# HEAT STRESS PREVENTION PROGRAM

## PURPOSE / SCOPE

The purpose or goal of the Heat Stress Prevention Program is to inform employees how to prevent heat stress in the workplace. It is Winger Companies, herein referred to as Winger, responsibility to provide a safe workplace for their employees. Management shall address the workplace and determine if heat stress hazards are present or likely to be present that would necessitate the use of engineering controls, administrative controls or PPE.

It is the employee's responsibility for their own safety and that of their coworkers. Employees are responsible for reporting hazardous conditions and dangers to their supervisor. They must also report any job-related injury or illness to their supervisor and safety director and seek treatment promptly. Employees have the right to refuse unsafe work conditions.

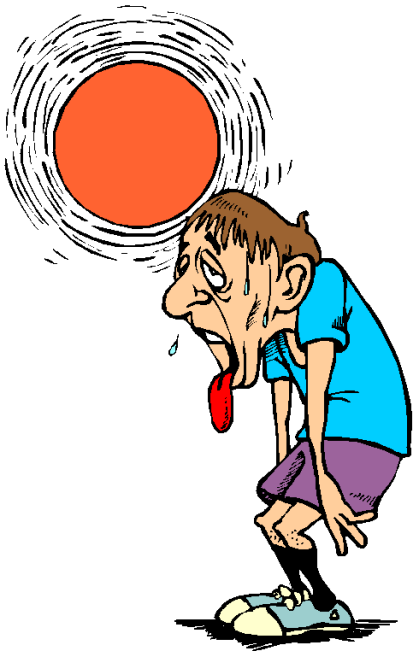
## HEAT INJURIES AND FATALITIES

- More Worker's Compensation claims for heat illnesses come from agricultural and construction workers than from any other occupation.
- Over 20% of heat stroke victims die regardless of health or age.
- 46-year-old temporary laborer for a precast concrete company, while shoveling excess concrete and scrap metal into the bucket of a backhoe, complained to his coworkers that he was thirsty and not feeling well, and then collapsed. His coworkers quickly moved him to shaded area where they administered CPR until EMTs arrived. His core body temperature reached 108°F despite efforts to cool his body with ice packs and water. He was pronounced dead at the hospital;
- 47-year-old airline employee passed out while loading luggage onto a plane in Texas and died on the way to the hospital;
- 29-year-old Virginia slaughterhouse worker who responded positively when he was treated for signs of heat stress, but later had a seizure and died;
- 56-year-old worker collapsed and died while sandblasting pipe at a Kansas wastewater plant. He was wearing a neoprene suit when the heat index registered between 105° and 110°F.

## HOW THE BODY WORKS

- Body rids itself of excess heat by increasing circulation in blood vessels close to the surface of your skin. That is why our faces become flushed.
- Brain sends signal to sweat glands to work harder causing perspiration.
- As sweat evaporates, it cools the skin and removes large quantities of heat from your body.
- If the air temperature near your body is warmer than your skin, blood that has been brought to the body surface cannot lose its heat.
- If the humidity is high, your body will continue to sweat liquids containing electrolytes, but will not easily evaporate.
- When the body becomes dehydrated it does not sweat any more. Then, the body cannot rid itself of the excess heat that is building up.
- When the body is no longer capable of sweating the body's core temperature rises swiftly.
- When blood flow increases to the outer surface of your body, less is available for active muscles, your brain, and other internal organs.

## REACTIONS OF OVERHEATING



- Strength declines
- Fatigue occurs sooner than it would otherwise
- Alertness and mental capacity may also be affected
- Heat rash
- Heat cramps
- Heat exhaustion
- Heat stroke

## FACTORS LEADING TO HEAT STRESS

- Age – younger or older individuals usually have less tolerance
- High temperature and humidity
- Direct sun or heat
- Limited air movement
- Physical exertion
- Poor physical condition
- Some medications, (report these to your supervisor)
- Inadequate tolerance for hot workplaces

## HEAT PROMOTES ACCIDENTS

- People become less alert and moody
- Sight is impaired by foggy glasses or goggles
- Grip is lost due to sweaty palms
- Fatigue causes loss of balance, slips, trips and falls

## DEHYDRATION

Dehydration occurs when our bodies do not have the fluids necessary to function properly. Because our bodies are made of 60 percent water, losing fluids means giving up the fuel internal organs need to operate optimally. When we're dehydrated, our bodies find water reserves wherever they can to compensate for the shortfall, shrinking cells and reducing organ function. The only way to combat dehydration is to take in more fluids than we actually use.

