

Working in extreme heat Meeting Kit

THE HEAT INDEX

For people working outdoors in hot weather, both air temperature and humidity affect how hot they feel. The “heat index” is a single value that takes both temperature and humidity into account. The higher the heat index, the hotter the weather feels, since sweat does not readily evaporate and cool the skin. The heat index is a better measure than air temperature alone for estimating the risk to workers from environmental heat sources.

OUTDOOR WORK

Workers new to outdoor jobs are generally most at risk for heat-related illnesses. In most cases, the worker involved was on their first day of work and in 80% of the cases the worker involved had only been on the job for four or fewer days. That’s why it’s important to gradually increase the workload or allow more frequent breaks to help new workers and those returning to a job after time away to build up a tolerance for hot conditions.

FACTORS THAT CAUSE HEAT STRESS

- working in direct sunlight in the summer months.
- humidity in the workplace (more than 50% relative humidity).
- working in certain workplaces such as foundries, smelters, chemical plants, bakeries and commercial kitchens.
- working in mines, especially deep mines with geothermal gradients.

Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress. Exposure to extreme heat can result in occupational illnesses and injuries. Heat stress can result in heat stroke, heat exhaustion, heat cramps, or

heat rashes. Heat can also increase the risk of injuries in workers as it may result in sweaty palms, fogged-up safety glasses, and dizziness. Burns may also occur as a result of accidental contact with hot surfaces or steam.

MANAGE HEAT STRESS/ILLNESS AT WORK

1. Design The Workplace to Reduce Heat Stress

- use machines (for example, hoists and lift-tables) to reduce the physical demands of work.
- control the heat at its source by using insulating and reflective barriers (for example, insulate furnace walls).
- exhaust hot air and steam produced by operations.
- use air conditioners to reduce the temperature and humidity.
- use fans if the temperature is below 35°C (if fans are used when the temperature is above 35°C they may recirculate the hot air, which can prevent cooling).
- provide:
 - cool, shaded work areas
 - air-conditioned rest areas

1. Plan Ahead to Reduce Heat Stress

- assess the demands of all jobs and put a plan in place for hot days and workplaces.
- increase the frequency and length of rest breaks.
- schedule strenuous jobs to cooler times of the day such as in the early morning, late afternoon or night.
- provide cool drinking water near workers.
- remind workers to drink a cup of water at least every 15 to 20 minutes to stay hydrated.
- caution workers to avoid direct sunlight.
- assign more workers or slow down the pace of work.
- make sure workers have time to acclimatize to a modified intensity of work.
- train workers to recognize the signs and symptoms of heat stress.
- start a “buddy system” because people are not likely to

notice their own symptoms.

- investigate any heat-related incidents reported by workers.
- make sure workers trained in First Aid are available and on-site
- create an emergency response plan to respond to heat-related illnesses.
- advise workers who are pregnant or have a medical condition to consult their physician about working in the heat and make appropriate accommodations.

1. **Adjust to Hot Environments**

For workers with no experience in hot conditions, there are two ways to help them tolerate the heat:

1. gradually increase the activity level over one to two weeks
2. gradually increase the amount of time spent in hot working conditions

For workers **with experience** in hot conditions, but who may have been ill or away from work for 9 or more days, the worker will need to gradually readjust to the heat.

1. **Workers Must Wear Suitable Clothing**

- wear light and breathable summer clothing (if applicable).
- cover the head to prevent exposure to direct sunlight.
- wear reflective clothing in a high radiant-heat situation.
- consider air, water or ice-cooled insulated clothing for very hot environments.
- avoid clothing that isn't breathable, such as chemical protective clothing. If the workers must wear it, they should pay close attention to symptoms that suggest they may be ill due to heat

FINAL WORD

A healthy human body temperature is 37°C. A change of body temperature exceeding 1°C can be an indication of illness or environmental conditions beyond the body's ability to cope. Working in very hot temperatures can be dangerous to your health,

causing heat stroke, heat exhaustion or fainting.