



International Ski Mountaineering Federation

Description of Technical Equipment

1. TECHNICAL EQUIPMENT.....	2
APPENDIX 1: ISMF SNOW PROBE STANDARD.....	4
APPENDIX 2: ISMF SHOVEL STANDARD.....	5
APPENDIX 3: RECOMMENDED EYEWEAR PROTECTION CHART.....	6

1. TECHNICAL EQUIPMENT

The equipment listed hereafter is required for all ISMF competitions.

All equipment used by competitors taking part in ISMF events must be produced by a supplier that:

- **Is registered in a chamber of commerce and industry.**
- **Is registered for VAT in country of origin** (Intra community number for the EU or similar manufacturers).
- **Has a product liability insurance, which covers the use of the equipment in ski mountaineering.**

The labelled security equipment **must be CE and UIAA marked** or comply with the requirements of a European rule in force (*except for the helmets, see chart in 4.1*) without any modifications, **except by those authorised by the manufacturer** in the written information supplied with the equipment.

Equipment description for all ISMF ski mountaineering races

	DESCRIPTION	CE or UIAA
A pair of skis	<ul style="list-style-type: none"> • with metallic edges covering at least 90% of their length • minimal width of at least 80 mm in the front, 60 mm under the boot and 70 mm in the rear part; • ski length must be of at least 160cm for men and 150cm for women. <p>The skis will be measured according to the method « Rolling ».</p> <p><u>Minimal weight for skis and bindings:</u> Men: 780 grams per ski. Women: 730 grams per ski.</p>	
Bindings	<ul style="list-style-type: none"> • which allow heel movement during ascents and are blocked for descents; • must have both a lateral and a forward complete release system (the boot is allowed to completely separate from the ski). The lateral release (front part) has to be lockable manually (without the use of any tool). • <i>If a binding is TÜV certified, the locking mechanism is not necessary</i> <p>Must have Ski brake: Retention device for ski mountaineering which is designed to slow down a ski after a ski binding release or ski loss.</p> <p>Uphill position: Arrangement of the ski brake during the ascent phase</p> <ul style="list-style-type: none"> ▪ Downhill position: Arrangement of the ski brake during the descent phase. ▪ Braking position: Arrangement of the ski brake when set in Downhill position and the boot is released from the binding. 	
Boots	<p><u>Minimal weight for boots (shell and dry inner):</u> Men: 500 grams Women & U18 Men: 450 grams</p> <p>In case of bikini liners, only the shell must cover the ankles.</p> <p>Each boot must have at least two (2) independent closing systems.</p> <p>Boots must be designed to be used with metallic crampons.</p> <p>Cross-country ski boots and bindings or equivalents are strictly forbidden.</p> <p>Sole:</p> <ul style="list-style-type: none"> ▪ notched rubber soles. 	-

	<ul style="list-style-type: none"> ▪ The notched soles have to cover the 100% of the boot surface. ▪ The minimum notch depth is 4 mm. ▪ The minimum surface area of 1 cm² per notch. ▪ There must be at least 8 notches under the heel and 15 under the front part of the sole <p>Modified boots by a second manufacturer are allowed only if there is a formal agreement between the two manufacturers, which is specified in the written information supplied with the modified part.</p> <p>Athletes in the U18 and lower category are not allowed to wear/use full carbon structured boots (including carbon composites or similar: Kevlar, aramite, etc.).</p>	
A pair of ski poles	Carbon or other material Maximum diameter of 25 mm With non-metallic baskets.	
A pair of removable anti-slipping skins	Skins originating from wild animals are strictly forbidden. The skins have to cover at least 40% of the snow contact length of the ski. Use of adhesive tape is forbidden on the skins for environmental reasons.	
An avalanche detector	also called DVA or ARVA, that conforms to standard EN 300718 457 kHz frequency. The DVA has to be equipped with a 3 antennas receiving system. The DVA has to be worn in a closed pocket (zipper only) inside of the race suit at the belly level or as defined by the manufacturer.	YES
A helmet	conforming to: - UIAA 106 and EN 1077 class B standards. - EN 12492 and EN 1077 class B standards. Helmets must be used (chin-strap has to be fastened) during the whole race (from the start to the finish line). CE/UIAA: Yes.	YES
A snow shovel	conforming to ISMF standards (<i>Appendix 2</i>).	
A snow probe	conforming to ISMF standards (<i>Appendix 1</i>).	
A survival blanket	The minimum surface area of 1.80 m ² . The Modifications subsequent to manufacture are not allowed. The term "survival blanket" is as defined by the manufacturer.	