Mild symptoms of dehydration include headache, dizziness, muscle weakness, lethargy, and dry mouth. As symptoms progress to severe, they will include an inability to sweat, increased heartbeat, dry skin, fever, sunken eyes, delirium, confusion, and unconsciousness. Once severe symptoms appear, the dehydrated worker needs immediate medical care, as simple water intake will no longer suffice.

Water loss happens in a number of ways: when we breathe (in the form of water vapor), when we urinate, and when we sweat. Sweating is the body's natural self-cooling system. Water is excreted through the pores and upon evaporation, heat is then moved away from the body. In order to stay cool and avoid the many other heat-related illnesses, we need to sweat. But sweating means a loss in fluids that needs to be replaced by drinking plenty of water.

Many people have a low tolerance to thirst triggers in which the body lets them know they're thirsty. Once they do feel thirsty, their body is already two to three percent dehydrated, and catching up may be difficult. Workers should consume water frequently throughout the work day before symptoms appear. While eight to ten glasses of water per day is an appropriate rule of thumb, it's important to take body size and shape, state of overall health, and degree of physical exertion into consideration. While working, every employee should drink one cup of cool water every 15 to 20 minutes as prevention is by far the most effective method of controlling dehydration.

Winger understands the importance of educating their workforce on proper hydration. In turn, workers should understand how to recognize the symptoms of dehydration both in themselves and in others, and understand the serious health risks involved. It is also important to create a work environment that promotes hydration by providing cool, potable drinking water that is easily accessible. Dehydration prevention should be a core element in any heat stress program.

## ELECTROLYTES

Electrolytes are minerals (magnesium, potassium, sodium and calcium) that maintain optimal nerve and muscle function. Electrolytes to your body, is like antifreeze to your vehicle. Without antifreeze, the vehicle quickly overheats during intense use. Without electrolytes, the body responds the same way. The harder it is worked, the quicker it overheats.

Under hot working conditions, a loss of sodium and other minerals may occur through perspiration and other types of dehydration. Studies have shown that drinking commercially available carbohydrate-electrolyte replacement liquids is effective in minimizing physiological disturbances during recovery. These types of drinks are absorbed into the body significantly faster than water alone, allowing the body to replenish the electrolytes and minerals needed for rehydration.

Water must be available at every jobsite. Winger First Aid Kits are stocked with Electrolyte Dehydration Tablets for their employees to replace minerals lost due to sweating and working in warm environments.

## HEAT DISORDERS AND HEALTH EFFECTS

**HEAT FATIGUE** - A factor that predisposes an individual to heat fatigue is lack of acclimatization. The use of a program of acclimatization and training for work in hot environments is advisable. The signs and symptoms of heat fatigue include impaired performance of skilled sensorimotor, mental, or vigilance jobs. There is no treatment for heat fatigue except to remove the heat stress before a more serious heat-related condition develops.

**HEAT RASHES (PRICKLY HEAT)** are the most common problem in hot work environments. Prickly heat is manifested as red papules and usually appears in areas where the clothing is restrictive. As sweating increases, these papules give rise to a prickling sensation. Prickly heat occurs in skin that is persistently wetted by unevaporated sweat, and heat rash papules may become infected if they are not treated. In most cases, heat rashes will disappear when the affected individual returns to a cool environment.

Cause:
- Caused by sweat not evaporating from the skin

Symptoms:
- Skin rash over arms, shoulders, chest, and behind knees.
- Looks like a red cluster of pimples or small blisters.
- Small inflamed spots on the skin can become infected.

