

Cold Weather Safety Tips for Employees

When you work in cold, windy, and damp conditions for a prolonged time, you are at risk for cold stress. Cold stress refers to cold-related illnesses such as hypothermia, frostbite, trench foot, and chilblains. By following these cold weather safety tips, you'll decrease your chances of suffering from cold stress.

- **Recognize dangerous conditions.** Cold stress is caused by four factors: temperature, high or cold winds, dampness, and cold water. Cold stress can happen even in moderate temperatures. For example, a temperature of 40° F with a 35 mph wind can make it feel like 28° F. (This is known as the wind chill factor). If it is raining, conditions become even more dangerous. Know when conditions become too hazardous. Familiarize yourself with the [work/warm-up schedule for 4-hours shifts](#) developed by the American Conference of Governmental Industrial Hygienists (ACGIH), which highlights conditions when non-emergency work should cease.
- **Know the signs of cold stress.** Hypothermia happens when body heat is lost faster than it can be replaced and body temperature drops below 95° F. Hypothermia begins with shivering and progresses to slurred speech, lack of coordination, and memory loss. Frostbite occurs when layers of skin tissue freeze. It starts with tingling and stinging in your extremities (*e.g.*, fingers, toes) followed by numbness. The skin will turn from red to purple to white and will be cold and waxy. Trench foot happens when feet are in cold water too long. Symptoms include tingling, itching, burning, and blistering. Chilblains occur when the skin is repeatedly exposed to temperatures just above freezing, and small blood vessels become inflamed. The most affected areas are cheeks, ears, fingers, and toes. Symptoms include itching, red patches, swelling, and blistering.
- **Work in pairs so you can monitor each other for signs of cold stress.**
- **Whenever possible, work during the warmest parts of the day.** Also, be sure to take frequent short breaks in warm and dry shelters. Use the [ACGIH work/warm-up schedule for 4-hours shifts](#) as a guide.
- **Stay hydrated and drink warm, sweetened beverages.** You dehydrate faster in cold weather, so it is critical to stay hydrated. Focus on drinking four liters of water or fluid a day. Avoid drinks with caffeine such as coffee, tea, soda, and hot chocolate. Instead, drink warm sweetened beverages such as hot water with lemon, hot apple cider with cinnamon, and hot ginger tea. Sports drinks such as Gatorade are also a good choice.

- **Eat warm, high-calorie foods.** You're going to be burning through lots of calories to stay warm, so load up on foods with fats and carbohydrates to help your body meet the demands of maintaining your core temperature. Warm pasta dishes are a great choice.
- **Get enough rest.** Working in cold weather conditions puts a lot of stress on your body. Make sure you're well-rested, hydrated, and fed before heading out.
- **Have a cold weather safety kit.** Stock your kit with blankets, chemical hot packs, dry clothing (including socks), hand and foot warmers, a thermometer, and first aid information on treating cold stress illnesses.
- **Dress appropriately for the conditions.** Knowing how to dress for cold weather is the most significant factor in staying safe. The rest of this article provides information on this topic.

Dressing for Cold Weather Conditions

- **Dress in layers.** Dress in three different layers with an outer protective layer. Your inner layer should wick moisture away from your skin and allow for ventilation. The best choices are long johns made of silk or synthetic materials designed for wicking away moisture. Avoid cotton! Your light insulating middle layer should absorb sweat and promote insulation even if it gets wet. A thin wool sweater is an excellent choice. Your heavier insulating outer layer should keep warmth inside. A heavier fleece or wool sweater is a good choice. Finally, your outer layer should be windproof and waterproof to protect you from the elements.
- **Wear loose-fitting clothing.** Avoid tight clothing that restricts circulation. Ensuring good blood flow is critical in cold weather conditions.
- **Wear waterproof and insulated boots.** Make sure your boots are big enough to allow you to wear two pairs of sock and still have wiggle room for your feet. Boots should not restrict circulation. If working in snowy conditions, wear gaiters to prevent snow from slipping into your boots and getting your feet wet.
- **Layer your socks and have extra pairs.** You'll want to layer your socks just like your clothes. The best choice is thin polypropylene socks under a pair of wool socks. To avoid trench foot, you want to make sure your feet stay warm and dry. Be sure to have several extra pairs of socks so you can change them if they get damp or wet.
- **Protect your head and face.** You lose most of your body heat through the head, so a winter hat is critical. Pairing a toque with a balaclava is an excellent choice as it adds additional protection for your facial tissue and helps protect your neck area. This arrangement should also allow for a hard hat to be worn over top if required.
- **Protect your hands.** You want to protect your hands and fingers as this is where frostbite and chilblains often strike. If you must perform technical work with your hands, wear thin, high-quality gloves under mittens. Remove the mittens only when you have to use your

hands. As much as possible, avoid exposing your skin. Have several extra pairs of gloves so you can change them if they get wet.

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