WEEK 2 JANUARY · ~5 MIN READ · ONTARIO CONSTRUCTION

Cold Stress & Frostbite

At a wind chill of –28 °C, exposed skin can freeze in 10 to 30 minutes — and the part that catches people is that you often can't feel it happening. Frostbite and hypothermia both work quietly, and both get handled badly by well-meaning crews trying to help.

The hazard

Cold pulls heat out of you faster than you make it, and wind and wet speed that up a lot. Frostbite freezes skin and the tissue underneath, usually fingers, toes, ears, nose, and cheeks. Hypothermia is your core temperature dropping — and because it goes after judgement early, the person affected is the last one to know. The thermometer alone won't tell you where you stand: wind chill is what decides how fast exposed skin freezes.

What to do

- **Work off the wind chill, not the thermometer** — and the numbers below are Celsius, same as the forecast. From about –10 to –27 °C there's a real risk of frostbite and hypothermia over a long shift. From **–28 to –39 °C the risk is high and exposed skin can freeze in 10 to 30 minutes.** Colder than that and it's minutes. Check today's number and set the break schedule from it.
- **Warm-up breaks come before you're shivering hard**, in somewhere genuinely warm, and get more frequent as the wind chill drops.
- **Layer properly:** a base that wicks, an insulating middle, a wind- and waterproof shell. Nothing cotton next to the skin.
- **Cover the spots that go first** — insulated gloves, a neck gaiter, and a winter liner **made to work with your hard hat**. A toque jammed under the shell changes how the hat sits and how it protects you; use one the helmet manufacturer allows.
- **Drink warm fluids through the day. No alcohol** — that's a fit-for-work rule and it doesn't move with the weather. It's also a poor way to warm up after the shift: alcohol speeds up how fast you lose heat while making you feel warmer.
- **Keep dry spares on site** — socks, gloves, a base layer. Wet is what turns a manageable day into a cold injury.

Frostbite: what to do, and what not to

Numbness or tingling, and skin that's gone hard or waxy to the touch, are the signs to work from. There may be a colour change — white, grey, or a difference from the skin around it — but it isn't reliable on every skin tone, so don't wait for it.

- **Get them inside and stop the area getting any colder.** Cover it loosely, don't rub or massage it, and take off anything wet or constricting.
- **Do not try to thaw it out here.** Rewarming a frostbitten area on site is not the crew's job — tissue that thaws and then refreezes on the way back out is far worse off than tissue that stayed frozen. Stop the cooling, then get medical care.

Hypothermia: this is an emergency

Slurred speech, stumbling, clumsy hands, confusion, or "I'm fine" when clearly not — treat that as hypothermia and act on it.

- **Call 911.** Don't wait to see if a coffee sorts it out.
- **Handle them gently. No rubbing, no massaging.** Let them lie down — no standing them up and walking them around.
- **Get them out of the wind, insulated from the ground, and out of wet clothing** where you can do it without chilling them further.
- **A warm drink only if they're fully conscious and responsive** and can swallow properly. Nothing alcoholic, and no smoking.
- **Shivering easing off is not improvement.** As hypothermia gets worse, shivering weakens and then stops altogether. Someone who's stopped shivering and is still cold and confused is going the wrong way, fast.

Watch out for

- Anyone wet, tired, or hungry — they'll feel it much sooner.
- New crew members. They need time to get used to working in these conditions, and closer supervision while they do — mostly because they don't know our plan yet, not because they freeze faster than anyone else.
- The quiet one. Cold shows up as someone going silent and slow before they'll ever say anything.

Talk it over

- What's the wind chill right now, and does our break schedule actually match it?
- If someone came in with hard, waxy fingers — what do we do, and just as importantly, what do we not do?

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