

CRITICAL INFORMATION FOR COLD WEATHER WORK



Chilling facts of winter work

Slipping on ice in the company parking lot may be one of the most commonly reported winter work incidents, but it's not the only cold weather culprit. The Bureau of Labor Statistics reports that **over 40,000 workplace injuries occur annually because of snow and ice. In 2021, winter storms claimed the lives of 262 workers.** The fact that weather-related deaths have risen 20 percent over the past five years has raised eyebrows, and rightfully so. As seasonally colder temperatures return, there is reason for concern.

Prolonged exposure to freezing temperatures can prevent the body from maintaining its normal body temperature. This is called cold stress, and it can result in serious health threats such as hypothermia, frostbite, and trench foot. While providing winter clothing, protective equipment, and additional rest breaks are important, you shouldn't overlook other methods to protect employees from the cold.

WHEN IS IT TOO COLD FOR SAFE WORK?

Cold weather exposures can occur in both indoor and outdoor work settings when temperatures dip near or below freezing. Additionally, the likelihood of hazards from extreme cold can differ depending upon geographical location and environmental variables.

Environmental factors that increase risk to workers when temperatures drop include:

- Increased wind speeds or cool winds;
- Dampness or humidity;
- Cold water, rain, snow, or sleet; and
- Challenging terrain that requires more exertion.

Employees that are not properly acclimated to cold working conditions, are not properly dressed for the cold, or have personal risk factors like diabetes (which already can prevent effective blood flow) are especially susceptible to cold stress. It's important to take action before the body starts to shiver – as shivering is the way the body produces heat. **Allowing core body temperatures to drop below 96.8 degrees Fahrenheit can lead to serious health conditions, tissue damage, or death.**

Additionally, certain personal factors can add to cold stress such as:

- Insufficient acclimatization to temperature extremes;
- Wearing inadequate or wet clothing;
- Overall health or physical fitness;
- Age and weight;
- Hydration level;
- Alcohol or drug use;
- Certain medications;
- Illness, infection, or chronic disease; and/or
- Pregnancy

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WHO'S MOST AFFECTED BY FRIGID TEMPERATURES?

All workers that are potentially exposed to indoor or outdoor cold hazards must be sufficiently protected. Those most susceptible include:

- Construction
- Emergency response
- Snow removal
- Agriculture
- Transportation and traffic control
- Utility work
- Roofing
- Manufacturing
- Food processing
- Nitrogen/Chemical Industries
- Recreational workers (e.g., ski patrol)
- Commercial fishing

Remember, winter weather can affect workers in any industry when conditions are right. Any process or jobsite that is likely to lower the worker's core body temperature can be dangerous.



HOW CAN YOU PROTECT EMPLOYEES?

Employers can best protect workers by developing, implementing, and enforcing safe work procedures that address cold weather hazards. Here's just the tip of the iceberg:

HAZARD	CONTROL
Slips, trips, and falls	<ul style="list-style-type: none"> • Maintain walking and working surfaces to avoid slippery areas, • Provide shoe cleats for traction, and • Provide training.
Hypothermia, frostbite, or trench Foot	<ul style="list-style-type: none"> • Reduce workers' time in the cold, • Provide warming areas during rest breaks, • Use engineering controls (heaters, insulating materials on tools, shields, etc.), • Provide cold weather personal protective equipment (PPE), and • Provide training.
Fatigue	<ul style="list-style-type: none"> • Reduce workers' time in the cold, • Reduce physical demands of workers during colder periods, • Provide cold weather PPE, • Provide warming areas during rest breaks, • Supply potable water for hydration, • Provide training, • Implement a buddy system, and • Monitor workers who are at-risk.
Chilblains (<i>ulcers formed by damaged blood vessels in the skin</i>)	<ul style="list-style-type: none"> • Reduce workers' time in the cold, • Provide warming areas during rest breaks, • Use engineering controls (heaters, insulating materials on tools, shields, etc.), • Provide cold weather PPE, and • Provide training.

Prevention is the best way to avoid cold-related illness and injuries. Encourage participation and engagement in joint management and employee safety planning. This way everyone is involved and accountable for the plan's success.

An effective plan will detail how to monitor employees and the weather during colder conditions and also guide workers on the recognition and treatment of cold-related illnesses and injuries. When workers have a vested interest in winter protection, they not only look out for themselves but also for their coworkers.

Even the best laid plans can fall apart without proper training. **Employers must provide timely and effective winter weather training**, so supervisors and workers understand how to recognize, prevent, and treat cold-related injuries and illnesses. Workers should understand the differences between hypothermia, frostbite, and other cold-related illnesses as well as how best to prevent each of them.

Regardless of the protective safety methods used, employers should always provide adequate oversight and supervision to ensure workers are properly acclimated and dressed for the weather, are staying hydrated, and are taking warm-up breaks. Continuous communication between supervisors, workers, and contractors is also key for effective oversight.



WHICH REGULATIONS APPLY TO WORKING IN THE COLD?

Duties of employers and employees are found in [29 USC 654](#) (including Pub. L. 91-596 “OSH Act of 1970” 5(a)(1), the “General Duty Clause (GDC)”).

Currently, OSHA doesn’t have a specific standard addressing working in cold conditions; however, as the GDC defines, the Agency would expect employees in high-hazard industries to be protected from recognized cold-related hazards that may lead to serious illnesses, injuries, or death.



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Cindy Pauley joined J. J. Keller & Associates, Inc. in 2022 and is an Editor on the Environmental, Health & Safety (EHS) publishing team. She brings over a decade of safety program development and management experience in oil and gas, chemical, manufacturing, construction, and agricultural industries. Cindy specializes in developing a wide variety of easily understandable content and regulatory insight for J. J. Keller & Associates’ customers and partners.

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