



Keeping Safe & Avoiding the Dangers Cold Weather Pose When Working

Blood vessels near the skin constrict in cold weather so that the body can conserve blood to keep vital internal organs warm.



Frostbite: Injury caused by freezing of skin tissue

Most often affects the nose, ears, cheeks, chin, fingers or toes;

Early symptoms are a reddening of the skin followed by tingling and loss of feeling in extremities;

Middle-degree frostbite the skin turns white and **severe** instances the skin turns hard, blistery or black;



Hyperthermia: Body temperature decreases and can lead to morbidity

98.6° - normal oral body temperature (99.6 rectal body temperature);

95° - shivering, lethargy, inability to engage in complex motor functions, mind confusion;

90° - dazed consciousness, inability to complete simple motor functions, slurred speech;

<90° - blood flow/ breathing/ heart rate decrease, leading to the loss of consciousness or the heart stopping.



Dress in layers

One of the biggest mistakes you can make while working in cold weather is to dress too warmly. Physical activity generates a considerable amount of heat - enough to make you feel like it's much warmer than it really is. Yet, once your sweat starts to dry, you can get chilled. The solution is to dress in layers that you can remove as soon as you start to sweat and then put back on as needed. First, put on a thin layer of synthetic material, such as polypropylene, which draws sweat away from your body. Avoid cotton, which stays wet next to your skin. Next, add a layer of fleece or wool for insulation. Top this with a waterproof, breathable outer layer. If you're lean, you may need more insulation than someone who is heavier. If it's very cold, consider wearing a face mask or scarf to warm the air before it enters your lungs.



Protect your hands, feet and head

When it's cold, blood flow is concentrated on your body's core (in cold weather ~60% of a person body energy is used to heat the body), leaving your hands and feet vulnerable to frostbite. Try wearing a thin pair of gloves under a pair of heavier gloves or mittens lined with wool or fleece. Don the mittens or gloves before your hands become cold and then remove them if your hands begin to sweat. Considering buying winter shoes a half-size or one size larger than usual to allow for thick thermal socks or an extra pair of regular socks. And don't forget a hat (in cold weather ~40% of the body's heat can be lost when the head is exposed due to the amount of blood that must circulate to the brain).



Pay attention to weather conditions and wind chill

When it's raining, you are more vulnerable to the cold. If you get soaked, you may not be able to keep your core body temperature high enough and layering won't help if your clothes are wet (wet clothing causes the body to lose heat 24 times faster than dry clothing). Wind chill extremes can make working outdoors unsafe even if you dress warmly. The wind can penetrate your clothes and remove the insulating layer of warm air that surrounds your body.

Always remember these tips in cold weather:

- If the temperature dips below 0° F (-17.8 C) or the wind chill is extreme, consider taking frequent breaks away from the cold to promote a safe body temperature;
- Wear reflective clothing to assure you are seen in dark, snowy, cold weather;
- Slip and fall hazards abound in winter so to stay steady on your feet; choose footwear with enough traction to prevent falls, especially if it's icy;
- Smoking constricts blood vessels & decreases circulation which can exasperate the effects of cold weather;
- Consider using chemical heat packs to warm up your hands or feet;
- Keep hydrated by drinking hot tea or a similar non-caffeinated beverage;
- Eat foods high in carbohydrates to give the energy needed to fuel your metabolism in the cold;



Brought to you by the Department of Personnel & Civil Service Commission

For comments, suggestions or other safety resources, contact David Reed, Safety Manager, 412-255-2403