

# Health and safety Time for change

*Reclaiming health and safety at work*



## Heat – The case for a maximum temperature at work

It is usually accepted that people work best at a temperature between 16°C and 24°C, although this can vary depending on the kind of work being done.

The Chartered Institute of Building Services Engineers<sup>1</sup> recommends the following temperatures for different working areas:

- Heavy work in factories: 13°C
- Light work in factories: 16°C
- Hospital wards and shops: 18°C
- Offices and dining rooms: 20°C

When the workplace gets too hot it is more than just an issue about comfort. If the temperature goes too high then it can become a health and safety issue. If people get too hot, they risk dizziness, fainting, or even heat cramps. In very hot conditions the body's blood temperature rises. If the blood temperature rises above 39 °C, there is a risk of heat stroke or collapse<sup>2</sup>. Delirium or confusion can occur above 41°C. Blood temperatures at this level can prove fatal and even if a worker does recover, they may suffer irreparable organ damage<sup>3</sup>.

However even at lower temperatures heat leads to a loss of concentration and increased tiredness, which means that workers are more likely to put themselves or others at risk. High temperatures mean there is an increase in the likelihood of accidents due to reduced concentration; slippery, sweaty palms as well as an increase of discomfort of some personal protective gear which can result in reduced protection through inappropriate usage or non-usage. Heat can also aggravate other medical conditions and illnesses such as high blood pressure or heart disease due to increased load on the heart as well as interacting with, or increasing the effect of other workplace hazards. Workers at greater risk of heat stress include those who are 65 years of age or older, are overweight, have heart disease or high blood pressure, or take medications that may be affected by extreme heat. In addition high temperatures are associated with a reduced sperm count and can be dangerous during pregnancy.

Scientific studies confirm that indoor temperature can significantly impact on productivity and most performing 'comfort zone' lays between 22° C and 25° C<sup>4</sup>. When the temperature went

above that productivity fell. By 28° C there was already a 5% decrease, and the higher the temperature the lower the output.

## **The legal position**

An employer must provide a working environment which is, as far as is reasonably practical, safe and without risks to health. In addition, employers have to assess risks and introduce any necessary prevention or control measures.

Unfortunately there is no maximum temperature for workers, although the Workplace (Health, Safety and Welfare) Regulations state the temperature inside workplace buildings must be 'reasonable'. However there is no consensus over what "reasonable" is and many workers are forced to work in temperatures which are not only uncomfortable, but which could damage their health.

The lack of a legal maximum is a major omission. The Approved Code of Practice to the regulations does give a minimum temperature along with guidance on how it can be achieved, yet no maximum. As a result, health and safety representatives often find that employers refuse to accept arguments that they have to take action on high temperatures, but are far more likely to take action when it gets to cold. This is simply because there is a set figure in the Approved Code of Practice.

## **Enforcement**

The difficulty with the present regulations is that, without a specific maximum figure, they are impossible to enforce unless a worker is seriously injured or killed by heat stress. Several safety representatives have reported that enforcement officers were unwilling to intervene when asked, and there is no evidence of any enforcement action in this area. According to the answer given to a written parliamentary question in 2009, from 1 April 2004 to 31 March 2008, the Health and Safety Executive took no prosecutions as a result of employers' failures to manage high temperatures in the workplace.

## **Is there a problem?**

It is clear from reports from trade unions that high temperatures are a major problem. In the 2012 (which had a particularly cold summer) TUC safety representatives survey, 14% of safety representatives cited high temperatures as one of their top concerns<sup>5</sup>. In some sectors it was particularly high including central and local government, education and manufacturing. Often the biggest problem was in post-war buildings with a high glass content.

A recent survey of almost 6,000 teachers, school and college leaders and Health and Safety Representatives, found that 94% of respondents reported that they had worked in excessively high temperatures during the summer, with 42% doing so regularly.

The TUC also asked trade unions for examples of where members were exposed to excessive heat<sup>6</sup>. Among the several hundred examples reported were the following:

- A union representative reported on a survey of twenty seven telephone exchanges. The temperatures ranged from the lowest at 21°C increasing to 36°C. The average reported

temperature was 28.64°C and 76% of the buildings were over the WHO recommended standard.