First Aid / Prevention:
- Wear loose fitting clothing

- Allow the skin to dry
- Drink cool liquids
- Take breaks
- Stay away from hot environments and sunshine
- Avoid scratching
- Take a shower after work in the heat
- Dry skin thoroughly
- Change underwear and wet clothes often
- Stay in a cool place after work

**HEAT CRAMPS** are usually caused by performing hard physical labor in a hot environment. These cramps have been attributed to an electrolyte imbalance caused by sweating. It is important to understand that cramps can be caused by both too much and too little salt. Cramps appear to be caused by the lack of water replenishment. Because sweat is a hypotonic solution (±0.3% NaCl), excess salt can build up in the body, if the water lost through sweating is not replaced. Thirst cannot be relied on as a guide to the need for water; instead, water must be taken every 15 to 20 minutes in hot environments.

Cause:
- Internal organs are not getting enough electrolytes due to profuse sweating.
- Usually follows hard physical work or vigorous exercise in a hot environment.
- Often begins at the end of a work shift or at night when relaxing.

Symptoms:
- Painful spasms of the muscles caused by failing to replace salt loss during heat stress.
- Abdominals, calf and thigh muscles, biceps/triceps are most frequently affected.
- Affected individuals may also feel faint.

First Aid:
- Rest in cool dry place.
- Drink cool liquids, i.e. sports drinks or drink water with a teaspoon of salt per quart.
- Eat fruits like bananas.
- Gently massage cramping muscles.

**HEAT COLLAPSE - HEAT SYNCOPE (SUDDEN FAINTING EPISODE)** with heat collapse, the brain does not receive enough oxygen because blood pools in the extremities. As a result, the exposed individual may lose consciousness. This reaction is similar to that of heat exhaustion and does not affect the body's heat balance. However, the onset of heat collapse is rapid and unpredictable. To prevent heat collapse, the worker should gradually become acclimatized to the hot environment.

Cause:
- Caused by body's attempt to remove heat by opening or widening blood vessels, which results in decreased blood flow to the brain or other vital organs.
- Blood accumulates in lower part of body if person is standing still.

Symptoms:
- Victim faints.
- Pulse will be fast but weak.
- Skin will be cool and moist.

First Aid:
- Place individual flat with feet slightly elevated.
- Rest in cool place out of direct sunlight.
- When conscious administer cool liquids.
- Call emergency personnel if victim does not regain consciousness quickly.

**HEAT EXHAUSTION** - The signs and symptoms of heat exhaustion are headache, nausea, vertigo, weakness, thirst, and giddiness. Fortunately, this condition responds readily to prompt treatment. Heat exhaustion should not be dismissed lightly, however, for several reasons. One is that the fainting associated with heat exhaustion can be dangerous because the victim may be operating machinery or controlling an operation that should not be left unattended; moreover, the victim may be injured when he or she faints. Also, the signs and symptoms seen in heat exhaustion are similar to those of heat stroke, a medical emergency.

Cause:

- Caused by excessive heat, insufficient water intake, insufficient salt intake and a deficiency of the production of sweat which evaporates on the skin to cool the body.
- The surface blood vessels and capillaries which originally enlarged to cool the blood collapse from loss of body fluids and necessary minerals.
- This happens when you don't drink enough fluids to replace what you are sweating away.

Symptoms:

- Pale, clammy skin
- Fatigue
- Loss in coordination
- Headaches, dizziness, lightheadedness or fainting
- Upset stomach, nausea and/or vomiting
- Shallow breathing
- Rapid pulse (120 - 200)
- Low to normal blood pressure
- Hyperventilation
- Tingling in hands or feet
- Intense thirst
- Mood changes such as anxiety, irritability or confusion
- Impaired judgment
- Person may collapse if warning signs are disregarded

First Aid:

- Place individual flat with feet slightly elevated
- Person must lie flat except when drinking
- Cool body as rapidly as possible
- Fan or mist the person with water
- Administer cool liquids
- Loosen or remove heavy clothing
- In case of collapse, call for emergency personnel
- Victims of heat exhaustion should avoid strenuous activity for at least a day and should continue to drink water to replace lost body fluids.