A backpack	with sufficient carrying capacity to hold all the equipment required by the regulations, with two rear and/or lateral fastening straps for carrying skis. In the event of cooperation between teammates, the carrier's backpack must have two independent sets of fastening straps for skis. If the backpack has an independent crampons pouch, the pouch must be securely fastened to the back of the backpack (using Velcro straps, etc.). Crampons must be secured in the appropriate compartment of the backpack worn on the back.	
A whistle		
Supplementary equipment that may be required by the jury		
A pair of metallic crampons	that conforms to UIAA standard 153, with at least 10 spikes. The two front spikes must adjust to fit the competitor's boots. They must have the original safety straps that should be properly fastened to all crampons during the on-foot portion of the race When crampons are not worn on boots, they must be packed in the backpack, with spikes facing each other;	YES
A harness	conforming to UIAA standard 105	YES
Via Ferrata kit	with energy absorbing system for use in Via Ferrata Kit conforming to UIAA standard 128.	YES
Two (2) connectors - Via Ferrata kit connectors	that conform to UIAA standard 121. When the lanyard and the 2 connectors are not in use, they must be put away in the backpack or wrapped around the waist.	YES
A dynamic rope	that conforms to UIAA standard 101, with a minimum diameter of 8 mm and a length of 30 m.	YES
Skins	The Event Jury has the right to request additional skins.	

Appendix 1: ISMF snow probe standard

The manufacturer has to define the probe as a “rescue snow probe” and make a self-certification confirming that it meets this ISMF standard:

- Minimum external diameter: 10 mm
- Minimum total length: 240 cm
- When loaded without shock with a mass of 3 kg as in figure 1, the probe should not break or leave permanent deformations and should not go out of the supports or hooks the supports (with certain models, the locking system or the metallic point are prominent and they prevent the exit of the supports).

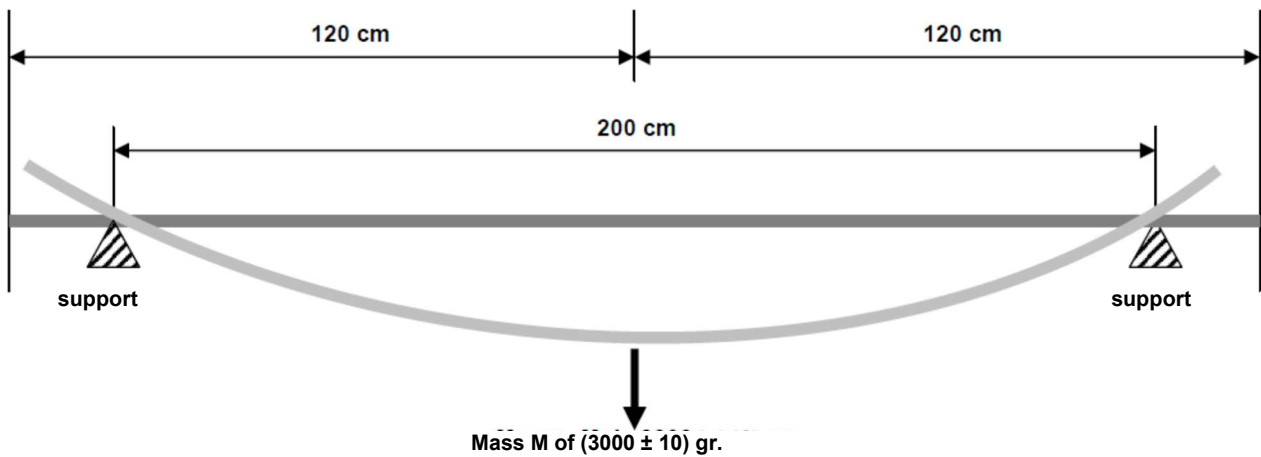


Figure 1

- When loaded without shock with a mass of 20 kg as in figure 2, the probe should not break and the different parts of the probe shall still fit one inside of the other.

