



American Foundry Society

# Heat Illness Prevention Plan

**Company** \_\_\_\_\_

**Last Reviewed** \_\_\_\_\_

**NOTE**

THIS TEMPLATE MAY BE HELPFUL IN DEVELOPING YOUR HEAT MANAGEMENT PROGRAM. IT SHOULD BE MODIFIED TO MEET THE CONDITIONS IN YOUR FOUNDRY. IT IS NOT INTENDED TO BE ADOPTED VERBATIM.

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## 1. Purpose

The purpose of this Heat Illness Prevention Plan is to set guidance for managers, supervisors, and employees in preventing heat illness during operations that are likely to involve heat stress.

## 2. Provision of Water

Note: Drinking water should not be dispensed in regulated areas where prohibited by OSHA regulations. Examples: cadmium, chromium, lead, etc.

Employees should not wait until they are thirsty to drink fluids. Employees are encouraged to drink eight (8) ounces of water every 15-20 minutes. Drinking water is available from plumbed dispensers, bottled water dispensers or drinking fountains at the points listed below:

### LIST LOCATIONS

- (i.e., Drinking water is available from Igloo coolers in the control room)
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Employees experiencing problems obtaining drinking water should report the issue to their supervisor for correction.

## 3. Cool-Down Areas

During periods where heat stress is likely, employees will have access to cool-down areas as needed. Cool-down areas available at all times include:

### LIST LOCATIONS

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Cool-down areas will be continually supplied with water and electrolyte replenishing drinks. Instant ice packs will be available for first aid/emergency use.

Following reports of workers experiencing early warning signs of excessive heat strain or symptoms of heat illness, a designated employee will escort them to a cool down area for evaluation and, as needed, treatment (See Section 6 – Emergency Procedures)

## 4. Monitoring of Environmental Risk Factors

When outdoor air temperatures equal or exceed a trigger point, for example 80F (26.7C), monitoring of areas likely to produce heat stress shall begin. (NOTE: trigger points may vary by season or geographical location)

- Create a list of each work area where the heat index is to be monitored
- When the heat index equals or exceeds 80F (26.7C), employees shall be instructed to increase their water consumption.

- When the heat index equals or exceeds 90F (32.2C), the following shall be implemented:

LIST COUNTERMEASURES, For Example:

- Extra breaks allowed as needed
- Use of cooling vests
- Increased rotation frequency
- Schedule “hot” jobs in cooler parts of the day, or delay work until conditions improve.
- Use of fans for cooling

NOTE: Fans are generally only effective as long as the air temperature is less than the worker's skin temperature (usually less than 95F (35C) dry bulb). Changes in air speed can help workers stay cooler by increasing both the convective heat exchange (the exchange between the skin surface and the surrounding air) and the rate of evaporation. This does not actually cool the air so moving air must impact the worker directly to be effective.

## 5. Acclimatization

Allow new workers to get-acclimated to hot working environments by using a staggered approach over 7-14 days. For example, new workers should begin work with 20% of the normal workload and time spent in the hot environment, and then gradually increase the time or workload over a 7–14-day period. The same should be done for workers returning from an absence of three or more days, starting with 50% of the normal workload and time spent in the hot environment, then staging acclimatization over three consecutive days. Acclimatization helps the body prepare for working in hot conditions.

Acclimatization procedures should include, at minimum:

- All employees must be closely observed by a supervisor trained to recognize signs and symptoms of excessive heat strain when outdoor temperatures are at least 95F (35C) and 10°F (5.5°C) higher than the day before.
- Employees new to the heat area job or task must be closely observed by a trained supervisor or trained designated person for the first 14 days of their assignment.
- Employees off work or in a non-heat area job for more than 13 days must be closely observed by a trained supervisor or trained designated person for the first 7 days after their return.
- To be considered acclimated, employees must have worked at least 2 hours per day in hot conditions over 14 consecutive days.

## 6. Emergency Procedures

Excessive heat strain can lead to heat illness and may progress rapidly from mild to serious and even life threatening. Workers who experience early warning signs of excessive heat strain or symptoms of heat-related illness should promptly report them to their supervisor.

- Employees reporting excessive heat strain or heat illness symptoms will be escorted to a cool-down area.