**HEAT STROKE** occurs when the body's system of temperature regulation fails and body temperature rises to critical levels. This condition is caused by a combination of highly variable factors, and its occurrence is difficult to predict. Heat stroke is a medical emergency. The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature, e.g., a rectal temperature of 41°C (105.8°F). If body temperature is too high, it causes death. The elevated metabolic temperatures caused by a combination of work load and environmental heat load, both of which contribute to heat stroke, are also highly variable and difficult to predict.

If a worker shows signs of possible heat stroke, professional medical treatment should be obtained immediately. The worker should be placed in a shady area and the outer clothing should be removed. The worker's skin should be wetted and air movement around the worker should be increased to improve evaporative cooling until professional methods of cooling are initiated and the seriousness of the condition can be assessed. Fluids should

be replaced as soon as possible. The medical outcome of an episode of heat stroke depends on the victim's physical fitness and the timing and effectiveness of first aid treatment.

Regardless of the worker's protests, no employee suspected of being ill from heat stroke should be sent home or left unattended unless a physician has specifically approved such an order.

Cause:

- Overexposure to extreme heat and a breakdown of body's heat-regulating mechanisms.
- Body shuts down in an attempt to keep its internal organs from burning up.

Symptoms:

- Hot, dry flushed skin, and may be red, mottled, or bluish
- Rapid heartbeat
- Victim no longer sweat, and thus body can't get rid of excess heat
- Abnormally high body temperature (103°F)
- When your body temperature reaches 106˚F brain death begins to occur
- May appear mentally confused, delirious
- May have seizures, convulsions or lose consciousness entirely
- Without emergency treatment, victim lapses into shock, then a coma and if body temperature is too high, death can occur.

First Aid:

- Call for medical assistance immediately
- Place individual flat with feet slightly elevated
- Loosen or remove heavy clothing
- Cool body as rapidly as possible. Pour water on them or fan and mist the person with water.
- Put an ice pack on their head, neck, armpits or groin area
- If using a cold bath, rub skin constantly to maintain skin circulation
- Stop cooling when body temperature reaches 101 °F
- If conscious and coherent, administer cool liquids
- However, liquids should NOT be administered to a victim in an altered mental state of heat stroke. There is a risk of these liquids being aspirated into the lungs. Medical assistance will administer I.V. fluids when they arrive.

## HOW TO TELL THE DIFFERENCE BETWEEN HEAT EXHAUSTION & HEAT STROKE

- You can tell if a person has heat exhaustion if they show a marked improvement after drinking a small amount of fluids and being in the shade. A person who is not used to the heat will have this type of exhaustion.
- Look for a quick occurrence of heat stroke. It comes on faster than heat exhaustion and has more extreme consequences and symptoms, such as dry mouth, gaunt appearance and vomiting.
- Monitor the body temperature. If the person's temperature is 103°F or above it's at a heat stroke level.
- Evaluate the potential heat stroke victim. Determine if they are coherent. Heat exhaustion patients are conscious, just overheated. Heat stroke victims can have mild hallucinations or show signs of mental incapacity.
- If they are coherent ask questions about their health. If a person is taking certain medications or on a low-sodium diet, they can suffer heat stroke more readily because they lose important body fluids containing electrolytes and salt.
- During heat stroke the body is further along in the overheating process than when exhausted. It becomes harder to replenish fluids and cool down.

