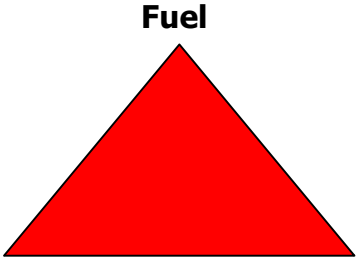
UK Fire & Rescue Services will attend approximately 34,000 fires in the workplace every year. The costs of a serious fire can be high both in terms of lives lost or ruined and property damaged, and afterwards many businesses do not reopen. In footwear and leather factories there can be many potential fire hazards, for example highly flammable solvent based materials and leather dust which could be ignited by sparks or heat from hot processes.

BACKGROUND TO FIRE PREVENTION

For a fire to start three things are needed.

- A source of ignition eg sparks or heat
- Fuel eg solvents or leather dust
- Oxygen eg in air

If any one of these is missing a fire cannot start. Therefore to prevent fires, you need to make sure that the three elements do not come together.



A large proportion of fires are started deliberately,

eg by arsonists setting fire to rubbish stored close to a building, with the resulting complete loss of the building.

Worn electrical wiring

Other major causes of fire are: electrical faults, carelessly discarded smoking materials, and hot-work processes eg welding and grinding.

Since most fires can be avoided, fire prevention should be a common objective of **every employer/employee** of all footwear and leather companies.

Previous fire certificates are no longer relevant and carry no legal status. They may be used as a starting point for your fire risk assessment.

WHAT THE LAW SAYS

Most aspects of non domestic fire safety in the UK are controlled by the **Regulatory Reform (Fire and Safety) Order 2005 and Fire Safety (Scotland) Regulations 2006.**

From April 2006, every workplace will fall under a new regime for fire safety. The Regulatory Reform (Fire Safety) Order 2005 requires the owner/occupier/employer to carry out a fire-based risk assessment of all workplaces under their control (with some exceptions). This assessment is to determine the risk from fire to employees and to identify measures that should be implemented to control those risks. In Scotland, The Fire Safety (Scotland) Regulations 2006 apply.

Ownership of fire safety is now passed to the employer and workforce. The legal duties are outlined below:

- Appointment of responsible / competent person(s)
- carrying out / reviewing a risk assessment

Fire warden using CO2 extinguisher

and implementing preventative and protective measures as necessary
- taking fire precautions and ensuring fire safety arrangements are appropriate
- elimination or reduction of risks from dangerous substances
- provision of fire fighting equipment and means for giving warning in the event of a fire as is appropriate
- ensuring emergency routes and exits;
- establishing procedures for serious and imminent danger and for danger areas (including dangerous substances where appropriate)
- maintenance of facilities, equipment and devices for fire safety; eg routine testing of fire alarms and recording of these tests
- provision of information and training to employees
- provision of information to employers / self-employed from outside undertakings;
- general duties of employees

In the main, the Fire and Rescue Service has the duty to enforce the Regulations and your risk assessment will form the basis of any future inspection of your workplace. As with the health and safety regime, inspectors have power to inspect and, where necessary, to insist on improvement or in (extreme cases) to prosecute.

Other relevant legislation may apply also such as Dangerous Substances and Explosive Atmospheres Regulations 2002 and the Health and Safety (Safety Signs & Signals) Regulations 1996.

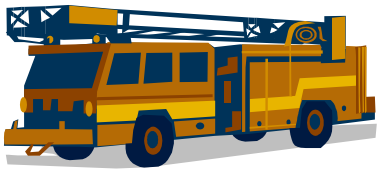
WHAT YOU NEED TO DO TO MANAGE FIRE SAFETY

Fire safety management should include consideration of the following :

- Maintaining security procedures and preventing storage of combustible materials

next to buildings

- Safely storing and using highly flammable substances (eg solvents and solvent based products) and oxidising agents (eg. halogenation materials)
- Minimising process dust
- Eliminating and/or controlling ignition sources (eg sparks, heat and naked flames)
- Managing dust extractors on dust collection systems
- Preventative maintenance eg filter changing
- Maintaining clear gangways and escape routes
- Managing frequent waste and rubbish removal
- Providing information and training to all employees on fire safety
- Providing, testing and servicing appropriate fire safety equipment eg detectors, alarms, emergency lighting, extinguishers and appropriate signs (see Appendix B)



- Appointing and training fire marshals and other competent persons
- Developing and implementing emergency procedures
- Carrying out fire evacuation practice drills
- Ensuring your arrangements for raising an alarm and contacting the emergency services operate effectively

FIRE RISK ASSESSMENT – THE FIVE

STEPS

A fire risk assessment will help determine the likelihood of a fire occurring and the dangers from fire that your workplace poses for the people who use it. The assessment method may follow the same approach as that used in general health and safety risk assessments.

