



2018 EUROPEAN ASCENTS EQUIPMENT LIST

Equipment Checklist

You **MUST** bring all items listed on the enclosed clothing and equipment checklist. The only exception is the items listed as optional; this is very important. Please contact us with any questions you have pertaining to equipment or clothing. At the same time, you must keep your equipment weight to a minimum.

1.0 Body Wear

- Waterproof shell jacket
- Waterproof shell pants
- Down jacket
- Midweight insulated jacket
- Softshell jacket/Windshirt (*Optional*)
- Lightweight fleece top
- Softshell climbing pants
- Base layer top and leggings
- Underwear

2.0 Head Wear

- Sun hat
- Warm hat
- Balaclava (*Optional*)
- Sunglasses (*Plus an optional spare pair*)
- Ski goggles
- Bandana or Buff

3.0 Hand Wear

- Liner gloves
- Leather gloves
- Mountaineering gloves with removable liners

4.0 Foot Wear

- Socks x 2-3 pairs
- Mountaineering boots
- Snow gaiters
- Lightweight shoes/boots
- Rock shoes
- Down booties (*Optional*)

5.0 Packs & Bags

- Mountaineering pack (*40-55 litres*)
- Small duffel/travel bag

6.0 Accessories

- Headlamp and spare batteries
- Water bottles x 2
- Thermos flask (*Optional*)
- Sleeping bag liner (*A requirement for all huts*)
- Personal first aid kit and medications
- Personal toiletries
- Sun block and lip balm
- Wet wipes (*Optional*)
- Ear plugs (*Optional*)
- Stuff sacks
- Camera
- Personal entertainment (*Optional*)
- Pocket knife/Leatherman/tool kit (*Optional*)
- Additional snack food

7.0 Climbing Equipment

- Ice axe (*55-60cm*)
- Crampons
- Climbing harness
- Climbing helmet
- Belay device
- Locking carabiners x 3
- Ice Screw (*Can be rented from AC*)
- Prusiks x 1
- 120cm Nylon sling
- Collapsible ski/trekking poles (*Optional*)

8.0 Travel Gear

- Casual wear
- Passport, documents plus copies

Clothing and Equipment Information Guide

The following information is a guide to assist you in securing the required clothing and equipment for climbing in Europe, along with recommended brands. You may have equipment you have used which is different to what is on the list, so please read thoroughly and get back to us with any questions.

Fabrics/Garment Designs and Selection

Today there is a bewildering and ever-changing array of modern technical fabrics and garments on the market. Accordingly, suitable mountain attire can be derived from a wide variety of garments utilized in varying combinations. The clothing on our gear list can be creatively substituted according to your preferences, but ensure your choices are functional and adequate. For example, a functional and often utilized garment that does not appear on our list is a vest.

A basic principle in selecting clothing and equipment is to minimize weight and bulk, while still ensuring adequate warmth and functionality. It can be difficult to find a brand that has all the features you prefer, which means you must make prudent compromises. In the description below and for certain items, we suggest brands and specific products that we have found to be suitable; this is by no means definitive. In some cases, there are multiple suitable brands on the market and hence we do not make specific suggestions.

Appropriate fabrics used in thermal underwear include polypropylene, silk and merino wool. The only cotton garment worn during the climb is your glacier shirt. Warmer insulating materials can be made from fleece, softshell or Primaloft. Varieties of fleece include Windstopper, Wind Pro, Power Shield, Windbloc, Power Dry and Power Stretch. Be aware that fleece garments that incorporate stretch fabric take longer to dry. Softshell garments integrate stretchy nylon fabrics to increase freedom of movement, while also providing various degrees of wind and water resistance in a 'softshell'. They are often lined with a microfleece for increased insulation. Synthetic insulation materials such as Primaloft are advantageous as they are warm even when damp, are water-resistant and quick-drying.