- Procedures for evaluating the employee's condition and administering first aid are contained in Appendix A.
- For procedures to access 911 and evacuate ill employees, please refer to the plant's Emergency Action Plan.
- Employees suffering heat exhaustion or heat stroke must have clearance from a medical professional before returning to work.

## 7. Training

Employees expected to work in areas where heat strain may be a hazard will be trained upon initial hiring or transfer into the job, and refreshed annually prior to seasonal temperature increases.

**Training for all employees** shall consist of the following topics, at minimum:

- Environmental and personal risk factors for heat illness (i.e., medications, heart issues, obesity, diet, drug and alcohol use, caffeine, history of difficulty working in heat, off the job heat exposure) and the added burden caused by exertion, clothing, and Personal Protective Equipment (PPE).
- Procedures for complying with this policy including access to water and cooling areas, cool down rests, and access to first aid as well as employee rights to no retaliation.
- The importance of consumption of small quantities of water up to 4 cups (32 ounces) per hour when in a hot environment and sweating more than usual.
- The concept, importance, and methods of acclimatization and close observation during the acclimatization period.
- Different types of heat illness, common signs and symptoms of heat strain and heat illness and appropriate first aid/emergency procedures for each. In addition, that excessive heat strain can lead to heat illness and may progress quickly from mild to serious and life threatening.
- The importance of immediately reporting symptoms of excessive heat strain or heat illness to a supervisor.
- Procedures for responding to signs or symptoms of excessive heat strain or heat illness, including access to emergency services.
- Procedures for contacting emergency services.

**Additional training for supervisors and managers** shall consist of the following topics:

- The information in Appendix A.
- Procedures to follow to implement or comply with this policy.
- Procedures to follow when an employee exhibits signs or reports symptoms of excessive heat strain or heat illness.
- Prohibition against retaliation towards employees accessing rights under this policy.

## 8. Plan Updates

This plan will be reviewed at least annually and updated as necessary.

**APPENDIX A—RESPONSE TO REPORT OF HEAT ILLNESS SYMPTOMS**

When an employee reports symptoms of heat illness the following steps shall be taken:

1. Move the person to a cool-down area.
2. Remove any protective clothing that may limit cooling.
3. Listen to their reported symptoms and assess the seriousness of the situation per the table below.
4. Apply first aid as needed including measures to cool the body and replenish fluids and electrolytes. NOTE: Do not give fluids to an unconscious person.
5. Take and record temperature, heart rate, and blood pressure until they return to normal.
6. If necessary (i.e., loss of consciousness, dry red skin, confusion) call 911 for emergency services and implement the plant’s Emergency Action Plan.

Heat Illness	Signs and Symptoms	First Aid/Medical Procedure
<b>HEAT CRAMPS</b>	<ul style="list-style-type: none"> <li>•Painful spasm of one or more large muscles</li> </ul>	<ul style="list-style-type: none"> <li>• Replenish water and electrolytes</li> <li>• Rest in cool-down area until cramps subside</li> </ul>
<b>HEAT EXHAUSTION</b>	<ul style="list-style-type: none"> <li>•Skin clammy and moist from excessive perspiration</li> <li>•Skin pale or flushed</li> <li>•Body temperature slightly elevated</li> <li>•Extreme fatigue</li> <li>•Giddiness</li> <li>•Dizziness</li> <li>•Nausea or headache</li> <li>•May vomit or lose consciousness</li> </ul>	<ul style="list-style-type: none"> <li>• Rest in cool-down area</li> <li>• Replenish water and electrolytes</li> <li>• Medical clearance before return to work</li> </ul>
<b>HEAT STROKE</b>	<ul style="list-style-type: none"> <li>•Hot, dry, red, blotched, or spotted skin</li> <li>•Confusion, delusional</li> <li>•Convulsions or unconsciousness</li> <li>•Deep breathing followed by shallow breathing</li> <li>•Rapid but strong irregular pulse</li> <li>•Dilated pupils</li> </ul>	<ul style="list-style-type: none"> <li>•Death or permanent disability possible without immediate treatment</li> <li>•Call 911</li> <li>•Move to cool-down area</li> <li>•Cool with ice or water bath</li> <li>•Medical clearance before return to work</li> </ul>