## HEAT STRESS PREVENTION PROCEDURES

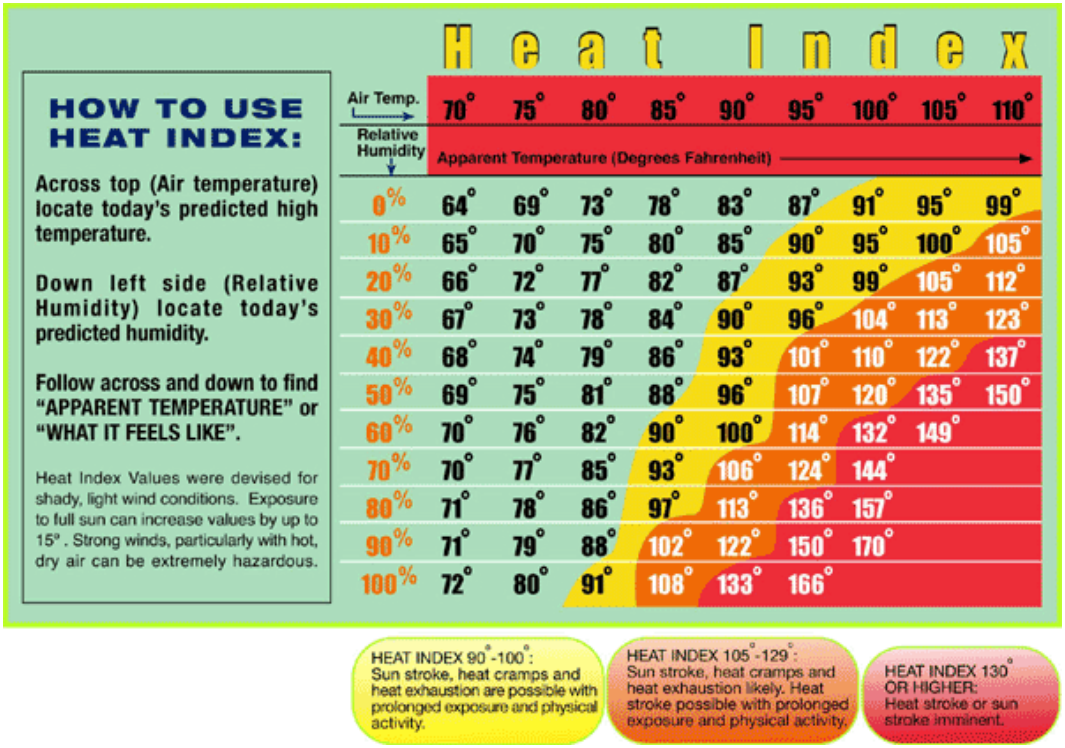
Each work site shall develop site specific procedures but shall include the minimum:

- Schedule "hot" jobs for the cooler part of the day (early morning or early evening).
- Schedule routine maintenance and repair work in hot areas during the cooler seasons of the year.
- Know signs and symptoms of heat-related illnesses and monitor yourself and your co-workers.
- Condition yourself for working in hot environment. Start slowly then build up to do more physical work. Allow your body to adjust over a few days.
- Urine is often a good indicator of hydration. A properly-hydrated person will urinate every three to five hours, and it should be clear or light-colored. Urinating less frequently, and urine that is dark yellow or amber in color are signs of dehydration.
- Introduce new employees to heat exposure gradually. It should take 6 days to acclimate a new employee.
- Drink water often, don't wait until you're thirsty. By then, there's a good chance you are already on your way to being dehydrated.
- OSHA recommends 1 cup (or 8 ounces) of water, every 15 minutes, or one quart per hour.
- Warning: If your doctor generally limits the amount of fluid you drink or has you on water pills, or you are on a low-salt diet, talk with your doctor to ask how much you should drink of either while the weather is hot.
- Warning: Some medicines reduce heat tolerance. Check with your doctor.

