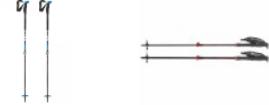


GREENLAND SKI CROSSING - EQUIPMENT LIST

If you are unsure about anything, check with us before buying.

YOU MUST PROVIDE THE FOLLOWING

ITEM	IMAGE SAMPLES	BRAND EXAMPLES	NOTES	YOU PROVIDE	✓
SKI EQUIPMENT - some of this equipment is rentable					
Skis		Åsnes Amundsen Åsnes Borge Ousland	Mountain skis with steel edges	1 pair	
Bindings		Rottefella Backcountry Magnum (to suit Alfa boots) Rottefella Super Telemark - with or without cable (to suit Baffin boots) Flexi Sinch bindings (suits all boot types)	Your boots must match your bindings.	1 pair	
Skins		Åsnes X-Skin Colltex	1 set of short skins (that fit your ski) OR 1 set of narrow full length skins (30-35mm wide) OR both	2 sets: 1 short 1 long	
Skin wax		Colltex or similar	Prevents build-up of snow on skins during warm conditions. This happens quite often and each person is required to carry a stick of wax for themselves.	1	
Ski poles		Leki 2-section touring poles Åsnes Polar 2-Section V2, or similar	Adjustable ski poles are best, as they will allow for finding the perfect comfortable length. Try to find poles with a long cork or foam handle that extends down the pole (or create your own insulated section using closed cell foam and duct tape).	1 pair	
Ski package		Madshus/Fischer skis, Flexi Sinch Bindings, Gipron telescopic poles, full-length skins	Rentable (boots not included)	AU\$500	
Ski boots		Alfa Polar A.P.S + liners. order the shell 2 sizes above street shoe size Baffin 3-Pin Guide Pro 3 - order 2 sizes above street shoe size Women with very small feet may require Baffin Impact (women's). Order 1 size above normal. You will require Flexi bindings	Must have removable liner boot. Do not use mountaineering, alpine touring or plastic boots Be sure to size your boots to fit orthotics if you use them. Your boots must match your bindings.	1 pair	
Ski boot liners		Alfa boots should be ordered together with an Intuition Mukluk liner. Baffin boots come with liners but can be swapped out for Intuition Mukluk or Pro Tour liners Intuition liners should be ordered to your normal foot size and used with thin liner socks	Intuition liners are made from an impervious foam that does not absorb moisture. Over time they heat-mould to the shape of your foot creating a comfortable fit that helps mitigate blisters. Pro Tour liners come in Low, Medium and High Volume, for mild to extreme cold conditions. Greenland can be very warm in May so we recommend Low volume if your feet are tolerant of cold, Medium to High if you need extra warmth.	1 pair (Optional for Baffin boots)	
Sled harness		Icetrek Omni or similar		1	

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ITEM	IMAGE SAMPLES	BRAND EXAMPLES	NOTES	YOU PROVIDE	✓
GLACIER EQUIPMENT					
Crampons		Grivel Air Tech Light or Air Tech Light Wide	Select the model to fit your ski boots. Make all adjustments before leaving home.	1 pair	
Climbing harness		Petzl Altitude Edelrid Loopo	Lightweight harness with clip-in and adjustable leg loops so you can put it on without taking skis off	1	
Carabiner - non-locking				2	
Carabiner - locking				1	
Locking carabiner with pulley		DMM Revolver		1	
Prusiks		Beal Jammy 50cm	If making own you must tie using a Triple Fishermen's knot Short = approx. 60cm cut-length Long = approx. 250cm cut-length	1 of each	
Ice Screw		Petzl, DMM, Black Diamond, Blue Ice	Approx. 20cm length	1	
Capture device		Petzl Nano Traxion		1 Optional	
Ascender		Petzl Tibloc		1 Optional	
OTHER FOOTWEAR					
Hiking boots or sneakers			<u>Lightweight</u> hiking boots (these may be used for hiking in the lower ice fall or from Point 660). These will be taken across Greenland so they should not be heavy.	1 pair	
SLEEPING EQUIPMENT					
Sleeping mat			One thick or two regular sleeping mattresses, must total a minimum R-Value 6. The Thermarest Ridgerest or Z-Lite are good undermats. We recommend you bring a chair converter compatible with your sleeping mat so that you can recline whilst in the tent (Icetrek Rekliner)	1 or 2 (depending on R-Value)	