You can read Guy Cotter's thoughts on the ultimate lightweight layering system at <http://www.adventureconsultants.com/adventure/LightweightGear/>

1.0 Body Wear

Waterproof Shell Jacket

This can be made from Gore-Tex or a similar waterproof breathable material. Look for a model with a full front zipper, a good attached hood with draw cord and so on for good adjustability, so that it will fit over a helmet. Preferably, the jacket should be long enough to allow a generous overlap with your shell pants when you bend over. Obviously, a technical mountaineering jacket is ideal, but many general-purpose jackets are sufficient.

We recommend The North Face Summit L5, Arc'teryx Alpha SV, Montane Endurance Pro or the Rab Latok Shell Jackets.

Waterproof Shell Pants

These are made from Gore-Tex or a similar waterproof breathable material. These must have full length zips down the legs, so they can be put on and taken off, when you are wearing boots and crampons. The bib/salopette types are warmer as they extend above the lower back/kidney area giving a good overlap with your jacket. Make sure they have sufficient movement to enable you to lift your legs high and enough room to wear light fleece pants underneath.

We recommend The North Face Summit L5 Fuse GTX, Arc'teryx Alpha SL, Montane Alpine Pro or the Rab Latok Alpine Waterproof Shell Pants.

Down Jacket

During the colder winter months, a good quality down jacket can be a lifesaver! A midweight down jacket with a hood is recommended. Although some down jackets have a waterproof and breathable outer fabric, these fabrics are not totally waterproof unless they are seam sealed.

We recommend The North Face Trevail Hoody, Marmot Ama Dablam or the Rab Electron Down Jackets.



Midweight Insulated Jacket

This can be a synthetic insulated jacket (Primaloft, etc.), insulated softshell or thick fleece with a full front zip for ventilation. Zip up pockets help avoid losing items which are stored in there and a hood is also a bonus.

We recommend The North Face Thermoball Hoody, Rab Xenon X, Montane Prism or the Arc'teryx Atom LT Jackets.

Softshell Jacket/Windshirt (Optional)

These jackets are ideal for aerobic activity in light weather conditions. They are wind-resistant, water repellent and highly breathable. They are used either alone or as an insulating layer under a waterproof shell jacket and models with a hood are best.

We recommend the Marmot ROM, Arc'teryx Gamma MX Hoody and Psiphon SL, Rab Kinetic Plus and Torque Softshell Jackets. Windshirts that we recommend include the Marmot Ether Hoody and the Rab Vapour-rise Alpine Jacket.

Lightweight Fleece Top

A lightweight (100 weight) fleece or expedition weight thermal top is a good addition layer to keep your thermoregulation perfected. Wear it as your top layer when warm and then put your midweight jacket over it, when it gets colder. It can be a light fleece pullover or have a short or full zip. A zip chest pocket is useful for keeping sun cream and snack bars accessible.

We recommend The North Face TKA ¼ Zip, Rab Power Stretch Pull-on, Montane Power Up Hoodie, Patagonia R1 Hoodie, Montane Allez Micro Hoodie or the Arc'teryx Kenseal Hoody.

Softshell Climbing Pants

Stretchy pants suitable for climbing on the warmer days and general casual wearing, or with long underwear beneath for colder days.

We recommend The North Face Alpinisto, Marmot Scree, Montane Alpine Stretch or the Rab Sawtooth Softshell Pants.

Base Layer Top and Leggings

Long sleeve base layer tops made of polypropylene, polyester or merino wool are excellent. A high neck with a zip gives good temperature control. Bring two tops; one for climbing in and one for wearing in the evenings, or to double up, if you get cold.

Long-johns made of the same materials as your tops are lightweight and provide a change, if your climbing pants are wet or too warm. They also provide lots of additional warmth if worn under your climbing pants, although this would generally only be required in winter.

We recommend The North Face Warm, Smartwool, Le Bent, Montane Primino and the Rab Merino+ Base Layer Ranges.

Underwear

Bring sufficient changes of your regular underwear. It is possible to buy polypropylene, polyester or merino briefs and singlets, which are warmer and dry faster if you get wet, however, most people use their normal and most comfortable underwear.

