Working in Hot Temperatures

1. Introduction

The impact of climate change means that we are increasingly seeing very high temperatures, in particular during the summer months.

There's no law for maximum working temperature, or when it's too hot to work, because every workplace is different.

No meaningful upper limit can be imposed because in many indoor workplaces high temperatures are not seasonal but created by work activity, for example in catering kitchens, laundries or boiler rooms.

2. Assessing the risks

Managers must:

- assess the risks to workers, taking account of those who are more vulnerable, for example pregnant workers, young workers or those with medical conditions
- put controls in place to protect them

Temperature in the workplace is one of the risks to be assessed, whether the work is being done indoors or outdoors.

It is important to consult with workers or their representatives on the best ways to cope with high temperatures.

The Health and Safety Executive's (HSE's) Workplace Temperature Checklist will help you carry out a basic assessment of workplace temperatures.

Managers are advised to keep up to date with weather warnings and can subscribe to email alerts, warnings and newsletters from the Met Office. The Met Office also provides seasonal advice on its 'WeatherReady' page, as well as daily weather forecasts.

2.1 What is a reasonable working temperature?

Managers must decide what a reasonable temperature should be in their workplace:

- assess the risk
- act on any findings by putting controls in place, including temporary or seasonal ones
- use the HSE heat stress checklist (PDF) if workers are at risk from extreme temperatures

Factors such as protective clothing, physical activity, radiant heat, humidity, air movement, and length of time of a person doing a job must all be considered when assessing what is a 'reasonable temperature'.

2.2 Managing workplace temperatures

How you manage the effects of temperature depends on:

- whether the workplace is indoors or outdoors
- the normal operating temperature of that environment

3. Indoor workplaces

Managers should ensure the following are provided:

- a reasonable working temperature in workrooms
- local cooling (using fans, opening windows) where a comfortable temperature cannot be maintained throughout each workroom, such as in hot manufacturing processes
- rest facilities where necessary, e.g. for hot work

3.1 When people are too hot

Measures to help ensure people are comfortable in warm conditions include:

- Provide air-cooling or air-conditioning and adequate ventilation, checking air conditioning units are maintained
- Provide fans, such as desk, pedestal or ceiling-mounted ones
- Ensure windows can be opened to keep air circulating
- Shade employees from direct sunlight with blinds or by using reflective film on windows or introducing overhangs or recesses to windows
- Position workstations away from direct sunlight or sources of heat such as hot machinery
- Place insulating materials around hot plant and pipes
- Provide cold water dispensers (water is better than caffeine or carbonated drinks)
- Encourage workers to remove personal protective equipment when resting to help encourage heat loss
- Make sure workers can recognise the early symptoms of heat stress

Where possible, change work arrangements to avoid people getting too hot:

- Introduce flexible working patterns, such as job rotation or introducing flexible hours or early/late starts to avoid high or low temperatures, moving workers to cooler parts of the building where possible
- Allow enough breaks to allow workers to get cold drinks or cool down
- Relax formal dress codes, whilst maintaining a professional appearance– but make sure personal protective equipment is used if required
- If uniforms are worn, choose designs or materials that improve the thermal comfort of clothing, making sure workers are not wearing more than is needed

4. Outdoor workplaces

When working outdoors in hot environments, the weather can have a serious impact on worker's health if the risks have not been properly managed. This impact may be immediate or occur over a longer time, leading to conditions like skin cancer.

The weather can also affect a worker's ability to keep safe, for example when handling machinery.

There are simple actions managers can consider taking to protect people working outdoors:

- Reschedule work to cooler times of the day
- Provide more frequent rest breaks and introduce shading to rest areas

- Provide free access to cool drinking water
- Introduce shading in areas where people are working
- If uniforms are worn, choose designs or materials that improve the thermal comfort of clothing
- Make sure workers are not wearing more than is needed
- Encourage workers to remove personal protective equipment when resting to help encourage heat loss
- Make sure workers can recognise the early symptoms of heat stress

There is no legal obligation for employers to provide suncream or sunglasses for outdoor workers.

