

Working In Extreme Cold Meeting Kit

FOUR FACTORS OF COLD

To best prepare for working in cold environments (indoor and outdoor) workers must monitor the four following factors to stay safe in the cold.

1. **Air temperature** – Of course as temperatures drop the air becomes cooler. A dip in temperatures, even a small drop, can put workers at risk for cold-related illnesses such as hypothermia. This is especially true when working in or being stranded in water waiting for rescue.
2. **Wind speed** – When the wind is blowing you feel cooler, regardless of the temperature. Even on a hot day a breeze can help cool you. When it's cold and the wind blows the air will feel even colder on your skin. This is known as the wind chill or wind chill index – the combined effect of cold air and wind speed.
3. **Humidity** – Humidity is a measure of moisture in the air. Water conducts heat away from your body 25 times faster than dry air, so the higher the humidity the quicker you will cool off. This is why you can die from hypothermia if you're in the water even when water temperature and air temperatures are relatively warm.
4. **Contact with Cold Surfaces** – Being in contact with cold or wet surfaces and floors is the final risk factor.

PROTECT EMPLOYEES

The key to preventing cold stress is to implement measures that ensure workers aren't exposed to conditions that cause their core body temperature to drop below 95° F /35° C.

1. Schedule cold work for the warmest part of the day.

2. Use radiant heaters, barriers to block the wind, and set up warm-up areas where workers can go to warm up.
3. Monitor the temperature, wind, and humidity and ensure workers are taking enough warm-up breaks.
4. Explain and enforce the use of proper cold weather clothing. Warm and dry clothing is crucial to preventing cold stress and list the items workers should wear when performing work in cold conditions, which may include:

- At least 3 layers of loose-fitting clothing, including:
 - An inner layer of wool, silk or synthetic materials to insulate the body against moisture.
 - A middle layer of wool or synthetics for insulation in case the outer layer gets wet.
- An outer layer to protect against wind and moisture and that's ventilated to prevent overheating.
 - A hat or hood.
 - A knit mask to cover the face and mouth.
 - Insulated and water-proof gloves and boots or other footwear.
 - Know and train workers on the signs, symptoms, and first aid treatment for cold-related illnesses.

1. Make sure to protect the ears, face, hands and feet in extremely cold weather.

- Boots should be waterproof and insulated.
- Be sure to wear a hat.
- The goal should be to expose as little skin as possible to the cold environment.

1. Workers in extreme conditions should take frequent, short breaks in warm, dry shelters to allow their bodies to warm up.

- Drink warm beverages and eat warm, high-calorie foods.
- Avoid exhaustion and fatigue because they sap energy, and energy is needed to keep muscles warm.
- Use the buddy system – work in pairs so that one

worker can recognize danger signs.

- Learn the signs and symptoms of cold-induced illnesses and injuries and what to do to help workers.

SIGNS AND SYMPTOMS OF HYPOTHERMIA (DANGEROUSLY LOW BODY TEMPERATURE)

Early Stage

- Shivering
- Fatigue
- Loss of coordination

Late Stage

- No shivering
- Blue skin
- Dilated pupils
- Slowed pulse and breathing
- Loss of consciousness
- Request immediate medical assistance.

FIRST AID FOR HYPOTHERMIA

- Request emergency medical assistance.
- Move the victim into a warm room or shelter.
- Remove any wet clothing.
- Warm the center of the victim's body first, that is, the chest, neck, head, and groin. One may also use loose, dry layers of blankets, clothing, towels, or sheets.
- If the victim is conscious, warm beverages may help increase the body temperature, but do not give alcoholic beverages.
- After the victim's body temperature has increased, keep the victim dry and wrapped in a warm blanket, including the head and neck.

ADDITIONAL PREVENTION TIPS

- To prevent excessive sweating while working, remove clothing in the following order:
 - mittens or gloves (unless you need protection from snow or ice),
 - headgear and scarf.
- Then open the jacket at the waist and wrists, and
- Remove layers of clothing.

FINAL WORD

Before Performing work tasks in extreme cold, make sure you understand and observe all safety precautions. Learn your employer's procedures for winter emergencies such as storms and power outages. You might have to assume extra duties in these situations but protect your own safety and health while helping others.

