

# ANTARCTIC LOPPET CLOTHING AND EQUIPMENT LIST



Cross-country skiers with solid experience of cold midwinter conditions in New England, the US Midwest, Quebec, Alaska or Scandinavia should have little problem adapting to the conditions in Union Glacier where temperatures run from 10F – 25F (-12C to -3C). Wind can be present anywhere, especially at the higher elevations of the 50k route, and skiers will need shell gear, mitts and total face protection to avoid cold injury. Wear a similar set of layers as you would for a cold windy January day and you won't go far wrong.

**You do not need to wear ALL of these layers ALL of the time.** Dress for the weather conditions and the activity level you expect to encounter and bring extra layers with you in your backpack in case conditions change.

## Feet

Cross-country ski boots should be sized to accommodate midweight or heavyweight socks. Those who suffer from cold feet should consider adding toe warmers or electric socks. Due to the elevation and wind, we recommend neoprene overboots for those taking part in the 50k route.

## Legs

We recommend a midweight baselayer under regular cross-country ski pants. You should also have lightweight shell pants with side zips to put on over ski boots (these have to be carried for the 50k route). It's also worth having down or synthetic insulated warm-up pants or shorts before you start. Many of our male and female cross-country skiers skiing to the South Pole wear insulated ski skirts. You may not be going as far but your thighs will thank you on a windy day!

## Upper Body

Depending on whether you run hot or cold, you'll want a lightweight or midweight base layer. A zip neck makes it easier to dump heat on the uphill. On top of this, a light midweight fleece jacket or sweater — again, a full-zip allows you to easily ventilate. Then a lightweight nylon wind shirt (with or without hood) provides protection for minimal weight. For insulation, you'll need a light down or synthetic insulated puffy jacket with a hood. For a bit more versatility a light down or synthetic puffy waistcoat can be useful. Finally a lightweight windproof shell jacket with hood. For non-skiing excursions around Union Glacier, you will need a heavier weight down or synthetic insulated jacket to wear on top of your other clothes. These can be rented from ALE.

## Head

The usual combination of a ski hat with a neck warmer (e.g. Buff) will work most of the time. However when it gets windy, you will need a face covering, whether it be another neck warmer or a face mask, to provide protection from cold injury. It's worth bringing several buffs. Dark sunglasses — bring 2 pairs, so you have a backup to carry on the 50k. Wraparound sports sunglasses provide protection from the side glare. Goggles provide far more face protection when it's windy.

## Gloves

Bring a variety of gloves as the temperatures can and will vary. You will need to dry these out each night.

- Lightweight and midweight cross-country ski gloves
- Heavier insulated glove (those with a removeable nylon mitt cover are very useful)
- Down or synthetic mitts (these have to be carried for the 50k)
- Handwarmers — bring at least 3-4 pairs. 1 pair has to be carried for the 50k race.

## Minimum Safety Gear to be carried for 50k Event

- Windproof shell jacket with hood
- Windproof shell pants with side zips for easy on-and-off
- Down or synthetic puffy jacket with hood
- Hat
- Buff or neck warmer or face mask — you must have something to protect your face from cold injury!
- Gloves
- Mitts — these are in addition to whatever handwear you decide to race in.
- 1 set of hand warmers
- 1 set of toe warmers
- Sunglasses
- Goggles
- Sunscreen
- Lip salve
- Pee bottle
- Drink (up to the racer how much)
- Food (up to the racer how much)
- InReach tracking beacon — provided by ALE Travel Safety
- Backpack (15-20 litres) to carry any of the above that is not being worn



### Base Layer

#### Materials

Polyester, Merino Wool, or Silk but NO COTTON

#### Examples

Patagonia or Smartwool, Swix

#### Description

Your first layer consists of a lightweight or midweight long-sleeved thermal top and bottom. We recommend materials that wick moisture away from your body like polyester or merino wool. If you cannot wear artificial fibers or wool, silk is an alternate option. Cotton traps moisture and can cause you to chill more rapidly. Zip T-necks are a great option as they allow ventilation. Bring undergarments, sports bras, and/or camisoles in a similar wicking material.



### Mid Layer

#### Materials

Polyester, Merino Wool, Stretch Fleece, Grid Fleece

#### Examples

Patagonia R1 Fleece or Rab Power Stretch, Swix

#### Description

Your second layer consists of a long-sleeved heavyweight (expedition weight) base layer top and bottom or lightweight stretch fleece top and bottom. Tops with hoods are great as they seal the neck to keep you warmer. Cross-Country Ski Pants are a great midlayer.

