

LOSS CONTROL DATA GUIDE

Heat Stress - Exposures and Controls

NIOSH, the National Institute for Occupational Safety and Health, has recently revised its recommendations for protecting workers from heat stress and has forwarded them to OSHA for consideration as a regulation.

Between five and ten million workers in the United States are potentially exposed to heat stress by working in a “hot environment.” NIOSH defines a hot environment as any work area where the daily maximum temperature exceeds 95°F., or when the daily maximum temperature exceeds 90°F., and is 9°F. or more above the maximum reached on the preceding day.

In a hot environment, workers face a variety of health threats, ranging from heat rash and heat-induced cramps to heat exhaustion and potentially fatal heat stroke. Health problems can be avoided by instituting a comprehensive hot environments program which includes elimination/reduction of the heat exposure, worker acclimatization, work/rest regime, fluid replenishment, protective clothing and employee training.

Heat stress control methods

Elimination/reduction of heat exposure.

- Redesign, relocate, isolate or substitute heat-producing equipment and/or process.
- Utilize reflective screens and barriers for radiant heat shielding.
- Provide local exhaust ventilation at points of heat generation.
- Provide local or spot cooling of the work area.
- Provide general cooling or refrigeration to reduce general work site temperature.
- Increase general ventilation in the workplace.
- Provide personal cooling fans (effective only when air temperatures are below 95°F.)
- Schedule work during the cooler parts of the work shift or on cooler days.

Worker acclimatization

- New employees – work half days or spread the four hours of activity over eight hours for at least 5 days.
- Previously acclimatized employees returning from vacation, illness or layoff – work half days or spread the four hours of activity over eight hours for two or three days.

Work/Rest regime

- Reduce the work period.
- Increase the frequency and length of rest breaks.
- Decrease the pace/tempo of work.
- Increase the use of work-saving devices and/or mechanization.
- Utilize air conditioned or cooler areas for rest and recovery.

Fluid replenishment

- Provide adequate supply of potable water and/or electrolyte drinks – workers should drink five to seven ounces of cool fluids every fifteen to twenty minutes.
- Inform workers of necessity for frequent fluid intake.

Protective clothing

- Utilize reflective clothing.
- Utilize personal cooling devices – ice vests, air or fluid-cooled vests.

Employee training

- Train workers to recognize symptoms of heat disorders and take necessary action to reduce/limit their exposure.
- Utilize buddy system – workers observed by trained supervisor or fellow worker who can detect early signs of heat stress.
- Provide heat-related disorders first aid training.

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