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ITEM	IMAGE SAMPLES	BRAND EXAMPLES	NOTES	YOU PROVIDE	✓
Sleeping bag			Down or down/synthetic combination. 750+ loft, temperature comfort rating -30° C minimum.	1	
Sleeping bag liner		Sea to Summit or ultra lightweight sleeping bag	Silk, fleece or down, depending on how coldly you sleep. Also for hygiene	1	
CLOTHING					
Underwear		Icebreaker	Polypropylene or merino No cotton	3	
Thermal top and pants (base layer)			Worn next to the skin, polypropylene or merino, two different weights for different temperatures but both can be layered if very cold. Avoid merino leggings as it can contribute to a condition called <i>Polar Thigh</i> . One top should have a high neck (either zip up or turtleneck style). Thumb loops on sleeves help to keep hands warmer. No cotton	2 of each	
Fleece jacket or pullover			Worn over thermal top, full zip (gives better ventilating options), Polartec 200 (or 300 if you feel the cold), add extensions to all zippers so you can operate zips with mittens on. Add long extensions to all zipper sliders. No cotton	2	
Fleece pants			Thin (Polartec 100) Worn over thermal base layer.	1	
Shell jacket		A fur ruff can be useful, optional Mountain Equipment Polar Expedition	Worn over thermals and fleece, large hood with reinforced rim, large pit zips for ventilation, add long extensions to all zipper sliders. Greenland can be wet so make sure fabric and taped seams are in excellent condition. Gore-Tex is preferable.	1	
Shell pants		Mountain Equipment Polar Expedition	With full-length side zips and braces, large-tooth zips (no waterproof zips). Add long extensions to all zipper sliders. Foam knee patches sewn into your shell pants (or into your longjohns) are excellent protection against kneeling in the snow, common when preparing the camp	1	
Down puffer jacket			Light and not too thick. Down, windproof, oversized to wear easily over shell jacket and harness when it gets windy/cold. Add long extensions to all zipper sliders.	1	
Insulated jacket		Rab Electron Pro Mountain Equipment Baltoro 200-300g of min. 700FP down fill, depending on your cold tolerance.	Together with a puffer jacket, your warmest jacket does not need to be large and bulky. Attached hood. Worn over everything when taking a break. Add long extensions to all zipper sliders. Do not use a one-piece mountaineering suit	1	

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ITEM	IMAGE SAMPLES	BRAND EXAMPLES	NOTES	YOU PROVIDE	✓
Ski shorts/ skirt		Rab Fjällräven Norrona	Very difficult to add warmer layers underneath your shell if you get cold legs. Padded ski shorts or skirt are an easy way to get warm. Must have full-length side zippers/s for donning with skis on. Add long extensions to all zipper sliders. Long puffer pants are a good alternative if your legs suffer from the cold.	1 optional	
Vest			Alternative to puffer jacket if you don't get cold too easily.	1 optional	
Polar hat		Icetrek	Windproof, fleece lined, must have full ear coverage	1	
Fleece or wool hat		Icetrek	For warmer conditions, sleeping, in tent, spare	1	
Sun hat with removable neck cover			It can get very warm and sunny on the Greenland icecap. Sun protection for your head and face is mandatory. Legionnaire cap with removable neck cover is ideal	1	
Face mask		Icetrek	Neoprene, protects face in extreme cold	1	
Neck gaiter or 'Buff'		Buff Original	Protects neck and face, can be worn multiple ways. Silk, fleece or capilene. Bring if not using a balaclava. No cotton	2	
Polar mittens		Icetrek Kelvin Mitt Hestra Extreme Mitt	Must be 2-piece, usually bought as a set. 1. Windproof outer mitten shell - unlined 2. Removable inner - fleece, down or Primaloft This combination must be rated for polar or high altitude mountaineering use. Oversized to accommodate liner mittens. Avoid 'Lobster' mitts (cross between a glove and mitten)	1 pair	
Liner mittens		Hestra Ivisk Mitt Outdoor Research Flurry Outdoor Research Shuck Mitts	Preferably wool, firm fitting to fit under polar mittens.	1 pair	
Ski gloves		Hestra Falt Hestra Heli Ski 5-finger	For warmer conditions. Must be modular (removable inner).	1 pair	