#### Optional Additional Layer: Windshirt

A lightweight uncoated nylon windshirt can be worn as an outer layer when it's not too cold and reduces friction when layering on top of it.



## Insulation Layer

### Materials

Fleece, Down, or Synthetic Insulation (Primaloft, Thinsulate)

### Examples

Patagonia R2 or Nano Puff, Rab Microlight

### Description

Your third layer should be a jacket that is thin, light in weight, and provides insulation. You can choose from either a mid to heavyweight fleece, a lightweight down, or a lightweight synthetic insulation. This should be a full-zip jacket but a hood is not essential.

### Optional Additional Layer: Vest

A fleece, down, or synthetic insulation vest can add insulation without much weight.



## Wind Layer

### Materials

Softshell or Hardshell

### Examples

Arc'teryx MX, Patagonia, Swix,

### Description

Your fourth layer should be highly wind-resistant and breathable. Pants should have sizezips for donning wind protection is the most important factor for this layer and the jacket needs to have a hood.



## Polar Insulation Layer - Can rent from ALE

### Materials

Down or Synthetic Insulation

### Examples

Rab Neutrino Pro Jacket, Mountain Hardwear Compressor Pant

### Description

Your outermost layer provides crucial insulation in extreme cold or wind and protection against the worst Antarctic conditions. You will need a hooded down jacket that is large enough to go over all of your other layers. Look for a minimum of 800 fill down and a minimum weight of 28 oz (800 g). It should be long enough to cover your backside.

Pants should be down or synthetic insulated with full side-zips. Make sure they are large enough to fit over your other layers.

## Head

You will need several options to cover your head, neck, and face (mouth and nose) depending on the temperature, wind conditions, and sun exposure.



**Item 1:**  
Hat or Beanie that Covers Ears

**Materials:**  
Wool or Fleece



**Item 2:**  
Neck Gaiter or Buff

**Materials:**  
Fleece or Polyester Microfiber



**Item 3:**  
Balaclava or Face Mask

**Materials:**  
Power Stretch Fleece or

The face is especially vulnerable to cold injury and complete face protection is essential. Try combinations of balaclava, face mask, hat, and goggles together to ensure that there are no gaps—often a crescent shape between the edge of the goggle and a face mask or balaclava is hard to cover. You must be able to breathe freely and moisture from your breath must be able to escape (so that goggles do not fog).

## Eyes

### Goggles



**Materials**  
100% UV Protection

**Examples**  
Julbo, Oakley, Smith

**Description**  
Goggles provide far more face protection when it's windy.

Quality eyewear is essential to prevent snow blindness. **Wrap around sports sunglasses or goggles must be worn at all times outside. Participants are required to bring TWO pairs of sunglasses.**

### Sunglasses and Hard Case



**Materials**  
Non-metal frames with 100% UV protection

**Examples**  
Julbo, Smith, Oakley

**Description**  
Your sunglasses should have dark colored lenses and full side coverage. Look for sunglasses with side-flaps (mountaineering or glacier glasses) or sport sunglasses with big lenses, wide sides, and a contoured shape that prevents light from entering at the sides. Avoid metal frames as they can freeze to your skin and bring a hard case to protect your sunglasses in your luggage.



## Cross-Country Ski Gloves

### Light or Midweight Gloves



#### Materials

Polyester, Merino Wool, Silk, Power Stretch Fleece

#### Examples

Swix, Black Diamond, Toko

#### Description

Liner gloves can be layered under other gloves or mittens for additional warmth. They also protect you if you need to take off an outer glove or mitten in cold temperatures. Having several pairs allows you to switch out liners as they become damp.

### Midweight Gloves



#### Materials

Waterproof Breathable Outer with Insulation

#### Examples

Swix, Salomon

#### Description

Next you will need a medium insulated snow glove.

### Oversized Thick Mittens



#### Materials

Down or Synthetic Insulation

#### Examples

Marmot, Black Diamond, Outdoor Research, Swix

#### Description

Oversized thick mittens will keep your hands warmer than gloves but can make taking photos challenging. You should be able to wear two pairs of liner gloves under your mittens so your hands will be protected if you take off a mitten for photography. Make sure your mittens have wrist loops to keep them attached to you if you take them off in high wind.

**Loppet participants may bring these AND a lighter option for skiing or use their midweight gloves as their "thick mitten" for their gear list.**

## Feet

### Thin Liner Socks



#### Materials

Wool, Polyester, or Silk - NO COTTON

#### Examples

Smartwool, Bridgedale, Thorlo, Terramar

Electric socks and/or toe warmers should be brought if you have them and have used them for previous winter sport experiences.

