

Winter Gear

Working outside in the cold by Daniel McDonald

As the season for cold, gloomy, windy, snowy, and miserable days draws closer, here are some words of wisdom that can make those days more pleasant, prepared, and productive.

A word or from the writer, to help legitimize these tips: "I Love the cold season! It's hard for me to wait for the snowy season to begin as many of my favorite pastimes involve cold and snow. Part of this ability to love these things comes from an appreciation, fear, and respect I have for the cold and the dangers that accompany this time of year. Since my years in the Boy Scouts I have learned the value of planning and preparedness in outdoor adventures and survival. This value system had bled into my ability to be/stay productive while working in the outdoors for a living. From years of inclimate satellite installations, to years of Wisconsin snowy roadside assistance work, through my time as a tower climber, I have seen the coldest and longest winter days. To add to this, after many of these long and cold days at work, you could usually find me still outside ice-skating, sledding, hiking, mountain-biking, snowshoeing, ice-rappelling, winter camping, and skiing. I do not let the cold slow me down!! (This is because I have a habit of preparing for it)."

"For me, getting cold is a sign of being under-prepared, which is like not bringing your hard-hat or climbing harness."

The following bit is rationale, and some accounting, for people who might be already saying they can't afford to have good cold gear. Consider, for a moment, that we can quantify the value of each item of cold gear you have or want. Here's how it works. Say the average basic tower worker, let's call him Joe, makes 15 bucks an hour, and works for an average of ten hours per day. Every day which this Joe works is worth 150 dollars to him. Take taxes away, in case you want to get technical with me, and that's still about 115 dollars a day. Now see that according to NOAA data from 1988 to 2010 there will be 22 days where the temperature is below 10 degrees F (not including wind-chill). Say that maybe only 4/5 of those days fall on a work day, and that still comes out to 17.5 days. These 17 (we can round down) days are worth \$1955! All of these days where a crew might have otherwise called off working due to being too cold. Now save \$1000, because who doesn't want to save a thousand bucks? And that's still 955 dollars that you can spend on cold gear EVERY YEAR!!! Now are you warming up to the idea that it's worth it to buy some nice cold gear? (Pun intended). Every time it's 30 degrees below zero try to think of the one item you are wearing that made working in those conditions possible. That item is now worth to you at least half of your day's wage every time you use it.

Here are some of the rules I follow when it comes to winter preparations and survival.

- Cotton Kills! Ever hear this old adage? Well it's true. The only thing cotton knows how to do is soak up sweat and water, and then get dangerously cold. Avoid any item of clothing made from cotton. Yes denim and most hoodies are made from cotton. NOTE: Double check the tag to see exactly what it's made of.
- If your fingers or toes are cold, put another layer around your core, when your core is warm, it supplies warm blood to the rest of your body. When it's cold, it tells you this by shutting off extremities (and your fingers and toes start to hurt)
- Be mindful of your temperature: Do not wait to get cold to put on more clothes. Don't tough it out, just get it right! If you're already cold, you aren't dressed properly.
- Experiment and improve. If a part of you gets cold today, do something to prepare and compensate for that. Get better each day.
- Toe warmers work, but not as an alternative to good socks and boots! (The instructions even say: "thicker socks for best result". (Lofting!))
- Hydrate adequately! This sounds silly, but water is vital in keeping your body temperature regulated as well as preventing exhaustion. (just like heat exhaustion, col-exhaustion works the same way)
- Face down wind whenever possible. Your hood is much better at repelling cold than your face and lungs are.
- When coming down off the tower, the first instinct is to strip all of your cold gear off. NO. This is what's keeping your nice cocoon warm. Even if you are cold, unless you have warm dry stuff to put on immediately, you will be even colder.
- How much will you sweat? Planning on how much you will sweat is two faceted.

Knowing this helps you prepare with the right types of fabric. NOTE: Down loses all of its insulating ability once wet, and does not dry once wet.

Choose to keep your activity rate low enough to prevent overheating. Once you over heat, you sweat, and the sweat will freeze, and you will get cold.

Check each item as you strip down at the end of the day. If one item is soaked, this might be the wrong item to have and think about trying an alternative. It also could mean you worked too hard and sweat too much. (it also could be normal too...use judgment and know yourself).

If you do things right, your base layer should be dry, while more outer layers may be damp to wet from having sweat wicked away from inner layers.