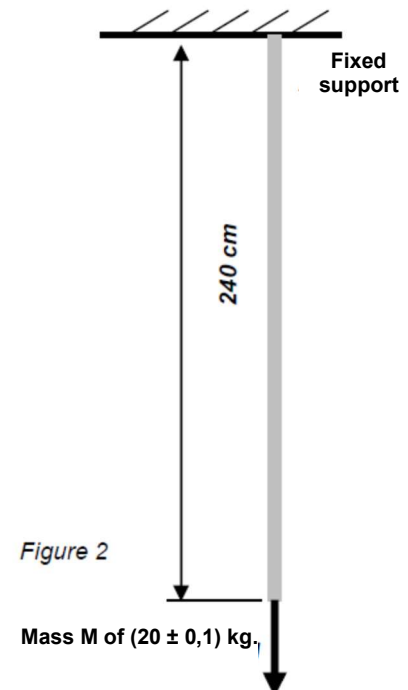
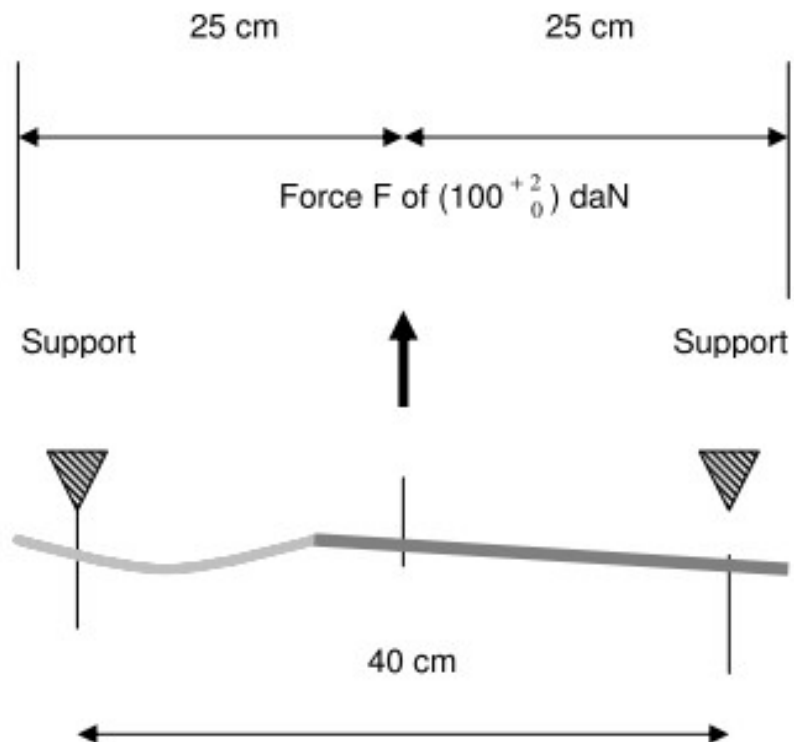


Figure 2

Appendix 2: ISMF shovel standard

- A snow shovel in compliance with the ISMF standard here stated, defined by the manufacturer as a "rescue snow shovel".
The equipment concerned directly with safety cannot be modified; **except for modifications performed or authorized by the manufacturer.**
The manufacturer has to define the shovel as a "rescue snow shovel" and make a self-certification confirming that it complies with the ISMF standard:
- Minimum shovel surface including a square of 20 cm x 20 cm.
Test method: place a piece of 20 X 20 cm cardboard under the shovel: no part of the cardboard must be visible.
- Minimal total length of the shovel in working configuration: **50 cm.**
- The shaft has to end in a T or L shape, so the athlete is able to push down / leverage the handle
- The test sample for the strength test shall be conditioned for at least 1 h at $(-20 \pm 3) ^\circ\text{C}$. The test shall be carried out at $(23 \pm 5) ^\circ\text{C}$. The test shall begin within 2 min from removal of conditioning.
- Strength test: When loaded with a speed of $(100 \pm 10) \text{ mm/min}$ as in figure 1, the shovel shall be capable of withstanding a static force of at $(100 \begin{smallmatrix} +2 \\ 0 \end{smallmatrix}) \text{ daN}$ over a period of $(60 \pm 5) \text{ s}$.
The test sample shall not break, nor go out of the supports, and no permanent deformations are admitted on any part of the shovel.

Figure 1



Appendix 3: Recommended eyewear protection chart

Catégorie de protection	Transmission visible	Transmission UVB	Race
Catégorie 0	80% à 100%	Max. 8% à 10%	Night race
Catégorie 1	43% à 80%	Max. 4,3% à 8%	Scandinavian race
Catégorie 2	18% à 43%	Max. 1,8% à 4,3%	
Catégorie 3	8% à 18%	Max. 0,8% à 1,8%	Daylight race
Catégorie 4	3% à 8%	Max. 0,3% à 0,8%	