### Mid or Heavyweight Socks



#### Materials

Wool or Wool Blend Socks

#### Examples

Smartwool, Bridgedale, Thorlo, Darn Tough

## FOR CAMP: -100°F (-73°C) Rated Snow Boots with Removable Liners - Can be rented from ALE



#### Materials

Waterproof outer and removable insulated liner

#### Examples

Sorel Glacier XT, Baffin Impact or Endurance

#### Description

You will need boots that are very comfortable and very well insulated. We strongly recommend that you buy boots rated down to -100°F (-73°C) as -40°F (-40°C) boots are often not warm enough. Make sure your boots fit with two pairs of socks—one liner sock and one heavyweight sock. The boots should have built in gaiters and removable liners which can be taken out at night to dry.

### Optional Footwear



Hiking Boots, Running Shoes, and/or Insulated Booties

It's nice to be able to take your polar boots off around camp and in your tent. You can also wear hiking and running shoes for activities around Union Glacier on warmer days.

## Cross-Country Ski Boots



### Examples

Salomon, Rossignol, Fischer, Atomic, Madshus

### Description

Description: The type of boots you bring will depend on your preferred style. Obviously make sure your boots are comfortable for the longer events. Due to the higher elevations of the 50k route, we recommend skiers wear neoprene overboots and/or use toe warmers if they tend to get cold feet. Electric socks are also worth considering.

## Neoprene Boot Covers



### Examples

Swix, Salomon, Madshus

### Description

Due to the elevation and wind, we recommend neoprene overboots for those taking part in the 50k route.

## Cross-Country Skis



### Examples

Salomon, Rossignol, Fischer, Atomic, Madshus

### Description

You may decide to bring skate or classic skis depending on their preferred style. Note that the 10k and 20k can be skied using either style as we will groom both classic and skate tracks. However the 50k race will be classic only. To reduce the need for waxing in Union Glacier, we recommend skin or waxless skis for those wishing to ski classic or do the 50k.

### Please note:

We have several types of skis that are available for participants to use. Most of these however, are backcountry xc skis, not racing or recreational, and are wider and heavier with full-length metal edges. As they are used for expedition skiing pulling sleds, their main emphasis is on grip rather than glide. Some have removable short skins while others have permanently fixed skins glued and screwed onto the base. A few pairs are waxless and use a fish scale design.

We have a mixture of Rottefella 3-pin bindings and some NNN-BC bindings. Our boots are a mix of Fischer and Rossignol backcountry XC boots

## Luggage

### Large or XL Duffel Bag (120-150 liter)



#### Materials

Durable PU or Ballistic Nylon

#### Examples

The North Face Base Camp Duffel—XL or Patagonia Black Hole 120 Duffel Bag

#### Description

We recommend using an oversized duffel bag for your checked bag on your Antarctic flight. Make sure it is made of a durable material to withstand international travel and handling on snow and ice. Look for a bag with a full zipper and multiple haul handles.

### Race Backpack/ Carry-on

18" x 16" x 10" (46cm x 41cm x 26cm)



#### Examples

Patagonia, Osprey, Black Diamond

#### Description

We recommend using a lightweight, durable backpack for your cross-country loppet event. Choose a pack that can withstand various weather conditions and rough handling on the trail. Look for one with a secure, easy-access main compartment, multiple storage pockets for hydration and energy snacks, and comfortable, adjustable straps for optimal fit during your race.

All passengers are limited to one carry-on bag sized to fit under an airplane seat for the Antarctic flight. We recommend putting all of your essential items in this race pack/carry-on backpack that you can also use for daily excursions while in Antarctica.

### Stuff Sacks



#### Materials

Mesh or Nylon

#### Description

It's easiest to organize your clothing in your bag and tent if you have color-coded stuff sacks.



## Equipment

### Pee Bottle(s)



#### Examples

Nalgene 32 oz or Nalgene 48 oz Wide Mouth Water Bottle(s)

#### Description

All human waste is removed from Union Glacier and all urine or 'pee' generated in the field must be deposited only in marked pee holes at base camps. This means you will need your own container to urinate in when you are not within reach of a toilet facility or a marked pee hole. We recommend a wide mouth water bottle that is clearly marked for pee only. We recommend practicing with your pee bottle at home so you can be comfortable using it when you get to Antarctica. Females may also find a pee funnel (Freshette, SheWee, Go-Girl) helpful.