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ITEM	IMAGE SAMPLES	BRAND EXAMPLES	NOTES	YOU PROVIDE	✓
Liner gloves		North Face Outdoor Research	Polypropylene, capilene or merino (non-compressible). For inside the tent. Not to be used as mitten liner as this makes the hands cold by preventing skin to skin contact of fingers. No cotton	1 pair	
Thick socks		Bridgedale Wigwam Smartwool	Warm thick socks for inside the tent. No cotton	1 pair	
Mid-weight socks		Bridgedale Wigwam Smartwool	For in the tent/sleeping bag, wool or synthetic. Can be used as a trekking sock with liner. No cotton	1 pair	
Anti-blister-liner socks		ArmaSkin Anti-Blister liner - Long Before you begin the expedition, cut your toenails and file your skin to ensure a smooth foot. This will minimise wear on your socks	Worn next to the skin, fine neoprene layer helps prevent blisters.	3 pairs	
Tent boots		Exped Booties Helsport Bivy Shoes Snugpak Elite Tent Boots	For inside the tent and quick trips outside. Preferably synthetic fill. Can add woollen innersoles to increase insulation.	1 pair	

EYEWEAR

Sunglasses, in hard case		Julbo Ultimate Cover	Dark or transition lenses, attach a nose piece for wind and sun protection. Carry in hard case. Julbo <i>Ultimate Cover</i> model comes with nose and side protection, but may be too dark in overcast conditions. Transition lenses from dark to light are useful. Bring a spare pair of sunglasses in case you loose or break yours. Avoid metal frames	2	
Goggles		Julbo (with <i>Superflow Pro</i> ventilation)	Goggles fogging and icing can be a frustrating problem for polar travellers. The Julbo <i>Superflow Pro</i> ventilation system works well at extracting moisture within the goggles and preventing icing up on the inside of the lens.	1	
Nose protection		NazKon	One for glasses and one for goggles	1	
Spare contact lenses or prescription glasses if required				As required	

COOKING/EATING

Bowl		GSI <i>Ultralight Nesting Bowl</i>	Eating bowl. Roomy. Buy an insulated one, or add bubble wrap or closed-cell foam to a plastic freezer-safe bowl (allows you to prepare your dinner meal in a bowl instead of the pouch)	1	
Cup		GSI <i>Infinity mug</i>	Insulated cup, preferably with a lid.	1	

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ITEM	IMAGE SAMPLES	BRAND EXAMPLES	NOTES	YOU PROVIDE	✓
Spoon		Sea to Summit long spoon	Ensure it is strong, a long handle is useful when eating from deep pouches.	1	
Thermos		Thermos Ultimate Mountain	900-1000ml, ensure it is strong and leak-proof. Neatly wrap tape around it so you don't have exposed steel against your hands.	1	
Drink bottles		Nalgene	Nalgene 32oz wide-mouth bottles are ideal.	1	
Bottle insulation Sleeve		Nalgene Outdoor Research Parka	Used to insulate your Nalgene bottled water during the day	1	
Sipper bottle		Nalgene Camelbak HydraPak	750 to 1000ml. Additional water capacity plus useful as a sipper inside the tent/sleeping bag. Stored in a bottle parka tent boot during the day. Be sure it is leakproof.	1	

POWER / CHARGING

Power bank		For charging devices. Top it up from a solar panel	1	
Solar panel		BigBlue SolaPower 28	One per tent is enough, coordinate with your team mates Attach small carabiners to corner eyelets	1
Cables		InCharge make a long multi-port cable.	Ideally everything should charge via USB (5v). Braided cables are a must.	✓

ORGANISATION

Backpack		Day pack, good hip belt and straps/pockets to carry skis and equipment - 35L, lightweight	1 Optional	
Ikea Frakta Bag		For carrying equipment between sled and tent	1	
Stuff sacks		Sea To Summit	For packing/organising other things.	optional

OTHER EQUIPMENT

Ice Brush		For removing ice from clothing and boots. Best is a small grout brush (used for cleaning the grout between bathroom tiles)	1	
Pee bottle		1 litre Nalgene Wide-Mouth Useful in the tent. Different colour to Water Bottle	1	

