

Cold Weather Safety

Most of what we talk about for construction safety is directly related to the tools, equipment, and materials we work with. The topic of Cold Weather might seem unusual to be a part of safety, but most construction work is done outdoors. Cold weather exposes the operatives to unfavourable conditions, especially during the winter or rainy season based on the geographical location. Prolonged exposure of a worker to cold can result in a series of health problems.

When working in construction, being outside for long periods is part of the job. During the winter months, outdoor work can really be a challenge – as sometimes, temperatures can get quite low. These types of working conditions can lead to cold stress. There's usually a lot more wind which can take heat away from your body. Snow and rain can make your clothing wet as well. Cold stress usually happens slowly over the course of a day – and workers may not even realize they have been affected by the cold weather. (Until it's too late)

When the weather is colder, we have to use more energy to stay warm and this is further amplified when it is windy, raining or snowing; your body loses heat even faster now. At an air temperature of 10°C, if the wind speed is 20mph, the effective temperature is 0°C. There is no specific temperature stated by law when it comes to construction work however much of the law refers to temperatures as 'comfortable'

What could happen?

Hypothermia - Being cold over a prolonged period of time can cause a drop in body temperature. If your body temperature drops below 35°C you can be at risk of hypothermia. Hypothermia is a condition in which the body uses up its stored energy and can no longer produce heat. Often occurs after prolonged exposure to cold temperature.

- Early signs: Shivering, fatigue, loss of coordination, Confusion, Slurred speech
- First Aid: Move the person to a warm place, Lay the person down and avoid rough handling, particularly if the person is unconscious, gently remove wet clothing, Warm the person gradually and slowly, using available sources of heat

Warning it can progress to a life-threatening condition where shivering stops or the person loses consciousness; and cardiac arrest may occur

Frostbite - A more severe condition, where both the skin and the underlying tissue (fat, muscle, bone) are frozen. Skin appears white/grey and waxy and is hard to the touch. No sensation – the area is numb or tingling. Frostbite most often affects the nose, ears, cheeks, chin, fingers, or toes. **Frostbite can be serious, and can result in amputation. Get medical help**

- Symptoms: Reduced blood flow to hands/feet, numbness, aching, tingling/stinging
- First-Aid: Move to a warm place, Do not rub or massage the area, Do not warm the area until you can ensure it will stay warm, Warm the area gradually; use body heat, or warm water

Avoid direct heat which can burn the skin



Trench Foot - An injury of the feet resulting from prolonged exposure to wet and cold conditions that can occur at temperatures as high as 60 °F if the feet are constantly wet.

- Symptoms: Redness of skin, tingling/stinging, blisters, bleeding under the skin
- First-Aid: Remove boot/shoe, remove wet sock, dry the foot, slowly warm and keep dry.

For site cold weather safety incidents, please be sure to always report to your supervisor and the safety manager.

How to Prevent Injury The best way to limit your risk is to be prepared.

- That means checking the weather forecast before going out, for the days or week ahead. Listen to wind chill warnings and Met office warning based on your localised area.
- Dress in layers.
 - Make sure you wear your protective clothing. It will help to insulate your body away from cold. Several layers of loose clothing is a better insulator than one thick coat. Ideally with a wind resistant outer layer.
 - Layering your work clothes also allows you to shed layers if the temp rises throughout the day
 - Always remember to remove all wet clothing in your body and replace it with warm ones.
 - **Ensure your layers don't interfere with your issued PPE**
- Bring extra socks.
 - Thick socks and boots mean your feet will sweat, more than you realize. Change your socks when they get wet or halfway through the day. Wet socks = Trench Foot
- Provisions for warm refuge or heated shelter for workers, be prepared to take additional breaks throughout the day, to a warmer place. Encourage work breaks at intervals for workers
- Barrier the work environment from cold conditions
- Avoid becoming dehydrated, drink plenty of warm, sweet beverages (sugar water, sports drinks) but avoid caffeine (in coffee, tea, sodas, or hot chocolate) and avoid alcohol.
- If you have certain diseases such as diabetes, or vascular diseases. Please be careful on how you expose yourself to cold as this may make you more susceptible to attack.
- Don't allow yourself to be exhausted while working. However, this will make you more susceptible to cold temperature effects.
- Work in pairs so that you and your co-worker can spot danger signs in each other.



Other issues caused by cold weather include:

- Effects in behaviour-the cold can cause loss of concentration and errors in judgement that can lead to serious accidents. When you are cold blood is drawn away from the major organs towards to skin to keep you warm hence why you could feel like you're not quite firing on all cylinders.
- Dangerous accidents can also happen when people make shortcuts to avoid the cold.
- Your manual dexterity can also be affected which can be critical if you are working machinery.
- Other musculoskeletal disorders can be triggered by the cold, particularly in the neck, shoulders, wrists and lower back.
- Finally, ice is a big hazard when working outdoors causing slipping hazards as well as problems with machinery.

Summary

Watch out for others. Often times a cold related injury comes from over doing it, trying to be tough and working through, or not knowing the symptoms of frostbite and hypothermia. Don't allow your coworkers to push through when they are shivering or have wet clothing. Take pride in helping them over finishing the task and looking after themselves. It is important that you never judge or criticise a person that is affected by the cold. Don't make fun of people when a person's safety is on the line. Dress appropriately for the weather conditions and take breaks when needed.

WORKING IN EXTREME TEMPERATURES

SIGNS OF COLD



Shivering

To maintain a constant inner temperature in cold environments, the body shivers to increase heat production and reduces blood flow to the skin and extremities to reduce heat loss.



Impaired Coordination

Loss of muscular coordination, may result in slow and labored movements as well as reduced dexterity in fingers, hands and toes.



Tingling

Loss of feeling or tingling in fingers and toes. Frost nip, when the top layer of exposed skin freezes, can occur to exposed skin.



Confusion

Watch for "unusual -umbles" in yourself and your co-workers – stumbles, mumbles, fumbles and grumbles.

Serial	Name	Date of Toolbox Talk	Signature	Site

By signing this register you are confirming that you attended the toolbox talk and understand the requirements for working in cold weather conditions.