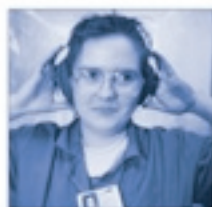


Health and Safety



Interactive links to articles
can be accessed from the
contents on page 5

ESSENTIALS



INTRODUCTION



The AEEU has a proud tradition of upholding policies and systems that are essential in maintaining safe and secure workplaces. Over the years we have published many leaflets and books on various aspects of health and safety. This latest publication is new in both format and approach in dealing with everyday and more complex safety problems.

In this booklet we have included major industries, while not ignoring smaller enterprises that have problems of equal gravity. As time has moved on, much of the older legislation has been repealed and replaced with new regulation. With this in mind, we have put an abbreviated version of the most relevant legislation into this publication. The law is constantly changing and updates are published in the Union News, the AEEU's quarterly journal. Health and Safety Essentials is available for downloading on the AEEU website at www.aeeu.org.uk, or further copies are available from head office on: 020 8462 7755 ext 436.

As your interest broadens, so will your information sources need to expand. Therefore a network of people dedicated to health and safety issues is now in place. The network is responsible for all aspects of safety training, information dissemination, National representation on various official bodies and committees, and most importantly listening to what our safety representatives want, and responding to their wishes.

We hope that you find this book useful. If you need advice remember we are only a phone call, fax, e-mail, or letter away. Keep in touch, together we can make workplaces safer.

Best wishes,

A handwritten signature in black ink, appearing to read 'Ken Jackson', written in a cursive style.

Sir Ken Jackson
General Secretary
AEEU

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CHAPTER SIX

Temperature

Temperature is certainly a health and safety issue. We deal with many hundreds of enquiries every year on this subject alone. Too much heat can cause fatigue, extra strain the on heart and lungs, dizziness and fainting, or heat cramps due to loss of water and salt. Hot, dry, air can increase the risk of eye and throat infections. Above a blood temperature of 102 F there is a risk of heat stroke. Collapse can occur above 106 F with symptoms of delirium and confusion. This condition can prove fatal and survivors may suffer from organ damage.

Tiredness and loss of concentration can also lead to increased accident risk (such as burns)

Too much cold can mean chilblains, Reynaud's disease, white finger or frostbite. The body keeps the blood supply to the extremities closed at lower temperature to conserve heat. Cold conditions can also lead to fatigue since the body uses energy to keep warm. There is increased accident risk from numb fingers, obstruction by some kind of protective clothing, slipping on ice etc. Extreme cold for long periods can lead to hypothermia, loss of consciousness and eventual comma. If the body temperature drops below 64F, the heart beat stops.

While these are problems caused mainly by extremes of temperature, for all workers the wrong temperature can cause problems even if they are just discomfort, loss of concentration, irritability, tiredness or discomfort.

What is an acceptable temperature?

There are various informal guides to a safe working temperature, generally, the acceptable area of comfort for most types of work lies between 16C to 24C (61F to 72F).

Acceptable temperatures for heavier types of work are concentrated at the lower end of this range, while sedentary tasks may still be performed with reasonable comfort towards the opposite extreme.

The Chartered Institute of Building Services Engineers recommends the following temperatures for different working areas:

Heavy work in factories	13C
Light work in factories	16C
Shops	18C
Office and dining rooms	20C

What the law says – cold

The Approved Code of Practice under the Workplace (Health, Safety and Welfare) Regulations 1992 states that work rooms should normally be at least 16C for most types of work and at least 13C for work involving 'severe physical efforts'.

Where maintaining these standards would be impractical, employers must provide a warm working station within a room where the overall

temperature may be lower – using localised heating, draught exclusion and so on. Personal protective equipment should be a last resort.

However, most of these additional steps only apply where it is actually a part of the job that the workplace be kept cold e.g. in keeping food at below a certain level. They do not apply to general occupational temperatures, or workplaces in buildings made cold by the weather.

In more common circumstances, the 13C and the 16C levels are a legally enforceable minimum, and workers have the effective right to refuse to work where the workplace temperature is below these levels. There is usually an assumption that no action should be taken if the correct temperature is achieved within an hour of starting work.

What this means in practice – cold

Where exposure to cold is unavoidable, workers must be provided with cold weather clothing. When the body is working the production of heat increases. To maintain a balance between heat production and heat loss, insulation must be decreased. Properly designed cold weather clothing allows the wearer to remove layers or open vents and let the excess heat escape. This prevents overheating, which can be a serious problem in the cold: sweat accumulates in clothes and continues to evaporate during rests, chilling the body.