- Wear light weight, light colored, loose cotton fitting, or heat reflective clothing.
- Open all windows and doors, if possible, in hot working areas. Some food producing plants that do not allow open doors will allow extra screen ventilation to be installed.
- Use ventilation or local cooling fans to increase air movement over your body and promote skin evaporation. Get as much air moving as possible.
- Wear ice pack filled cooling vests.
- Use a work/rest schedule, especially when wearing impermeable clothing such as chemical suits.
- If you notice you are getting a headache or start to feel overheated, STOP and cool off for a few minutes before going back to work.
- Avoid alcohol and caffeine drinks like coffee and pop. Alcohol beverages increase body water loss. Caffeine products cause an expansion of blood vessels and may bring on flushing, dizziness or fainting. Drinking coffee, soda, and tea may give the sensation of quenching thirst, but in fact induces more harm than good. In addition, beverages containing sugar should be avoided because sugar requires a large amount of the body's energy to process. Choose water instead.
- Addictive drugs reduce heat tolerance.
- Avoid eating heavy meals.
- Block out direct sun or other heat sources.
- Provide additional breaks and break areas.
- Add additional personnel to reduce exposure time for each member of a crew.
- Permit employees the freedom to interrupt work when they feel extreme heat discomfort.

## HEAT INDEX CHART

Refer to the Heat Index Chart below. Monitor temperatures, humidity and worker's response to the heat at least hourly.



**HOW TO USE HEAT INDEX:**

Across top (Air temperature) locate today's predicted high temperature.

Down left side (Relative Humidity) locate today's predicted humidity.

Follow across and down to find "APPARENT TEMPERATURE" or "WHAT IT FEELS LIKE".

Heat Index Values were devised for shady, light wind conditions. Exposure to full sun can increase values by up to 15°. Strong winds, particularly with hot, dry air can be extremely hazardous.

Heat Index

| Air Temp. → / Relative Humidity ↓ | 70° | 75° | 80° | 85° | 90° | 95° | 100° | 105° | 110° |
|---|---|---|---|---|---|---|---|---|---|
| | Apparent Temperature (Degrees Fahrenheit) → | | | | | | | | |
| 0% | 64° | 69° | 73° | 78° | 83° | 87° | 91° | 95° | 99° |
| 10% | 65° | 70° | 75° | 80° | 85° | 90° | 95° | 100° | 105° |
| 20% | 66° | 72° | 77° | 82° | 87° | 93° | 99° | 105° | 112° |
| 30% | 67° | 73° | 78° | 84° | 90° | 96° | 104° | 113° | 123° |
| 40% | 68° | 74° | 79° | 86° | 93° | 101° | 110° | 122° | 137° |
| 50% | 69° | 75° | 81° | 88° | 96° | 107° | 120° | 135° | 150° |
| 60% | 70° | 76° | 82° | 90° | 100° | 114° | 132° | 149° | |
| 70% | 70° | 77° | 85° | 93° | 106° | 124° | 144° | | |
| 80% | 71° | 78° | 86° | 97° | 113° | 136° | 157° | | |
| 90% | 71° | 79° | 88° | 102° | 122° | 150° | 170° | | |
| 100% | 72° | 80° | 91° | 108° | 133° | 166° | | | |

HEAT INDEX 90°-100°: Sun stroke, heat cramps and heat exhaustion are possible with prolonged exposure and physical activity.

HEAT INDEX 105°-129°: Sun stroke, heat cramps and heat exhaustion likely. Heat stroke possible with prolonged exposure and physical activity.

HEAT INDEX 130° OR HIGHER: Heat stroke or sun stroke imminent.