Managers of outdoor workers should include sun protection advice in routine health and safety training and must advise workers to keep covered up during the summer months.

4.1 Outdoor workers and sun exposure

Too much sunlight is harmful to workers' skin. A tan is a sign that the skin has been damaged. The damage is caused by ultraviolet (UV) rays in sunlight. Outdoor workers that could be at risk include street cleansing and grounds maintenance operatives, road workers, arboriculturists, waste operatives and outdoor activity workers.

4.1.1 The harmful effects of the sun

In the short term, even mild reddening of the skin from sun exposure is a sign of damage. Sunburn can blister the skin and make it peel. Longer term problems can arise. Too much sun speeds up ageing of the skin, making it leathery, mottled and wrinkled. The most serious effect is an increased chance of developing skin cancer

Workers who have naturally brown or black skin are less at risk of skin cancer, although cases do occur. Therefore, when the sunlight is intense, they should follow this guidance to protect themselves. Workers are at particular risk if they have:

- fair or freckled skin that doesn't tan or goes red or burns before it tans.
- red or fair hair and light-coloured eyes.
- a large number of moles.

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4.1.2 What can managers do to help workers protect themselves?

- Ensure workers keep their tops on.
- Look to provide workers a hat with a brim or a flap that covers the ears and the back of the neck.
- Encourage workers to stay in the shade whenever possible, during their breaks and especially at lunch time.
- Encourage the use a high factor sunscreen of at least SPF30 on any exposed skin
- Provide workers with plenty of water to avoid dehydration.
- Encourage workers to check their skin regularly for any unusual moles or spots and to seek advice from a doctor or the promptly if they find anything that is changing in shape,

size or colour, itching or bleeding. Alternatively seek advice from the Occupational Health Team.
- Provide regular reminders to staff on how to protect themselves in the sun. This includes providing workers with a copy of the following free leaflet produced by HSE: Keep your top on: Health risks from working in the sun (PDF)

5. PPE and workplace temperature

The Personal Protective Equipment selected should be suitable for risks, for the workers using it, and for the working environment. This means that if personal protective equipment is being used in hot weather, whether inside or out, it must be designed to allow workers to keep as cool as possible. Where employee groups such as refuse collectors have to wear special padding to protect themselves from injury from sharps, the trousers are designed to ensure that they are still as comfortable in hot weather as possible.

Personal protective equipment (PPE) reduces the body's ability to evaporate sweat. If the PPE is awkward to wear, or heavy, it may contribute to an increase in body heat. Wearing PPE in warm/hot temperatures with high work rates may increase the risk of heat stress.

5.1 How to keep workers safe wearing PPE

Managers should encourage workers to remove PPE immediately after it is needed. This will prevent any heat retained in their clothing from continuing to heat them. Where necessary, they should allow it to dry out, or replace it, before using PPE again.

PPE may prevent workers removing clothing in case it exposes them to the hazard it is protecting them from.

Where PPE is required, it can cause heat stress due to its weight and the fact that it prevents sweat evaporating from the skin. In these situations, managers should:

- allow slower work rates
- rotate staff out of this environment on a more frequent basis
- allow longer recovery times
- provide facilities for PPE to be dried so it can be worn again
- consider scheduling work to cooler times of the day
- review the activity risk assessment to see if automated or alternative systems of work can be introduced
- re-evaluate the equipment used, as newer PPE may be lighter and provide improved levels of protection and operator comfort

Managers must make sure people continue to wear PPE correctly despite workplace temperatures. For example, they should not endanger themselves by undoing fasteners to increase air movement into clothing.

The HSE's PPE at work pages provide further advice, including selecting the most appropriate equipment for your workplace.

6. Very high workplace temperatures

There is specific advice for manager of workplaces where people work in very high temperatures, for example on heat stress and dehydration.