We recommend the Smartwool, Montane Primino and Rab Merino+ Ranges of Underwear.

		
Rab Merino+ 160 Hoody	The North Face Bones Beanie	Julbo Explorer 2.0 Sunglasses

2.0 Head Wear

Sun Hat

A wide brimmed soft hat or baseball cap combined with bandana to protect you from the sun. The sun is extremely strong at altitude, especially as there is less pollution in the air.

We recommend The North Face Horizon Breeze Brimmer Sun Hat, available from our office.

Warm Hat

Your hat can be wool, merino, Windstopper or fleece. It should extend over the ears and be snug enough not to fly off in a strong wind.

We recommend The North Face Bones or the Rab Shadow Beanies.

Balaclava (Optional)

Bring a lightweight balaclava preferably made from silk or polypropylene.

We recommend Smartwool and the Rab Power Stretch Balaclavas.

Sunglasses (Plus an optional spare pair)

Preferably a "glacier" style with side protection although some wraparound glasses provide enough protection from reflected light. The lens should be dark enough to withstand the intense reflection from the snow and MUST filter 100% of UVA, B and C radiation. Snow reflects up to 85% of solar radiation and the UV index increases 10% with every 1,000m gain in altitude so it is of utmost importance you protect your eyes. We recommend a photochromic or category 4 polarized lenses with an anti-fog coating. If you wear prescription glasses, we recommend you get grey or amber prescription glasses. If you wear contact lenses, it is advisable to bring a pair of prescription glacier glasses as a back-up. Leashes and nose guards can be used.

We recommend Oakley, Adidas, Bollé, Julbo and Smith Sunglasses.

Ski Goggles

High-quality goggles for sun and wind protection at altitude. The lens should offer visible light transmission (VLT) of no more than 30%. Those with light-sensitive eyes may wish to use a darker lens. Photochromatic models are ideal for use in changing conditions. If you wear prescription glasses, please ensure they fit under your goggles.

We recommend Oakley, Adidas, Bollé, Julbo and Smith Ski Goggles.

Bandana or Buff

A bandana and/or buff are a useful addition to the cap to protect the back of your neck from the sun. A buff makes a good face mask in windy cold weather and can replace a balaclava, when used with a warm hat.

We recommend the Adventure Consultants Branded Buff, available from our office.

		
Adventure Consultants Branded Buff	Rab Alpine Gloves	The North Face Vengeance Mountaineering Gloves

3.0 Hand Wear

Like body wear, you'll need a few combinations of gloves for a wide variety of temperatures. Layering works well, so check the various combinations work together.

Liner Gloves

These form a base layer and are worn, whenever climbing. These very thin, lightweight finger/liner gloves are worn on hot days to protect against sunburn and under heavier gloves on cold days. Ensure a close fit to allow you to handle ropes and carabiners. These can also be worn doubled up and should fit underneath your other glove combinations.

We recommend Budget Polypropylene, Black Diamond Lightweight or the Rab Stretch Knit Liner Gloves.

Leather Gloves

A leather palmed glove that is dexterous is invaluable for days on rock or on warmer mountain days, where you still want hand protection.

We recommend the Marmot Spring, Rab Alpine and the Outdoor Research Airbrake Gloves.

Mountaineering Gloves

We recommend gloves with removable liners, which are very versatile, as you can wear them with or without liners, depending on the temperature. A good model will have abrasion-resistant palms, shaped fingers, a waterproof outer and an insulating removable liner. Please ensure that you can fit your liner gloves underneath your mountaineering gloves. Please be aware that cheaper models are not waterproof. We recommend that you attach wrist loops to these gloves to prevent them being blown away by the wind.

We recommend The North Face Vengeance, Rab Alliance or the Outdoor Research Alti Mountaineering Gloves.

4.0 Foot Wear

Socks

Various combinations suit different people and you will need at least 3 complete sets of your personal preference. Some people prefer to wear just one pair of socks in their boots, while others wear two; a thicker pair over a thinner one.

We recommend Smartwool, Bridgedale and Thorlo Socks.