The aims of the fire risk assessment are:

- To identify the fire hazards
- To reduce the risk of those hazards causing harm to as low as reasonably practicable
- To decide what physical fire precautions and management arrangements are necessary to ensure the safety of people in your premises if a fire does start.

COMPLETING A FIRE RISK ASSESSMENT

STEP 1. IDENTIFY FIRE HAZARDS

For a fire to occur it needs sources of heat and fuel. If these hazards can be kept apart, removed or reduced, then the risks to people and business are minimised. In order to do this you must first identify all the fire hazards in your workplace.

- **Identify Any Combustibles -** These can be divided into two main groups; combustible fuels such as paper, wood cardboard, leather dust etc; and flammable materials such as thinners, solvents, inks, etc.
- **Identify Any Ignition Sources** - All workplaces will contain heat/ignition sources, some sources will be obvious such as cooking equipment or open flame heating or processes. Others may be less obvious such as heat from "hot work" processes, chemical processes, faulty equipment, or overloaded electrical circuits.

- **Identify Sources of Oxygen -** you can reduce the potential source of oxygen supplied to a fire by:

  - closing all doors, windows and other openings not required for ventilation particularly out of working hours
  - shutting down ventilation systems which are not essential to the function of the premises
  - not storing oxidising materials near or within any heat source or flammable materials and
  - controlling the use and storage of oxygen cylinders, ensuring that they are not leaking, are not used to 'sweeten' the atmosphere, and that where they are located is adequately ventilated.

- **Identify Any Unsafe Acts** - Persons undertaking unsafe acts such as smoking in unsafe areas, welding or grinding without taking the necessary precautions to prevent a fire starting etc.

- **Identify Any Unsafe Conditions** - These are hazards that may assist a fire to spread in the workplace, eg if there are spaces between floors or in walls which have not been fire stopped, large areas of hardboard or polystyrene tiles etc, or open stairs or shafts that can cause fire to spread quickly, trapping people and involving the whole building.

STEP 2. IDENTIFY PEOPLE AT RISK

- There will be some occasions when certain people will be especially at risk from fire, because of their specific role, disability, location or the workplace activity. You need to consider matters carefully if:

- **Visitors or contractors are present on site.**

Persons have an impairment eg physically,

visually, mentally etc

- **People are unable to react quickly**
- **Persons are working alone, are isolated or away from surface level**
- **Persons' first language is not English**
- **Other people are in the immediate vicinity of the premises**

You may need to put special provisions in place to ensure that everyone can evacuate safely.

STEP 3. EVALUATE, REMOVE, REDUCE AND PROTECT FROM RISK

Even if the building has been built and maintained in accordance with building regulations and it is being put to its designed use, you are still required to evaluate the risks.

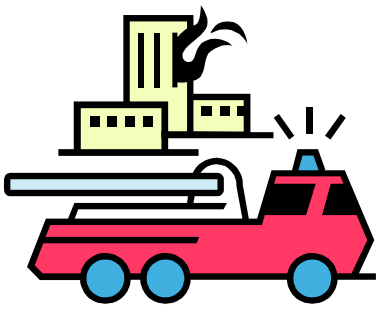
EVALUATE THE RISK

Attempt to classify each area as "high", "medium" or "low" risk. If "high risk" you may need to repeat the previously mentioned steps. An example of a risk assessment is on Appendix A.