If workers are complaining or reporting illnesses that may be caused by temperatures in your workplace, managers must review the situation and, if necessary, put in place controls to manage the risks. This may involve:

- monitoring how workplace temperatures are affecting workers as part of your risk management.
- putting health surveillance or medical screening in place for workers who are pregnant, have illnesses or disabilities, or are taking certain medication.
- reviewing working habits and current practices and (where necessary) change these to control the risks.

7. Dehydration

When working in very hot conditions, dehydration can seriously affect a worker's health and their ability to function safely.

7.1 How to reduce the effects of dehydration

- Encourage workers to frequently drink cool water (rather than tea, coffee or carbonated drinks).
- It is better to drink in small amounts to compensate for the effects of sweating.
- Do not rely on workers saying they are thirsty. It is not a good indicator of dehydration, more an early sign that they are starting to suffer from its effects.
- When working at a high rate in heat stress conditions, workers should drink around 250 ml (half a pint) every 15 minutes.
- If you have workers exposed to heat stress conditions, encourage them to be adequately hydrated before they come to work.

7.2 Where ability to drink is restricted

Some situations make it harder for workers to drink, for example if they are wearing personal protective equipment (PPE).
In these situations you could encourage workers to drink:

- 500 ml (a pint) of water per hour before work starts
- the same amount during their rest periods

If water loss is significantly greater through increased sweating, then they should increase the amount they drink proportionately. Advice can be sought from the Occupational Health Team.

8. Heat stress

The following guidance is mainly for workplaces where heat stress is an issue all year, such as boiler rooms, catering kitchens, laundries.

It will also help employers protect workers in very hot weather where there may be an increased risk.

8.1 What is heat stress?

Heat stress happens when the body's way of controlling its internal temperature starts to fail. As well as air temperature, factors such as work rate, humidity and work clothing may lead to heat stress.

Managers and workers must be aware of how to work safely in high temperatures. This means identifying the factors that can cause heat stress, and how to avoid it.

8.2 A typical heat stress situation

Someone wearing protective clothing and doing heavy work in hot and humid conditions could be at risk because:

- sweating is restricted by clothing and humidity.
- body heat increases due to work rate and, so core body temperature rises.
- the body reacts by producing more sweat, which may cause dehydration.
- heart rate also increases, putting more strain on the body.

8.3 Symptoms of heat stress

Heat stress can affect people in different ways, and some are more likely to suffer it than others. Typical symptoms are:

- an inability to concentrate.
- muscle cramps.
- heat rash.
- severe thirst – a late symptom of heat stress.
- Fainting.
- heat exhaustion – fatigue, dizziness, nausea, headache, moist skin.
- heat stroke – hot dry skin, confusion, convulsions and eventual loss of consciousness. This can result in death if not detected at an early stage.

8.4 Workplaces where heat stress might occur

Examples of workplaces where people might suffer from heat stress due to hot environments created by the process, or restricted spaces, are:

- glass and rubber manufacturing plants.
- compressed-air tunnels.
- power plants.
- foundries and smelting operations.
- brick-firing and ceramics plants.
- boiler rooms.
- bakeries and catering kitchens.
- Laundries.

People adapt to hot conditions by cooling down through removing clothing, having cool drinks, using the shade or reducing work rate. However, in many work situations such changes may not be possible, for example during asbestos removal.

8.4.1 Assessing the risks

Where there is a possibility of heat stress occurring, managers must assess the risks to workers, considering:

- work rate – the harder someone works the more body heat is generated.
- working climate – this includes air temperature, humidity, air movement and working near a heat source.
- work clothing and personal protective equipment (PPE) – these may prevent sweating and other ways of regulating temperature.
- a worker's age, body type and medical factors (e.g. a hormonal imbalance) may affect their tolerance of heat.
- The need to provide a sufficient number of competent first aiders who can recognise and manage heat-related illnesses and that you have the right first-aid equipment.

It is important to talk to workers (and their safety representatives) to see if they are suffering early signs of heat stress. If there is a problem, you may need expert advice from the Occupational Health Team.