The Personal Protective Equipment at Work Regulations 1992 describes processes and activities where thermal protective equipment should be used.

The HSE has issued an information sheet with guidance on acceptable temperature levels where food chilling processes and handling are taken.

The guidance sheet explains how employers can comply with both the Food Hygiene (Amendment) Regulations 1990 and 1991, and Regulation 7 of the Workplace Regulations.

The Food Regulations stipulate temperatures at which certain foods must be maintained in the interests of public health. They apply to the control of the temperature of the food, but not the workplace atmosphere.

Regulation 7 of the Workplace Regulation states that the 'temperature in all workplaces inside buildings shall be reasonable during working hours.' A 'reasonable temperature' is defined in the accompanying Approved Code of Practice as that which provides reasonable comfort without special clothing and should normally be at least 16C or at least 13C where much of the work involves physical effort (such as repeated exertion to the extent that a temperature of 16C would be uncomfortably warm). The Approved Code of Practice stipulates that where maintaining these standards is impractical, employers must take all reasonable steps to achieve a comfortable temperature as close to the standards as possible.

The HSE guidelines say that the health and safety requirements of both sets of legislation can be met by 'maintaining a 'reasonable' temperature of a least 16C (or at least 13C if the work involves physical effort) throughout the workroom.'

This can be achieved by

- (a) Enclosing or insulating the product, by using localised refrigerated enclosures to insulate the product such as enclosed chill hoppers or conveyers
- (b) Keeping chilled areas as small as possible
- (c) Pre-chilling the product

- (d) Exposing the product to workroom temperatures as briefly as possible.

If this is not 'practicable', then the employer should provide a warm working station within a room where the overall temperature may be lower. This can be achieved by the provision of:

- (a) Local heating for the worker with minimum effect on the produce
- (b) Insulated cleanable duckboards (or other floor coverings) if workers would otherwise have to stand for long periods on cold floors – unless special footwear is provided which prevents discomfort
- (c) Draught exclusion (including fitting self-closing doors).

Where, despite the application of these measures a reasonable temperature cannot be maintained the employer should ensure that the individual is kept warm. This can be achieved by:

- (a) Providing suitable protective equipment (Personal Protective Equipment at Work Regulations 1992)
- (b) Providing suitable heated rest facilities (e.g. heated areas) and allow workers ready access to them
- (c) Institute systems of work to minimise the length of time of exposure to uncomfortable temperatures and by job rotation, give workers the opportunity to go to heated areas

What the law says – heat

There is no maximum temperature. However, under the law the employer must provide a working environment, which as far as is reasonably practicable, is safe and without risks to health, and must provide welfare facilities (s2 (2)(e) of the Health and Safety at Work Act 1974). Employers

must assess risks and introduce prevention and control measures based on those assessments (The Management of Health and Safety at Work Regulations 1999).

During working hours, the temperature inside workplace buildings must be reasonable Regulation 7 of the Workplace Health, Safety and Welfare Regulations 1992. The Code of Practice to the Workplace Regulations says, 'all reasonable steps should be taken to achieve a comfortable temperature', for example:

- (a) Insulating hot pipes and equipment
- (b) Providing air cooling plants
- (c) Shading windows
- (d) Siting workstations away from hot areas
- (e) Using fans and increased ventilation in hot weather
- (f) Providing local cooling at individual workstations
- (g) As a last resort in unavoidably hot work areas, providing rest facilities and limiting the amount of time individuals spend in the heat

Whilst this leaves the safety rep to argue about the definition of 'reasonable' and about the risk to health, it does mean that an employer who does nothing to control high temperatures is probably breaking the law.

The Code of Practice

The Code of Practice also says that:

- (a) Other factors such as protective clothing, physical activity, radiant heat, humidity, air movement, and the length of time a person is

doing a job must all be taken into account when assessing what a 'reasonable temperature' is

- (b) Methods of cooling must not produce harmful or offensive fumes, gases or vapours
- (c) Sufficient number of thermometers must be provided to enable workers to check temperatures in indoor workplaces.

Thermometers need not be provided in each workroom, but if the temperature in a particular workroom is uncomfortable, insist that the temperature in that room is measured.

Regulation 6 of the Workplace Regulations requires employers to provide 'effective and suitable ventilation'. Regulation 22 requires employers to provide an adequate supply of wholesome drinking water and cups, readily accessible and conspicuously marked.