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ITEM	IMAGE SAMPLES	BRAND EXAMPLES	NOTES	YOU PROVIDE	✓
SheWee (Female Urination Device)		Shewee/Freshette/Uribag	Women can use this device for peeing in the cold or in a tent (together with a pee bottle). Be sure to get a rigid plastic model rather than silicone, as flexible ones are difficult to use with mittens/layers of clothing)	1	
Head lamp		Rechargeable (use LITHIUM batteries if not rechargeable). Used in abandoned Dye II station.		1	
Capacative stylus		To use with touch screens (mitigates frostbite). Attach a very thin (max. 2mm) cord tether so you can attach it to your jacket or harness.		1	
Pocket knife / multi-tool		Leatherman, Swiss Army Knife		1	
Repair kit		A small, light bag with: sewing needles and thread, bandage, tape, zip ties, string, safety pins, etc.		1	
Personal toiletries & medications with pack towel, Wet Wipes, toothbrush, toothpaste, anti-bacterial gel, Band-Aids, blister kit, foot powder etc.				✓	
Toilet paper and hand sanitiser		Two rolls, store in a zip lock bag (don't buy the softest variety)		2	
Sun screen and lip protection (SPF50+)		Enough for 4 weeks		✓	
Spare batteries for devices		MUST BE LITHIUM. Rechargeable, alkaline or NiCad will not work in the cold		✓	
Chemical hand warmers				10	
Compass		Silva Suunto	Must be either Global or Northern Hemisphere. Mirror-style compass is best, mirror can be used for multiple purposes.	✓ Optional	
Compass mount		Icetrek Navimount	for reading your compass hands-free	✓ Optional	
Camera			With lithium-ion batteries. Or use a phone.	✓ Optional	
Watch			with new battery and long strap for wearing over sleeve	✓ Optional	
Accessory cord			3m, 3mm, for adding extensions to your zippers if you have not done so already	✓ Optional	
Book/Kindle				✓ Optional	
Diary/journal and pencil				✓ Optional	
Music device, headphones				✓ Optional	
Ear plugs and eye shades				✓ Optional	

Sled weights

Do not add anything to the list above without consulting us. Every extra item is additional weight and may affect the progress of the team.

Your fully loaded sled will weigh around 60-70kg.

Take advantage of our 20% discount on select [Icetrek Equipment](#) but order in time for delivery from Australia.

WE WILL PROVIDE THE FOLLOWING, most of which you return to us after the trip

GREENLAND SKI CROSSING - EQUIPMENT LIST

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ITEM	QUANTITY	PURPOSE	✓
Ski gear (rentable)	1	please let us know if you want to rent skis (with bindings, skins and poles)	
Sled with hauling lines	1	Icetrek	
Tent	1 per 2 pax	Hilleberg Keron 4 GT	
Tent anchors	12 per tent		
Shovel	1 per tent		
Expedition food		See food section below (bring a small food surprise for everyone!)	
Cooking equipment	1 set per tent	Stove, bases, pot, fuel bottles, etc	
Stove fuel	250ml / day	White gas	
Funnel	1 per tent	For re-filling fuel bottles	
Snow bag	1 per tent	For collecting snow for melting on the stove	
Spare equipment	Various	Ski, binding, stove pump, mittens, sunglasses	
Glacier travel ropes	Guide		
Navigation equipment	Guide	Compass, maps, GPS	
Communications	Guide	Sat phone, PLB's, VHF radio	
Medical kit	Guide	You should bring some common things like pain killers, blister treatment etc	
Repair kit	Guide		
Polar bear deterrents	Guide	Signal pistols, firearms, ammunition	

FOOD, provided by us

We will bring food for about 28 days. We provide nutritious and tasty expedition food. If you feel like having extra, personalised snacks / favourites, bring them if you wish. **HOWEVER**, our weight allocation is tight and extra allowance is exceedingly expensive, so if you bring own food (more than a snack) we need to be informed. If you have allergies or special needs, please inform us in writing. Depending of what it is you may be asked to help bring your own choice of food. Food provided = approx. 1000g per day.

Breakfast	Porridge, made from a secret recipe. Breakfast is a very important meal that cannot be neglected in a polar environment!
Lunch	This is the biggest food allocation during the day. We nibble away at it during every break to constantly replace used energy.
Dinner	Freeze dried dinner, predominantly stew varieties. Chips and instant soup.
Surprise	Everyone should bring a small, surprising? funny? tasty? puzzling? liquid? shocking? thing to cheer, celebrate or delight the others. Put it in a plastic box, tape it up and start looking forward to it. Not too heavy!

