

Using the Heat Index: A Guide for Employers

Using the Heat Index to Protect Workers

The heat index can be used to help determine the risk of heat-related illness for outdoor workers, what actions are needed to protect workers, and when those actions are triggered. Depending on the heat index value, the risk for heat-related illness can range from lower to very high to extreme. As the heat index value goes up, more preventive measures are needed to protect workers. Heat index values are divided into four bands associated with four risk levels. These bands differ from those appearing in the NOAA Heat Index chart, which was developed for the public. The NOAA bands have been modified for use at worksites:

Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (Caution)	Basic heat safety and planning
91°F to 103°F	Moderate	Implement precautions and heighten awareness
103°F to 115°F	High	Additional precautions to protect workers
Greater than 115°F	Very High to Extreme	Triggers even more aggressive protective measures

Important consideration: NOAA devised the heat index values for shaded conditions and light winds. **Full sunshine can increase heat index values by up to 15° Fahrenheit.** Strenuous work and the use of heavy or specialized protective clothing also have an additive effect. As a result, the risk at a specific heat index could be higher than that listed in the table above if the work is in direct sunlight without a light breeze, or if work involves strenuous tasks or the use of heavy or specialized protective clothing. Extra measures, including implementing precautions at the next risk level, are necessary under these circumstances.

The employer's response at the four risk levels is the subject of the remainder of this guide. The steps employers should take in response to an elevated heat index are the same type of steps that they would follow to address other hazards in the workplace:

- Develop an illness prevention plan for outdoor work based on the heat index
- Train your workers how to recognize and prevent heat-related illness
- Track the worksite heat index daily; communicate it and the required precautions to workers
- Implement your plan; review and revise it throughout the summer

STEP 1: Develop a heat-related illness prevention plan before heat index levels rise.

Use the Protective Measures to Take at Each Risk Level to inform your planning. The plan should address:

Plan Element	Heat Index Risk Level			
	Lower (Caution)	Moderate	High	Very High/Extreme
Supplies (ensuring adequate water, provisions for rest areas, and other supplies)	✓	✓	✓	✓
Emergency planning and response (preparing supervisors and crews for emergencies)	✓	✓	✓	✓
Worker acclimatization (gradually increasing workloads; allowing more frequent breaks as workers adapt to the heat)	✓	✓	✓	✓
Modified work schedules (establishing systems to enable adjustments to work schedules)		✓	✓	✓
Training (preparing workers to recognize heat-related illness and preventive measures)	✓	✓	✓	✓
Physiological, visual, and verbal monitoring (using direct observation and physiological monitoring to check for signs of heat-related illness)		✓	✓	✓

Review the pages of this guide to learn more about what you can do to protect workers from heat-related illness. Use checklists to assist in planning ahead and in daily planning.

STEP 2: Train workers before it gets hot. Train workers about safe work practices before heat index levels go up. Prepare workers so that they recognize the signs and symptoms of heat-related illness, how to prevent it, and what to do if someone has symptoms. **Reinforce the training on hot days.**

For heat-related illness prevention training tools and resources, go to Training Resources. OSHA’s factsheets and worksite posters (in English and Spanish) can help in communicating key messages about heat safety and health.

STEP 3: Track the weather for the worksite daily and assess the risk to workers. Know how hot it will be during scheduled work activities and use this information to determine which preventive measures should be taken.

Check with the **National Weather Service** to get the current or predicted heat index values and see a map of areas under excessive heat warning across the U.S. The heat index is also announced by television and radio stations as part of the local weather. Monitor weather reports daily to remain prepared for high heat index levels. Monitor weather reports daily to remain prepared for high heat index levels. **Use OSHA's Heat Smartphone App** to check the heat index for your worksite and see reminders about the protective measures for the specified risk level.

STEP 4: Implement your plan when the heat index is at or above 80° Fahrenheit. Adjust risk level based on site conditions (direct sunlight vs. shaded, with breeze), work load, and type of protective clothing.

See **Summary of Employer Actions** at each risk level.