Mountaineering Boots

An insulated leather mountaineering boot with a fully rigid sole is ideal for climbing in the European Alps. Ensure they are waterproof, supportive and warm enough for snow and ice climbing. The boots must have a reasonably sized welt on the back and front to accept 'clip-on' crampons.

Note that $\frac{3}{4}$ shank boots do not give enough support for snow and ice climbing. This style of boot is not generally well insulated, but some styles are excellent for rock-based mountaineering routes, such as the Matterhorn or Eiger's Mittellegi Ridge.

While it is possible to use plastic boots on snow and ice climbs, they have become somewhat outdated, are very clumsy to wear and will not perform well.

New-generation synthetic double boots with removable liners can also be used for higher elevation ascents around the European Alps or when it is very cold. However, single leather and synthetic boots are the status quo for summer mountaineering in the Alps.

The right fit is more important with leather boots than for plastic boots, so make sure they are worn in by doing several multi-hour hikes on hills and rough terrain before you wear them in the mountains.

Your boots are perhaps the single most important piece of equipment which can make or break a trip depending on whether they fit well or not, so please ensure your boots are of high quality and fit your feet well.

We recommend the Scarpa Mont Blanc (no surprise there!) and Phantom Guide, La Sportiva Nepal and G5, Trango Ice Cube, Lowa Weisshorn and Mountain Expert, Garmont Mountain Guide Pro and the Salewa Vultur Vertical Mountaineering Boots.

For rock based ascents, we recommend La Sportiva Trango Cube GTX, Scarpa Charmoz, Lowa Alpine Pro GTX and the Salewa Crow GTX Mountaineering Boots.

		
La Sportiva Nepal Evo Mountaineering Boots	Rab Latok Extreme Gaiter	Salomon XA Pro 3D Ultra 2 Shoes

Snow Gaiters (Only required, if your boots do not have an integrated gaiter)

Full calf-length gaiters keep the snow out and need a good tie down system under the in-step, to stop them creeping up at the heel and allowing snow in. A Velcro or zip closure at the front is best for putting them on and removing them easily.

We recommend the Sea to Summit Alpine and the Rab Latok Extreme Gaiters.

Lightweight Shoes/Boots

Lightweight shoes or lightweight trekking boots are handy for walking around in at the end of the day and for the walk out down the valley. Believe it or not, a pair of Crocs can be good lightweight slippers for inside the huts.

We recommend the Salomon XA Pro 3D Ultra 2, La Sportiva TX4 and the La Sportiva TX5 and the Scarpa Kailash Boots.

Rock Shoes

Bring these if you have them, as they are used on training days or non-mountain days. If you don't own a pair, these can be rented locally if needed.

Down Booties (Optional)

A pair of down booties or other warm, comfortable footwear can be great for wearing around the hut.

We recommend the Rab Expedition Slippers and Hot Socks.

5.0 Packs & Bags

Mountaineering Pack (40 Litres)

There are many models available, which are suitable. Required features include a volume of about 40 litres as well as crampon and ice axe attachment points. Avoid trekking style packs with bulky side pockets.

We recommend the Osprey Mutant 38, Lowe Alpine Ascent or the Black Diamond Speed Mountaineering Packs.

Small Duffel/Travel Bag

This is for storing clothing and items left in town, while you are on the mountain. Bring a lock and if you're particularly adept at losing keys, please make sure to buy a combination lock and set to an easy to remember number!

We recommend The North Face Base Camp Duffel Range.

6.0 Accessories

Headlamp and Spare Batteries

Avoid the 'micro' or simple LED models as they have problems with battery life and light levels. The new high-output LED headlamps are superb as they provide an excellent level of lighting and are also very light. Bring two NEW sets of lithium or alkaline batteries for the trip.

We recommend the Petzl Actik, LED Lenser SEO 7R or the Black Diamond Storm and Spot Headlamps.

Water Bottle (1 Litre)

Wide mouth plastic bottles are good. Camel back style water bladders are good in theory but can often freeze and are easily punctured.