Workplaces or parts of a workplace of **LOW** fire risk are those where there is hardly any risk to life safety because there are a few combustible materials, no highly flammable substances and virtually no sources of heat which can cause fire. These include well maintained workplaces which are traditionally built, for example buildings of brick or stones and where:

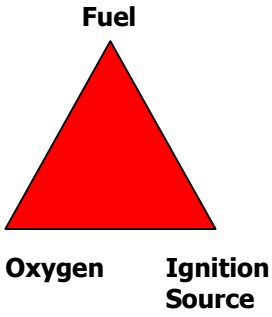
- The only processes are water based
- Storage is on non-combustible materials on non-

combustible racking



Most workplaces will be of **MEDIUM** fire risk. They will generally contain quantities of combustible materials and sufficient sources of heat to take them out of the low fire risk category. In such workplaces any such outbreak of fire is likely to remain confined or is likely to spread slowly thereby permitting personnel sufficient time to escape to a place of safety.

HIGH fire risk workplaces or parts of a workplace are those where there may be a serious risk to life safety. These include those workplaces that have substantial quantities of readily combustible materials or highly flammable substances and where there may be a greater likelihood to fire occurring and fire, heat and smoke spreading rapidly.



REDUCE THE RISK

Having identified the hazards, you need to reduce the chance of a fire occurring and spreading, thereby minimising or removing the risk to persons in the workplace by using the following hierarchy:

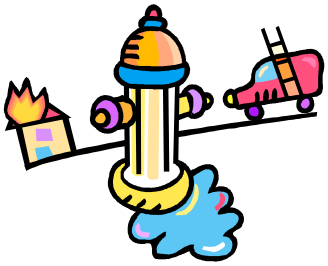
1. **Removing** the hazard altogether eg source of ignition, source of oxygen and source of fuel

2. **Reducing** the hazard to the point where there is little or no risk

3. **Replacing** the existing hazard with a safer alternative

4. **Segregating** the hazard from the workplace

5. **Developing a prevention policy and culture** to ensure hazards do not occur in the workplace. This should be a dynamic assessment, involving preplanning if introducing new processes or working practices, and appropriate control measures put in place.



The measures mentioned should be straight forward using basic common sense, having the additional benefits of business continuity by managing risks.

STEP 4. RECORD, PLAN, INFORM, INSTRUCT AND TRAIN

The findings of the assessment and the actions (including maintenance) arising from it should be recorded. If there are 5 or more employees you **MUST** retain a record which may be in writing, or by electronic means. It should indicate:

- The date the assessment was made
- The hazards identified
- Any staff and other people especially at risk
- Identify what actions need to be taken, and by when to reduce the risk *(see Risk Assessment Appendix A)*

PREPARE THE EMERGENCY PLAN - The aim of the plan is to ensure that in the event of a fire everyone, including contractors, casual employees and visitors are sufficiently familiar with the action they should take, and that the workplace can be safely evacuated to a location where persons will not be in danger. The employer is responsible for preparing the plan, and in most small workplaces this should not be difficult. In smaller workplaces it may simply take the form of a fire action notice and arrangements for training and practice evacuation drills. All equipment should be adequately serviced and maintained on a regular basis.

INFORMATION, INSTRUCTION AND TRAINING - Subject to the findings of the risk assessment, fire safety arrangements need to be put in place eg alarm, detection, means of escape, emergency lighting, fire fighting equipment, signs and notices. All staff should receive induction and regular refresher training related to the action(s) to be taken in case of fire, in particular, evacuation procedures, fire extinguisher training (where appropriate) and any specialist duties assigned eg assisting disabled persons to safety. The responsible/competent person will require adequate fire safety training. Escape routes must be walked regularly and an evacuation drill practised at least annually. Contractors should also be informed of the relevant procedures, in particular evacuation and other matters such as permits to work etc.

Information should be given in a way the employee can be expected to understand (for example it might be necessary to make special arrangements if the employee does not understand English or cannot read).

Employees and Safety Reps

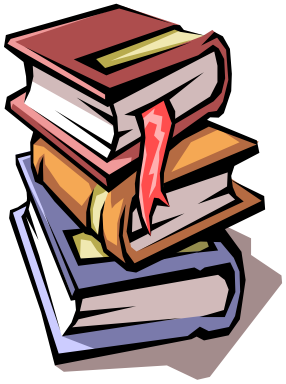
Consulting with trade union-appointed safety representatives (see Safety Reps and Safety Committee Regulations 1977) or other employee representatives (see Health & Safety Consultation [with employees] Regulations) is a legal requirement. Working with safety representatives and employees' representatives is a very useful means of communicating on health and safety matters in the workplace.