## HEAT STRESS ACTION TIME LIMITS

| | Work Clothes | | | Coveralls | | | Work Clothes and Coveralls | | | Work Clothes and Chemical Suit | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Work Rate | | | Work Rate | | | Work Rate | | | Work Rate | | |
| **Heat Index Degrees F** | Low | Mod | High | Low | Mod | High | Low | Mod | High | Low | Mod | High |
| 296+ | 15 | X | X | X | X | X | X | X | X | X | X | X |
| 279-295 | 20 | X | X | X | X | X | X | X | X | X | X | X |
| 263-278 | 20 | X | X | X | X | X | X | X | X | X | X | X |
| 248-262 | 25 | 15 | X | 15 | X | X | X | X | X | X | X | X |
| 223-247 | 25 | 20 | X | 20 | X | X | 15 | X | X | X | X | X |
| 210-222 | 30 | 20 | X | 20 | X | X | 20 | X | X | X | X | X |
| 195-209 | 40 | 25 | X | 25 | 15 | X | 20 | X | X | X | X | X |
| 188-194 | 50 | 25 | 15 | 25 | 20 | X | 25 | 15 | X | X | X | X |
| 171-187 | 60 | 30 | 15 | 30 | 20 | X | 25 | 20 | X | 15 | X | X |
| 157-170 | 75 | 35 | 20 | 40 | 25 | X | 30 | 20 | X | 20 | X | X |
| 144-156 | 90 | 35 | 20 | 50 | 25 | 15 | 40 | 25 | X | 20 | X | X |
| 131-143 | 110 | 40 | 25 | 60 | 30 | 15 | 50 | 25 | 15 | 25 | 15 | X |
| 124-130 | 135 | 45 | 30 | 75 | 35 | 20 | 60 | 30 | 15 | 25 | 20 | X |
| 114-123 | 165 | 55 | 35 | 90 | 35 | 20 | 75 | 35 | 20 | 30 | 20 | X |
| 104-113 | 195 | 65 | 45 | 110 | 40 | 25 | 90 | 35 | 20 | 40 | 25 | X |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100-103 | 240 | 90 | 55 | 135 | 45 | 30 | 110 | 40 | 25 | 50 | 25 | 15 |
| 95-99 | Na | 120 | 75 | 165 | 55 | 35 | 135 | 45 | 30 | 60 | 30 | 15 |
| 91-94 | Na | 180 | 90 | 195 | 65 | 45 | 165 | 55 | 35 | 75 | 35 | 20 |
| 88-90 | Na | 240 | 120 | 240 | 90 | 55 | 195 | 65 | 45 | 90 | 35 | 20 |
| 86-87 | Na | Na | 180 | Na | 120 | 75 | 240 | 90 | 55 | 110 | 40 | 25 |
| 84-85 | Na | Na | 240 | Na | 180 | 90 | Na | 120 | 75 | 135 | 45 | 30 |
| 82-83 | Na | Na | Na | Na | 240 | 120 | Na | 180 | 90 | 165 | 55 | 35 |
| 81 | Na | Na | Na | Na | Na | 180 | Na | 240 | 120 | 195 | 65 | 45 |
| 80 | Na | Na | Na | Na | Na | 240 | Na | Na | 180 | 240 | 90 | 55 |
| 79 | Na | Na | Na | Na | Na | Na | Na | Na | 240 | Na | 120 | 75 |

**NOTE:**

- Na=no limit
- X=Action Time of 15 Minutes and Actions Time can only be extended through the use of cooling garments
- CAUTION: Respirator use requires a Moderate Work Rate at Minimum. Moderate work rate Activities should be elevated to High Work Rates when a respirator is used.
- Required Recovery Time: Recovery Time = (Actual Work Time/Action Time) x 60 Minutes
- When working in pairs stay times are doubled

## WORK REST METABOLISM GUIDELINES

Use this chart to determine type of work rate.

| Work Rate | Type of Activity | Examples |
|---|---|---|
| LOW | ❑ Sitting or standing with light arm and trunk movement | ❑ Inspections<br>❑ Supervising or monitoring<br>❑ Fire Watch<br>❑ Confined Space Attendant<br>❑ Collecting Samples |
| MODERATE | ❑ Standing or moderate work at a machine or bench<br>❑ Some walking and minimal climbing<br>❑ Occasional ladder or stair climbing<br>❑ Lifting and pulling | ❑ Stationary Welding<br>❑ Bench work<br>❑ Painting<br>❑ Floor Cleaning |
| HEAVY | ❑ Walking with frequent stair climbing<br>❑ Heavy lifting<br>❑ Pushing or pulling<br>❑ Work in tented non- | ❑ Transporting heavy equipment by hand<br>❑ Shoveling<br>❑ Pump and Pipe Rebuilds<br>❑ Scaffold erection |