The HSE has a heat stress checklist (PDF) to help control the risks.

8.4.2 Reducing the risks

Remove or reduce the sources of heat where possible.

8.4.2.1 Control the temperature

Control the temperature using engineering solutions, for example:

- change the processes.
- use fans or air conditioning.
- use physical barriers to reduce exposure to radiant heat, for example machinery.

8.4.2.2 Limit work rate and length of exposure

Provide mechanical aids where possible to reduce the work rate.

Regulate the length of exposure to hot environments by:

- only allowing workers to enter the workplace when the temperature is below a set level or at cooler times of the day.
- issuing permits to work that specify how long people should work in situations where there is a risk.
- providing periodic rest breaks and rest facilities in cooler conditions.

8.4.2.3 Prevent dehydration

Working in the heat causes sweating which means losing vital water that must be replaced. Provide cool water in the workplace and encourage workers to drink it frequently and in small amounts.

If it is not possible to drink while working, for example during asbestos removal, encourage workers to drink before and after the work to avoid dehydration.

Refer to the section on preventing dehydration at work.

8.4.2.4 Personal protective equipment (PPE)

Protective clothing or equipment may expose the employee to heat stress. Specialised personal protective clothing is available which incorporates, for example, personal cooling systems or breathable fabrics. This may help protect workers in certain hot environments.
For additional information refer to the PPE section.

8.4.2.5 Training

Provide training for your workers, especially if they are new or young. Tell them about:

- risks of heat stress in their work.
- what symptoms to look out for.
- safe working practices.

8.4.2.6 Identify who is at risk

Identify workers who are more susceptible to heat stress. This could be due to inexperience, medication or a condition making them more vulnerable to heat stress, e.g. heart disease.

Managers should seek advice from the Occupational Health Team where required.

Risks to pregnant workers should already be covered in the activity risk assessment, but once a worker has informed a manager in writing, they must complete an individual risk assessment and make any necessary changes to support them.

8.4.2.7 Monitor health

Where a residual risk remains despite implementing control measures, managers may need to monitor the health of workers exposed to the risk.

Managers should obtain medical advice from the Occupational Health Team for workers who are pregnant, have an illness or disability. To refer an employee for a Health Assessment, an **RD1 (Health Assessment Referral Form)** should be completed by the manager in conjunction with Human Resources before forwarding it to Occupational Health and Counselling.

9. Heat-Aggression

Higher temperatures can lead to an increase in Violence and Aggression. This is because elevated temperatures can cause discomfort and negative affect, which people may misattribute to others, leading to aggressive responses. Warmer weather can also lead to an increase in alcohol consumption especially in outdoor areas and open spaces.

How to reduce the effects of Heat-Aggression

- Plan work activities to cause minimal disruption or impact to the public.
- Inform staff of the increased risk and the need for heightened awareness.
- Provide training on recognising and dealing with Violence and Aggression.
- Report any incidents of Violence and Aggression on the City Council's Incident, Accident and Near-Miss reporting system.

10. Relevant Legislation:

- Health and Safety at Work etc. Act 1974
- The Management of Health and Safety at Work Regulations 1999
- Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992
- The Personal Protective Equipment Regulations 2002 (as amended)
- The Health and Safety (Display Screen Equipment) Regulations 1992

11. Relevant HSE and NHS Guidance and Templates

- Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice and Guidance.
- The Construction (Design and Management) Regulations 2015
- HSE guidance Thermal Comfort in the workplace
- HSE Workplace Temperature Checklist
- Managing risks and risk assessment at work
- NHS Guidance: Heatwave: how to cope in hot weather
- Using personal protective equipment (PPE) to control risks at work

13. Relevant CCC guidance

- Working in Extreme Temperatures
- Working in hot temperatures – worker guidance
- Incident, Accident and Near Miss Reporting (IAN)
- Risk assessment
- Health assessments

14. For further information and advice contact:

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