Remember: involving employees in decisions can help to foster closer working relationships and make employees more receptive to new ideas.

STEP 5. MONITOR AND REVIEW ON A REGULAR BASIS

The fire risk assessment is not a one-off procedure. It should be continually monitored to ensure that the existing fire safety arrangements and risk assessment remain realistic. The assessment should be reviewed if there is a significant change in the occupancy, work activity, the materials used or stored, when building work is proposed or when it is no longer thought to be valid

You must remember to include a reminder to keep records and documentation relating to all aspects of fire safety.



ADVICE AND INFORMATION

If further practical advice or information is required FOLLOWING THE COMPLETION OF THE RISK ASSESSMENT, your local Fire Service may be able to assist.

Further advice is available from:-

HM Government Fire Safety Risk Assessment Guides can be downloaded at DCLG website: www.firesafetyguides.communities.gov.uk and http://www.archive.official-documents.co.uk/document/fire/index.htm

Fire precautions in the clothing and textile industries Guidance HSE publication (ISBN 0 7176 1786 6)

HSG 51 The storage of flammable liquids in containers. HSE publication

HSG 71 Chemical warehousing. HSE publication

HSG 103 Safe handling of combustible dusts. HSE publication

HSG 113 Lifts trucks in potentially flammable atmospheres. HSE publication

HSG 139 The safe use of compressed gases in welding, flame cutting and allied processes. HSE publication

HSG 140 The safe use and handling of flammable liquids. HSE publication

HSG 168 Fire safety in construction work. HSE publication

HSG 176 The storage of flammable liquids in tanks. HSE publication

HSG 178 The spraying of flammable liquids. HSE publication

INDG227 Safe working with flammable substances. HSE leaflet (free)

INDG297 Safety in gas welding, cutting and similar processes. HSE leaflet (free)

INDG314 How to work in small tanks. HSE leaflet (free)

L56 Safety in the installation and use of gas systems and appliances. HSE publication

L135 Storage of dangerous substances. HSE publication

L138 Dangerous substances and explosive atmospheres. HSE publication

APPENDIX A **Regulatory Reform (Fire Safety) Order 2005**

FIRE RISK ASSESSMENT

Name and address of premises:	
Department/area covered by this assessment:	
Layout – number of floors, basement, etc:	
Work activity:	
Approximate number of people employed at any one time:	
Approximate number of additional people ie visitors, contractors, public, etc that could be present:	
Name of Senior Manager responsible for the department/area:	
Name of Assessor:	Name of Assessor:
Position:	Position:
Signature:	Signature:
Date:	Date:

NOTE: THIS RISK ASSESSMENT SHOULD BE REVIEWED ANNUALLY OR ON THE INTRODUCTION OF NEW PLANT, MATERIALS, PROCESSES OR ALTERATIONS TO THE PREMISES.

(This is the first page of a fire risk assessment produced by South Staffordshire Fire and Rescue Services. This document can be obtained in whole from www.staffordshirefire.gov.uk/ccm/portal/)

APPENDIX B – MAINTENANCE SCHEDULE – FIRE SAFETY

Keep a suitable record of these activities:

EQUIPMENT	TESTING FREQUENCY	ACTION
Emergency lighting	Monthly	• Check all lighting units to ensure that they're in a good state of repair and apparent working order.
	Annually	• Arrange for a full check and test of our system and individual units. This should be carried out by a competent service engineer.
Fire detection systems including smoke alarms	Weekly	• Test the operation of both self-contained and manually operated systems. • Arrange for repairs to any defective units.
	Annually	• Comprehensive test and check of the system by a competent engineer.
Fire extinguishers	Weekly	• Make visual checks of all fire extinguishers to ensure that they are in apparent good working order • Ensure that they are in the correct position, e.g. not holding open fire doors.
	Annually	• Full check and test by a competent service engineer.
Hose reels	Weekly	• Check any hose reels for correct installation and apparent working order.
	Annually	• Comprehensive test and check of the system by a competent engineer.
Torches	Monthly	• Operate torches and replace batteries as required. • Repair or replace any defective unit.
	Annually	• Replace all batteries in torches.

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This document will be available on the following websites:

British Footwear Association – www.britfoot.com
British Leather Confederation – www.blcleathertech.com
Community – www.community-tu.org