We recommend the Nalgene 1 Litre and 500ml Wide Mouth Bottles.

		
Black Diamond Speed 40 Mountaineering Pack	Black Diamond Storm Head Lamp	Sea to Summit Silk Sleeping Bag Liner

Thermos Flask

You can bring a small, insulated vacuum flask made from stainless steel and about 500ml-1 litre in capacity for hot drinks.

We recommend the Primus Vacuum Bottles.

Personal First Aid Kit and Medications

A basic personal first aid kit is necessary including blister tape, 2nd skin (optional), gauze pads, crepe and triangular bandages and painkillers. Also bring any personal medication that you require. *(Please remember to inform your guide, if you are on prescription medicine as your standard medications can be dangerous at altitudes).* Store the first aid kit in a waterproof container or a plastic bag inside a stuff sack is often adequate.

Sleeping Bag Liner (A requirement for all huts)

For use with the blankets that are supplied in the huts.

We recommend Sea to Summit Sleeping Bag Liners.

Personal Toiletries

Bring a small toilet kit - flannel, some soap, toothpaste and toothbrush. Keep it light and don't bring a full tube of toothpaste to carry around.

Sunblock and Lip Balm

Conditions can be extreme, so you will need a bottle or tube of maximum protection sun block. In addition, lip balm (with SPF 15 or higher) is worth carrying in your pocket for application during the day.

Wet Wipes (Optional)

Baby Wipes or similar pre-moistened cloth wipes for personal hygiene. These antibacterial wipes are excellent for cleaning hands and other hygiene issues, whilst away from civilisation. Just a few of them in a small zip lock bag will suffice.

Ear Plugs

A handy way to get a night's sleep when sharing a room with a snorer!

Stuff Sacks

Lightweight nylon bags with draw cords to store spare clothes etc. These are very useful for organising gear in your pack or when you're in a hut, and we suggest bringing 2 or 3.

We recommend Sea to Summit Stuff Sacks and Dry Bags.

Camera and Spare Batteries

Bring along your choice of either a SLR or fully automatic camera. Be aware that batteries can be a problem with cold temperatures, so it is a good idea to bring spare sets of batteries and storage cards.

Personal Entertainment (Optional)

Feel free to bring an MP3 player or a good book for any downtime.

Pocket Knife/Leatherman/Tool Kit (Optional)

Choose the Swiss Army style, Leatherman or equivalent.

We recommend Victorinox Knives and Leatherman Multi Tools.

Additional Snack Food

Bring any personal favourites that you wish. We recommend you bring at least 4 GU sachets for instant carbohydrate replacement on the climb. You may also bring electrolyte drink to mix in your water bottles.

		
Black Diamond Venom Ice Axe	Grivel G12 New-Matic Crampons	Petzl Adjama Climbing Harness

7.0 Climbing Equipment

Ice Axe (55-60cm)

For alpine climbing, you will need a straight shafted axe between 55cm to 60cm long, depending on your height. A longer axe is more helpful on the moderate ground and even the most difficult climbs have approaches and descents for which this is helpful. Short axes with curved shafts and moulded hand grips are fine on hard technical ice climbs, but not suited to most alpine climbing.

The head of the axe should be comfortable to hold when using the axe as a walking stick and not have any protrusions which will dig into your hand.

The pick can be a normal curve or a 'reverse curve'. The reverse curve picks hold better on steep ice, but they are more difficult to self-arrest with. Some ice axes come with replaceable picks so check that the bolts are tight before each climb.

The adze is still used a lot for chopping steps in ice and snow, so must be a good angle to do so. Some adzes are too dropped to chop steps easily and instead are designed for climbing steep unconsolidated snow.

Shafts are either metal, wood or fibreglass, and some have rubber hand grips. A rubber grip at the base of the shaft makes it easier to hold when self-arresting or climbing steeper ground, as well as keeping your hand warmer. The shaft must be smooth enough to be forced into the snow and should not have protrusions which can get caught up on a crusty snow surface.