| | | |
|---|---|---|
| | ventilated areas. | ❑ Asbestos removal |

## CALIFORNIA DOSH SEEKS MAJOR CHANGES TO HEAT ILLNESS STANDARD

There have been an increasing number of very serious 'heat stroke' claims throughout the country. They have been both outside in the hot sun (laborers, landscapers, cement workers, etc.) AND inside locations (foundries, bakeries, etc.). Cal-OSHA has just sent out proposed revisions to their current Heat Stress regulations – which make a lot of sense. While they are only proposed, they certainly look good, and could possibly be used as a "Best Practices" conceptual procedure/idea/policy/whatever to use.

The Division of Occupational Safety and Health proposed major revisions in 2014 to California's heat illness prevention standard. The action is not formal rulemaking, but sending its proposal to the Standards Board is a big first step in revising the almost 10-year-old regulation. California has lead the nation in heat illness standards. Employers with heat exposures may be well advised to begin adoption in advance.

Among the proposed revisions:

- Requiring employers to provide drinking water as close as practicable but no more than 400 feet from employees, with some wiggle room.
- Shade to be provided when temperatures hit 80 degrees (currently 85F) and no farther than 700 feet from workers.
- Employees who need to take a "cool-down rest" cannot be ordered back to work until symptoms of heat illness have abated. Employers also would have to monitor the worker during the rest period and provide emergency services if the symptoms worsen.
- High-heat procedures would kick in at 85 degrees, instead of the current 95F. The draft also adds specific instructions for observing employees for heat illness signs during high-heat.
- Expanding the training topics that must be provided to employees.
- Adding specific instructions on what must be contained in employers' written heat illness prevention procedures.
- Requiring supervisors to take "immediate action" if employees show signs of heat illness. Such employees would have to be offered emergency medical services before they could be sent home.

Once the Standards Board reviews the draft, it might return it to DOSH for changes or for questions. No timetable has been set for formal adoption but this appears to be on a fast track. Even though Winger does not perform work in California, all precautions should be taken to prevent Winger employees from succumbing to heat illnesses. Winger works closely with customers to identify and mitigate heat hazards in the work place.

## SUPERVISOR AND EMPLOYER RESPONSIBILITY

All Company managers and supervisors are responsible for implementing and maintaining the Heat Stress Prevention Program in their work areas.

- Employees shall have access to potable drinking water. Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift.
- Employees will be provided with access to shade at all times. Employees suffering from heat illness or believing a preventative recovery period is needed, shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling.
- Each work location involved in working in hot environments shall implement measures (control measures) that must be in place to control the effects of environmental factors that can contribute to heat related illnesses. The most common environmental factors are air temperature, humidity, radiant heat sources and air circulation.
- Physical factors that can contribute to heat related illness shall be taken into consideration before performing a task. The most common physical factors that can contribute to heat related illness are type of work, level of physical activity and duration, and clothing color, weight and breathability.
- Supervisors must ensure personal factors that contribute to heat related illness are taken into consideration before assigning a task where there is the possibility of a heat-related illness occurring. The most common personal factors that can contribute to heat related illness are age, weight/fitness, drug/alcohol use, prior heat-related illness, etc.

## TRAINING REQUIREMENTS

- At least annually
- Knowledge of the hazards of heat stress
- Recognition of predisposing factors, danger signs, and symptoms
- Awareness of first-aid procedures for, and the potential health effects of, heat stroke
- Employee responsibilities in avoiding heat stress
- Dangers of using drugs, including therapeutic ones, and alcohol in hot work environments
- Use of protective clothing and equipment and
- Purpose and coverage of environmental and medical surveillance programs and the advantages of worker participation in such programs
- Supervisors will be trained in preventing heat related illnesses prior to supervising employees
- Supervisors will be trained in the employer's heat illness emergency response procedures

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## DOCUMENT CONTROL

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Revised April 2, 2013
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