At Union Glacier Camp, our staff will show you the container where you empty pee bottles behind the toilet facility. While on expedition in the Heritage Range or elsewhere in the Southern Ellsworth Mountains, you will empty pee bottles in marked pee holes at your base camp.

### -40°F (-40°C) Rated Sleeping Bag\*



#### Materials

Down or Synthetic

#### Examples

Feathered Friends Snow Goose, Rab Expedition 1400, Wiggy's Hunter Antarctic Rectangular Sleeping Bag

#### Description

You will need a sleeping bag that is rated down to -40°F (-40°C). A full-length zipper is important.

*\*Sleeping bags provided by ALE*

# SKI ANTARCTICA CHECKLIST

**You must bring ALL of the items on this list unless they are listed as optional.** We will look for each item on this list at your Gear Check in Punta Arenas. These items may not be available for purchase in Punta Arenas and we will not let you board the aircraft to Antarctica without them.

X	#	Item
<b>Base Layer</b>		
	4 pairs	Underwear, sports bras, etc.
	2	Light or midweight tops
	2 pairs	Light or midweight bottoms
<b>Mid Layer</b>		
	1	Lightweight fleece top or expedition-weight base layer top
	1 pair	Cross-Country Ski Pants
	<i>Optional</i>	Lightweight windshirt
<b>Insulation Layer</b>		
	1	Mid or heavyweight fleece, down, or synthetic insulation jacket
	<i>Optional</i>	Fleece, down, or synthetic insulated vest
<b>Wind Layer</b>		
	1	Hooded shell jacket
	1 pair	Shell pants with side zips
<b>Polar Insulation Layer</b>		
	1	Thick down or synthetic insulated jacket with large hood
	1 pair	Down or synthetic insulated pants with full side-zips
<b>Headwear</b>		
	2	Hat or beanie that covers ears
	2	Neck gaiter or Buff
	1	Balaclava and/or face mask
	<i>Optional</i>	Fleeve or Windstopper headband
<b>Eyewear</b>		
	2 pairs	Sunglasses with side coverage and sunglass cases
	1 pair	Goggles with different lens tints
	<i>Optional</i>	Spare contact lenses or prescription glasses, if required
<b>Gloves</b>		
	2-3 pairs	Light gloves
	1 pair	Heavyweight insulated snow gloves
	1 pair	Oversized thick insulated mittens
	10	Chemical hand warmers
<b>Footwear</b>		

X	#	Item
	1 pair	Thin liner socks
	2 pairs	Thick, midweight socks
	1 pair	Snow boots rated -100°F (-73°C) *Available to rent
	1 pair	Lightweight winter boots or heavyweight hiking boots
	<i>Optional</i>	Running shoes
	<i>Optional</i>	Insulated booties with no-slip sole
	<i>Optional</i>	Neoprene overboots
<b>Equipment</b>		
	1+	Extra large duffel bag (120-150 liter)
	1	Carry-on backpack 18" x 16" x 10" (46cm x 41cm x 26cm)
	1	32 oz Nalgene wide-mouth water bottle (for drinking)
	2	32 oz Nalgene wide-mouth bottles (marked for pee). Option to substitute for one 48 oz Nalgene wide-mouth water bottle.
	1	Insulated cover for Nalgene water bottle
	1	Lip balm with minimum SPF 50
	1	Sunscreen with minimum SPF 50
	1	Personal toilet bag with wash cloth, small towel, Wet Wipes, toothbrush, toothpaste, lotion, Band-Aids, blister kit, contact solution, feminine products, etc.
	As needed	Personal medication. Bring enough for your expedition plus an additional 4 weeks' supply.
<b>Cross-Country Equipment</b>		
	1 pair	Cross-country ski poles
<b>Other Optional Items</b>		
	<i>Optional</i>	<b>For Antarctica:</b> USB or 120V A/C (North American Type A or B plugs) <b>For Chile:</b> Plug adapters and 220V transformers
	<i>Optional</i>	US cash to purchase satellite phone cards or merchandise at Union Glacier Camp
	<i>Optional</i>	Cotton t-shirts to wear at Union Glacier Camp
	<i>Optional</i>	Lightweight journal, paperback book, sketchbook, pencils, pen, e-reader
	<i>Optional</i>	Cameras, chargers, extra batteries
	<i>Optional</i>	iPod or tablet with headphones
	<i>Optional</i>	Eyeshade and earplugs for sleeping in 24-hour daylight
	<i>Optional</i>	Handkerchiefs/bandanas
	<i>Optional</i>	Pee funnel for women