The spike at the bottom of the tool should be sharp enough to penetrate hard snow. A wrist loop is needed for support when climbing on steeper ground. The correct length allows you to hold the bottom of the shaft with the sling tight.

We recommend the Petzl Summit Evo, Grivel Air Tech Evo G-Bone and the Black Diamond Venom Ice Axes.

Crampons

A general mountaineering style with horizontal front points, a plastic toe harness and heel bail are best. Check that the set-up fits securely and that the strap is long enough to fit on your mountaineering boots. Ensure your crampons have anti-balling plates on them.

Be sure to check the heel piece of the clip-on crampon is compatible with your boots and stays in place when in the up position. If possible, practice putting on your crampons before your trip. Avoid technical ice climbing crampons.

We recommend the Petzl Vasak Leverlock Universe!, Grivel G12 New-Matic and the Black Diamond Sabretooth Clip Crampons.

		
<p>Petzl Meteor Climbing Helmet</p>	<p>Petzl William Screwgate Carabiner</p>	<p>Black Diamond Expedition 3 Ski Poles</p>

Climbing Harness

A sit harness is used for most mountaineering situations. These should be lightweight and adjustable around the waist and legs. A specially designed alpine harness is easier to get in and out of (important when nature calls!) when you have boots and crampons on than many rock climbing harnesses, which have fixed leg loops and hence cannot be adjusted for different clothing layers. Wear your mountaineering layers when trying a harness on to ensure it fits over all your clothing layers. Comfort is essential as you may be sitting in it for quite some time whilst belaying your climbing partner.

We recommend the Petzl Aquila, Adjama or Luna, Arc'Teryx AR-395A, the Black Diamond Xenos or the Technician Climbing Harnesses.

Climbing Helmet

Helmets designed for climbing are lightweight and designed to deflect falling ice and rocks. They also protect the head in a fall. All helmets must meet industry standards for impact protection, with the standard for overhead protection being greater than the side-protection standard.

There are two kinds of climbing helmets available today – hard shell helmets and shelled foam helmets. Helmet makers use different terms for each type of helmet, so focus instead on tell-tale construction details like shell hardness, foam thickness and number of vents.

Plastic becomes brittle as it ages so if you are borrowing a used helmet, then it should not be more than 4 years old. Check the size and make sure that it will adjust for when you are wearing your hat underneath.

We recommend the Petzl Sirocco or Meteor, and the Black Diamond Vapor or Vector Climbing Helmets.

Locking Carabiners x 3

Bring 3 lightweight locking carabiners which have either a 'screw gate' or 'twist lock' gates. Do not get the ball lock type! Whichever you choose, please practice with them with your gloves on at home.

We recommend Petzl and Black Diamond Locking Carabiners.

Ice Screw

This is very useful to secure yourself in steep icy ground.

We recommend the Black Diamond Express Ice Screws.

Prusik x 1

A prusik is a friction hitch or knot used to attach a loop of cord around a rope. Prusiks are generally made from 6mm cord. You will need to bring 1 prusik on this trip - a short prusik made from 1.6m length of cord. Use a double or triple fisherman's knot to join the ends and create the loop.

120cm Sling

Bring along a 120cm sewn/tied length of sling.

Collapsible Ski/Trekking Poles

These are great for walking in deep snow or to save the knees on long days. Snow baskets are a worthy addition in deep snow.

We recommend Leki and Black Diamond Trekking and Ski Poles.

8.0 Travel Gear

Casual Wear

Bring a selection of casual clothes to wear on the between days when not in the mountains, and at the end of the trip.

Passports, Documents and Copies

You will be in at least two countries on around the Mont Blanc region.

NOTE: If you found you have forgotten anything when you arrive in Chamonix, do not worry as there are plenty of stores that specialise in mountaineering equipment. Your guide will be happy to help you with any purchases you would like to make.

If you would like to rent any equipment, please let the staff at the office know and they will make sure that it is put aside for you and available for you, upon your arrival. If you have any questions, please ask.