TIPS

GREENLAND SKI CROSSING - EQUIPMENT LIST

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cables	Charge cables can become very stiff in the cold and are prone to breakage. It's important to use a quality braided cable and ensure you have appropriate ports to match your devices. Wireless charging works in the cold but is less efficient.
cameras	Small digital still cameras can be kept warm in a pocket but keep it in a sealed bag or case when entering the tent to avoid condensation. Always keep it covered until it reaches the ambient temperature before using it. Remember, the smaller the buttons, the more difficult to operate. See below if using a phone.
cold	Greenland can still be cold on the plateau, down to -30c. This is challenging but manageable with the right clothing and equipment, but don't underestimate it, even if you are reasonably cold-tolerant. Be sure that all of your gear - clothing and equipment - is in full working condition. Any liquids - water, gels etc - will freeze unless insulated.
dexterity	You will likely be wearing mittens while outside. Your dexterity will be drastically reduced however you still need to be functional - adjusting zippers, operating buckles and toggles, pulling straps, eating etc. While at home, practice using your mittens while adjusting your shell clothing. If you can't make adjustments with your mittens on at home, you will not be able to make them on the ice, so make changes where possible. Add extensions to all of your zippers (see below).
dressing	You will be active during the day and it's unlikely that you will wear anything more than a fleece jacket and a base layer under a windproof shell while skiing. If you get cool while skiing your light puffer jacket will go over everything, including your shell and harness, so make sure it is roomy enough. Your big down jacket will only be used during breaks and camp setup/decamping. Avoid tight fitting clothing. Even your base layer should be quite loose. Thumb-loops on sleeves add warmth to hands. Inside the tent you may require liner gloves to operate the stove, particularly on entry and after wake up. The stove will heat the tent nicely after all snow melting is completed.
eating	The food we provide is high in energy, easy to prepare and relatively low in weight and bulk. If you do not eat or drink adequately you will feel the cold much more, hunger and dehydration are two of the main contributors to hypothermia. Check the Polar Diet on our website.
electronics/ batteries	Cold temperatures will affect the available charge in your batteries and powerbanks and should be warmed before use. Lithium batteries are mandatory. Alkaline, NiCad and rechargeable do not hold their charge in the cold.
fabrics	Cotton. Avoid cotton garments as they do not retain heat when wet Polar fleece. Excellent under all conditions Gore-Tex and other breathable shell fabrics are recommended Wool. Wool is an excellent insulator. Thick wool items are slower to dry Merino wool. Excellent for base layers though can lead to a condition called 'polar thigh'. Google it. Synthetics. Excellent strength and tear resistance, not as warm as wool but better for preventing polar thigh on longer expeditions. Windstopper. Excellent in hats but not useful under shell clothing
hygiene	Consider bringing some personal hygiene items. There won't be any running water and warm water is at a premium. A quick-dry wash cloth can be used for washing yourself but bear in mind that if not dried adequately it will freeze. So too will wet wipes. If using wet wipes separate each wipe with grease-proof paper so they don't freeze together and don't bring more than you need. Talc powder can help too. Disinfectant hand-wash is available for each tent. Use it after toileting and before cooking/eating. For toileting, if it's yellow, we're pretty mellow; if it's brown, bury it down. We prepare two latrines and burn toilet paper. Use a bottle for inside the tent, ladies can use a shewee with a bottle.
metal	Steel items must be insulated where possible. Even with gloves and mittens on, fingers can become chilled when handling cold-soaked steel. Neatly wrap duct tape around your thermos flask and any other steel items you may have. Keep power banks in a pouch.
orthotics	We recommend you use your orthotics with polar boots. Be sure to purchase boots big enough to accommodate orthotics if you use them.
phone	A smartphone is a very useful item (camera, navigation, blogging etc.) but it poses a frostbite risk to fingers and draws significant power if used for all of these tasks. Some tips: <ul style="list-style-type: none"> • fully charge it before departure • disable Face ID and/or fingerprint access before departure • keep it in a warm but accessible pocket while skiing • use a capacitive stylus to operate the screen, preferably attached to a thin tether for easy access • use touch-screen sensitive liner gloves for use inside tent • recharge each evening, a braided cable may be preferable to wireless charging
power	Charge power banks using a solar panel. The power bank will require warming before use, place it next to your body (not skin contact).

