

Staying Cool on the Plant Floor – Preventing Heat Stress



It is important for workers to recognize the signs and symptoms of the early stages of heat stress. If they can remove themselves early enough, more serious illnesses can be avoided. If a worker is exposed to environmental conditions that could cause heat disorders, the employer must implement (1) **engineering controls** to reduce exposure, and (2) **administrative controls** such as an appropriate work-rest cycle.

Engineering Controls

Engineering controls are the most effective and preferred means to reduce excessive heat exposure.

- ✓ Reduce worker activity through automation or mechanization
- ✓ Cover or insulate hot surfaces to reduce radiant heat
- ✓ Shield workers from radiant heat
- ✓ Provide fans for spot cooling (Caution: if the surrounding air temperature is above 35°C, do not use fans. Fans can strip away a protective layer of air that separates direct contact of skin from the hotter air in the environment.)



Administrative Controls

Acclimatize Workers. Conditioning the body to a hot working environment so it can modify its functions to better cope with heat stress. Three benefits include:

- ✓ Enhanced cardiovascular fitness
- ✓ Enhanced sweating
- ✓ Lower salt content in sweat

Acclimatization is usually achieved after **seven continuous days** of gradual exposure.

Determine appropriate Work-Rest Cycles.

- ✓ Workers cannot rely on their bodies to indicate when a rest period is needed!
- ✓ Have cool, shaded or well-ventilated areas for breaks and rests
- ✓ Showering or soaking in cool water is a quick and effective way to cool the body

Schedule Work to Minimize Heat Exposure

- ✓ Schedule the hardest physical tasks for the coolest part of the day
- ✓ Rotate work activities or use additional workers to reduce heat exposure for each member
- ✓ Allow for slower paced work during the hottest periods of the day
- ✓ Move or relocate work away from a window or radiant heat sources whenever possible
- ✓ Schedule routine maintenance and repair work for time when hot operations are shut down

Drink Water

- ✓ Drink water (without added salt) BEFORE as well as during and after work
- ✓ **To start, drink two glasses (500 ml) before work and one glass every 20 minutes throughout the workday**
- ✓ In very hot environments when sweating is profuse, more water is required. **Do not wait until you are thirsty to replace fluids!**

Wear Cool Clothing

- ✓ Loose fitting clothing made from fabrics such as cotton and silk allow air to pass through.
- ✓ Wool clothing deflects radiant heat (boilers and kilns) away from the skin while allowing sweat to evaporate.

Resource: <http://www.worksafebc.com/>