Heat from VDU equipment

The Display Screen Equipment Regulations 1992 require that 'equipment belonging to any work stations shall not produce excess heat which could cause discomfort to operators or users'.

Manual handling

Risk assessments carried out under the manual Handling Operations 1992 require employers to take account of risks from various factors listed in Schedule 1, which includes hot and humid conditions.

Wearing protective clothing in hot weather

The Personal Protective Equipment (PPE) at work Regulations 1992 require employers to select PPE that is suitable for the risks, for the employees who will be using it, and for the working environment. So where PPE has to be used in hot weather, it should be designed to allow workers to keep as cool as possible. Workers should not just be expected to use the cheapest thing available.

Pregnant workers

Employers must specifically assess the risks to pregnant women, including extremes of heat (The Management of Health and Safety at Work Regulations 1999). The Health and Safety Executive's Guide 'New and expectant mothers at work' says:

(a) When pregnant, women tolerate heat less well and may more readily faint or be more liable to heat stress. The risk is likely to be reduced after birth but it is not certain how quickly an improvement comes about

(b) Breastfeeding may be impaired by the heat dehydration.

To avoid the risks, the HSE says:

(a) Pregnant workers should take great care when exposed to prolonged heat at work'

(b) Rest facilities and access to refreshments would help

(c) poor physical working conditions, including extremes of temperature, contribute to stress

For further information see the HSE's guide 'Stress at work'.

Heat and outdoor workers

The Workplace Regulations do not apply to outdoor workplaces, but employers still have general duties to ensure health and safety under the Health and Safety at Work Act 1974; and duties to assess and control risks from work in hot temperatures under the Management of Health and Safety at Work Regulations 1999.

Outdoor workers exposed to high temperatures for long periods are at risk from sunstroke, sunburn, and heat exhaustion. Sun or heat stroke is more likely when heavy physical work is being done.

To avoid these effects working hours should be kept short; clothing, including protective clothing, should not be tight and restricting and should allow body heat to escape; plenty of rest periods in a cool place should be taken; and cool, clean water should be provided for frequent drinks. It is important to replace water lost through sweating.

Exposure to excessive sunlight can cause skin rashes or skin burns. Ultraviolet radiation in sunlight can also cause skin cancer. Fair-skinned people, who do not develop a suntan quickly, are most at risk. Avoid excessive exposure to sun by covering bare skin with lightweight material and take frequent rest breaks in the shade. Sun protection creams may also help.

What this means in practice – heat

Whatever thermometers read, if most people are complaining of the heat, common sense says that it is too hot and something must be done immediately. Note that the effect of heat on the body will also depend on the weight and age of a person.

You should also remember that air temperature is only a rough guide because humidity, wind speed, radiant heat sources, clothing etc. all have an effect, which an ordinary thermometer does not take into account. It is possible to get a more accurate assessment using a wet bulb global thermometer or electronic equivalent, which measures humidity. The comfort range for humidity is between 40 per cent and 70 per cent.

There are a lot of steps that employers can take to assess risk and provide more comfortable working conditions in hot weather. These include:

- Carrying out a survey that takes account of temperature, humidity, air movement and workload (carried out at the hottest part of the day, and the hottest part of the year)
- Providing adequate ventilation, fans and windows that can be opened (but above 26.7 C/80F fans are ineffective at cooling the air)
- Providing portable air cooling cabinets, which may reduce the air temperature by up to 6 C/11F
- Providing properly designed ventilation air conditioning will be most effective, and ensuring it is properly maintained so it does not break down in the middle of a heat wave
- Re-designing the job or work area to isolate staff from the source of heat as much as possible. For example, reducing heat gain via windows by reflective film or blinds, and by reducing window area; and moving desks and workstations away from windows
- Getting a competent heating and ventilation engineer to do a full survey of temperatures, heat stress, and ventilation systems etc., and then to recommend a permanent solution to problems. Engineers

should be registered with an authoritative body such as the Chartered Institute of Building Services.

NB

- (a) Training and information for relevant staff in recognising heat stress symptoms
- (b) Allowing staff to dress appropriately for hot weather, e.g. allowing ties, tights or jackets to be removed or shorts to be worn;
- (c) If it is impossible to provide a comfortable air temperature, or as a temporary measure until a permanent solution is put in place, staff exposure to hot work must be reduced. For example: through rest breaks in a cool area where cold drinks are provided, job rotation, or altering work in the hottest part of the day
- (d) Pregnant women and those with medical conditions should be given priorities for rests and early leave from work
- (e) Taking the hottest rooms out of service is another temporary measure