

Air Temperature: Sunny Sky	No Noticeable Wind		8 Km/h Wind		10 Km/h Wind		24 Km/h Wind		32 Km/h Wind	
	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks
°C (approx.)										
-26° to -28°	(Norm Breaks) 1	1	(Norm Breaks) 1	1	75 min.	2	55 min.	3	40 min.	4
-29° to -31°	(Norm Breaks) 1	1	75 min.	2	55 min.	3	40 min.	4	30 min.	5
-32° to -34°	75 min.	2	55 min.	3	40 min.	4	30 min.	5	Non-emergency work should cease	
-35° to -37°	55 min.	3	40 min.	4	30 min.	5	Non-emergency work should cease			
-38° to -39°	40 min.	4	Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease	
-40° to -42°	30 min.	5								
-43° & below	Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease		Non-emergency work should cease	

REMEMBER!

Weather conditions can change throughout the shift, and even hour-by-hour. Always be prepared to adjust the work plan and implement your program or policy.

For detailed information, please go to: www.employment.alberta.ca/documents/whs/whs-pub_gs006.pdf for the Best Practice "Working Safely in the Heat & Cold" GS006 – General Safety (August 2009).



The Alberta Construction Safety Association's mission is to provide quality advice and education for the construction industry that will reduce human suffering and financial costs associated with workplace incidents. This brochure is part of a series, *The Toolbox Brochures*, which are available on a variety of safety topics. If you have any questions or comments please contact:



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Working Safely in Extreme Cold Conditions



Making Safety A Way Of Life



The Alberta Construction Safety Association

The goal of this topic is to help you understand the health risks associated with working in extreme cold situations, and to suggest reasonable solutions for work places. This toolbox talk will help you to:

- Understand how your body reacts in cold environments.
- Recognize when it is “too cold.”
- Know the health risks associated with working in these temperatures.
- Be able to understand weather information.
- Know what steps to take to control the hazards of exposure.

How “cold” you feel depends on six main factors: Air temperature, other sources of heat (radiant heat), relative humidity, moving air, physical exertion, and clothing. Other factors include a person’s general health, weight, age, fitness level, and medical condition.

Health problems associated with cold exposure include: Frostnip, Frostbite, Hypothermia, Chilblains (redness, itching, blistering and inflammation to the extremities). Immersion foot (infection of the toes), and Trench foot or hand (infection caused by cold or damp).



Chilblains

(also known as **pernio** and **perniosis**)

Early warning signs include:

Physical discomfort (feeling cold), possible injuries such as strained or pulled muscles, loss of feeling and dexterity in fingers, hands and toes, frostnip (outermost layers of skin turn white).

IMPORTANT!

Any worker who is shivering but then stops shivering is at **EXTREME RISK** for hypothermia! Do not assume that he/she is “getting used to the cold.” **The survival of the victim depends on his/her co-worker’s ability to recognize the symptoms of hypothermia. The victim is generally not able to recognize his/her own condition.**

As Cold Stress worsens: Extreme discomfort, Extreme shivering, Severe Hypothermia, Frost Bite, Loss of Consciousness, Heart can stop beating.

IMPORTANT!

Frost Bite and Hypothermia are life-threatening situations and require immediate medical attention.

When controlling exposure, the employer is required to follow the hazard control hierarchy.

First, explore ways to **eliminate** the hazard.

Second, reduce exposure by applying **engineering controls** such as designing or modifying plants, equipment, ventilation systems and processes to reduce exposure.

Third, apply **administrative controls** such as safe work practices, standards, and safe job procedures including training, timing of work, policies and other rules to reduce exposure.

TIP!

Staying hydrated is important when you are working in the cold. Don’t forget to drink regularly. Warm fluids can include caffeine free drinks, soup, and water.

Fourth, use **personal protective equipment** (PPE) if necessary.

Fifth, use a **combination** of the controls if doing this creates a greater level of worker safety.

While there are no specific requirements relating to working in the cold in Alberta, the OH&S Act requires employers to ensure the health and safety of workers at their work sites. Part 2 of the OH&S Code requires employers to assess and control hazards workers may be exposed to at the work site. Extremely cold environments must be assessed and controlled whenever encountered.

Working at Home in the Cold

Whether you are shoveling snow, putting up Christmas lights or just working in the back yard, working safely in the cold can be difficult to do. Following the same safety precautions taken at the work place is key to controlling hazards associated with extreme cold situations.

Avoid caffeine and alcohol intake while working in the cold as they can cause dehydration, and may inhibit your body from being able to control its internal temperature correctly. Remember, Hypothermia can occur at any time.