GREENLAND SKI CROSSING - EQUIPMENT LIST

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skiing and resting	We usually ski for 60 minutes then have a short break with 3 sessions before lunch and 2 or 3 after. Breaks are usually between 5 and 10 minutes, depending on the cold. Your insulated jacket can go over everything, including your harness. Keep your skis on during these short breaks, take them off for lunch. Drink and eat during every break or you will feel the effects of low power and dehydration. We may travel between 5 and 6 hours per day not including rests.
sled packing	You will be allocated a plastic sled. Pack the largest and heaviest equipment, including food, at the bottom, spreading the weight evenly over the base of the sled. This helps balance the sled and minimizes annoying capsizes. The sleds come with a zippered cover and compression straps for securing the load. Items required during the day can be slipped under the cover at the front of your sled.
sleeping	You provide an inner sleeping bag (3-season is OK) and liner, we will provide a moisture-tolerant synthetic outer bag. This combination will keep you warm in the coldest temperatures, so long as you use it properly. Slide into your liner, inner bag and outer bag, close all zippers, adjust the neck baffle so that it sits above your shoulders, place your head in the hood/s and tighten the drawcord/s. This will prevent cold seeping into your bag and warmth from escaping. We provide insulting mattresses with a combined R-Value rating of 6 or more under your sleeping bag. We guarantee you the option of 8 hours sleep every night. We also provide tent seating to give your back relief after a day of hauling.
teamwork	Look out for your team mates. Check their faces for frost exposure or injury every time you face someone. There are lots of little jobs to do - camp setup, filling cooking-snow bags, cooking, cleaning - so pitch in.
Vapour Barrier Liners (VBL's)	A thin waterproof sock worn next to the skin or over a very thin liner sock, used to prevent perspiration from entering your boot insulation. There are purpose-made VBL socks on the market but they typically leak through the seams. A simple grocery bag is adequate. Never use VBLs on your hands.
Velcro	Can restrict the easy use of shell zippers. We recommend removing any Velcro patches from the storm flaps over your jacket pit zippers and any other areas that hinder zipper operation.
windproofing	Windproof shell jacket, pants and mitts are mandatory. A fur ruff on the hood of your shell jacket will block wind and create a warm micro-climate around your face. Shell jacket and pants must not be lined with mesh, fleece or any other fabric. Shell only.
waterproofing	Windproof shell fabric is more important than waterproofing, it's often windy but usually too cold to rain
zips	Add extensions to all your zips, about 7-8cm is ideal (see below). Be sure you have a big knot or toggle at the end of each extension to grab with mitts on. Extensions should ideally be a different colour from the garment fabric for easy identification. Make sure all zips are working well, a broken or malfunctioning zip can have disastrous consequences. Water-resistant zips on shell clothing can be difficult to operate in extreme cold. The larger the teeth on your zippers, the better they will perform. However we recognise that most shells now come with water-resistant zips.

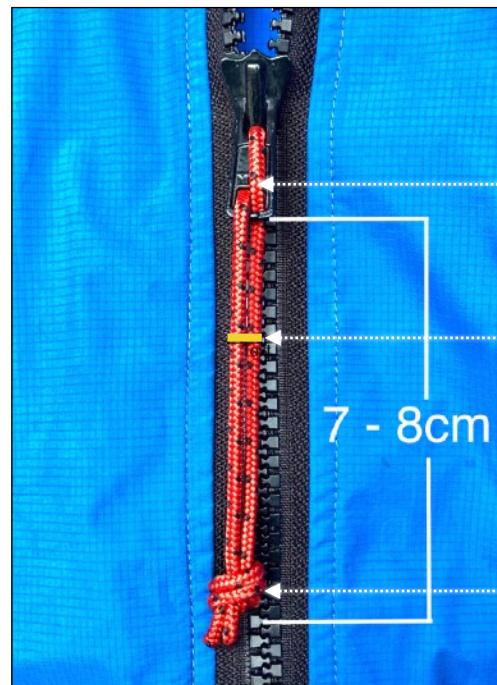


Fig.8 through the zipper toggle

Small zip tie to keep it neat

7 - 8cm

Knot at end