- Another representative reported that the tissue culture and virology rooms they were working in reached 32°C last summer, which was made even more unbearable by the fact that the room was full of ethanol fumes.
- A union representative in a chicken factory reported that the high temperatures were leading to reports from the union members of both tiredness and dizziness because of the high temperatures. This was in a factory where there was a lot of hard physical activity.
- A secondary school in Birmingham has its ICT rooms on the top (2nd) floor. At least one of the rooms has two walls that are almost entirely glass. This room receives direct sunlight in summer for the most part of the school day. The safety representative reported that when external temperatures in summer exceed 22°C the room's temperature rises to 31/32°C and on occasions even higher. There is no air conditioning and whilst blinds keep out the sun they trap the heat generated by the 20 computers in the room.

In all these cases the union had tried to get improvements, but without legislative back up and support from the HSE or local authority inspectors, progress is usually impossible. Where improvements are introduced it can take years to get them agreed. One teacher in a school where temperatures often exceeded 30°C reported “Headaches were common place as was a general discomfort and malaise. Staff tried their best to find jobs that took them into fresh air. We had to go out and buy fans and eventually we got a water dispenser. The Local Authority were uninterested and we only got the improvements because our boss was also suffering and was a decent person.” In this case the improvement requested was as simple as blinds.

Unfortunately the actual health effects of extreme heat are difficult to quantify or prove as the main short term symptoms, dizziness, headaches and nausea are often also associated with other conditions and those who suffer from the effects of extreme heat rarely report it or record in accident books.

Given the fact that average temperatures are likely to increase over coming years as a result of global warming this is a problem that is likely to increase. It is also a problem that is usually relatively easy to resolve. Often simple steps, such as having windows that can be opened, fans, moving staff away from windows or sources of heat or installing ventilation or air-cooling will be effective. If there were a maximum temperature it would also help ensure that the issue of temperature was taken into account during the design stage for new buildings or during refurbishment.

### **What should be the maximum temperature?**

The TUC has called for a maximum temperature of 30°C (27°C for those doing strenuous work), so that employers and workers know when action must be taken. It should be stressed that this is intended as an absolute maximum rather than an indication that regular indoor work at just below 30°C would be acceptable. Employers should still attempt to reduce temperatures if they get above 24°C and workers feel uncomfortable. This is the WHO recommendation for maximum temperature for working in comfort.

Ensuring a reasonable temperature is not necessarily difficult. Often it can be achieved simply by moving people away from direct sunlight, or allowing people to open a window.

## Outdoor workers

Although the Workplace (Health, Safety and Welfare) Regulations only apply to indoor workplaces, that does not mean that employers do not also have a duty to employers working outside, such as construction or agricultural workers. All employers have a general duty to protect the health and safety of the workforce under the Health and Safety at Work Act, and also to assess and control risks from working in hot temperatures, or exposure to the sun, under the Management of Health and Safety at Work regulations. This includes drivers, where working in a very hot cab can make the person more likely to have an accident. Unfortunately the Government does not see occupational health issues as being a priority despite the sharp rise in occupational skin cancer. Unions believe that there should be a legal duty to protect workers who work outside. This can be done by organising work differently so that employees are not outside during the hottest part of the day, or providing shading. Employers should also have to provide outside workers with sun protection and drinking water during the summer.

*Trade unions want to see a legal maximum temperature for indoor work of 30°C (27°C for those doing strenuous work), so that employers and workers know when action must be taken. It should be stressed that this is intended as an absolute maximum rather than an indication that regular indoor work at just below 30°C would be acceptable. There should also be a legal duty on employers to protect outside workers by providing sun protection, water, and to organise work so that employees are not outside during the hottest part of the day.*

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<sup>1</sup> Section 1 (Environmental criteria for design) of CIBSE Guide A: Environmental design,

<sup>2</sup> Kerslake DM. The stress of hot environments. Cambridge: Cambridge University Press; 1972.

<sup>3</sup> Leithead CS, Lind AR. Heat stress and heat disorders. London: Cassell; 1964.

<sup>4</sup> Seppanen et al, 'Effect of Temperature on Task Performance in Office Environment' helsinki University of Technology, 2006

<sup>5</sup> Focus on Health and Safety, Biennial survey of safety reps, TUC, 2012

<sup>6</sup> The case for a legally enforceable maximum temperature. TUC 2009