Wool, acrylic, fleece, wind/water barriers, lofting.

- Lofting: fluffy fabric, or mesh fabric allow for warm air to gather and utilize convection heating to keep you warm. Also provides ventilation, getting sweat and moisture away from your body faster.

- Acrylic: A man-made fabric that mimics the properties of wool

- Wool: Naturally hydrophobic, it will not soak up sweat and water like cotton will. The conduction properties of wool is such that it will not transfer heat itself. All which means it wicks sweat away from your body, and provides a thermal barrier to keep you warm.

- Wind/water barriers: It is important to consider how windy or snowy the workspace will be. If there is snow, and if there is wind, an impermeable layer will keep the wind and water from penetrating the other layers, keeping you warmer. NOTE: if you are too sealed up, it could keep you from properly ventilating, meaning you will overheat, and sweat. (in extreme cold this may be unavoidable, as well as an advantage as your outer layer will ice up which will further prevent wind and other elements from getting through!)

- Layers, layers, layers. Having layers gives you the ability to use your clothes like a thermostat to keep you the perfect temperature. Knowing what to wear for each layer specifically helps maximize your protection from the elements and sweat. NOTE: More layers prepares your top layers get wet, you can change them out with fresh ones without having to remove all of your protection.

Base layer: Lofting is crucial. Wool, acrylic, and fleece are best.

Thermal Barrier(s): These are the layers that keep the warm in, and the cold out. Wool, acrylic, and fleece are best. Instead of one huge thick layer, it is best to have more than one for if you get too hot, or the temperature changes.

Top Layer(s): These are what keeps the elements out, including wind, snow, and rain. It is important to consider the durability of the outer-most-Layer. For rough surfaces, snags, grinding, welding, sparks, and tear resisting: Cotton/canvas like a Carhart is best. NOTE: Carharts can be treated with various weatherproofing products. Other Layers: a scarf (or even two!), face mask/baklava, leg-gaitors, goggles, extra gloves, and insulated boots are more crucial the colder it gets.

Sizing: The size of your garments is very important to consider. If everything is the same size you will not be able to layer properly.

The top layer must be big enough to fit over the others.

If things are too form-fitting you will not be able to properly ventilate. (Compressing fluffy fabrics reduces their ability to loft and keep you warm).

Especially boots! (wear two pairs, plus room to wiggle)

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*** BEAST MODE. ***

I have my Carhart jacket treated with Filson's (a wax designed to weatherproof canvas materials).

I shop at as many thrift stores and clearance racks as I can as I travel. A 50 dollar wool sweater will cost 5 bucks at good will!

Bring your gear inside at night, and keep your backup stuff out of the cold so it's not frozen solid when you need it most, this is also to dry stuff out after a day of working in it. Even hand-warmers.

I keep two pairs of extra gloves around my chest inside my jacket, so I can rotate to them when my fingers get cold.

Mittens are great when dexterity is not a priority. Buy them big enough to put over other gloves so you don't have to expose skin to put them on by taking others off.

Around my neck or in a breast pocket of my base layer is a Zippo Hand-warmer. This burns without a flame for about 10 hours and is refillable. Others use Milwaukee or Bosch electric hoodie/jacket.

My winter boots are 1000g Thinsulate insulated. They are also waterproof treated, and rubberized to keep the wind and water out. They are a size too big so I can wear two pair of wool or acrylic socks.

On the coldest days, I wear knee high soccer socks for ventilation and added thermal barrier for my legs.

The coldest days involve fleece pajamas as a base layer (no joke).

On the coldest days, I will layer my gloves. Rubber first (surgical gloves), then wool knit, then insulated split-cowhide-leather. Also have a pair of gloves just for climbing the cold steel. When you get to the top, switch them out.

When it's windy I wear at least one windbreaker if not two, plus thick Carhart rain pants with leg gaitors to keep the wind 100% out.

A Ski-Helmet and ski goggles are a great swap for the regular climbing helmet.

A bottle of Febreze in your gear bag and periodic applications will keep you and your gear from smelling like the inside of a pair of used hockey skates.

When you feel your arms and legs start to get cold here's the trick: It's a motion that looks and feels like you're shaking the water out of a paint brush you just cleaned. The harder you shake, the better. Do this 10 times each limb. (it forces warmer blood through the veins).