FIS PARA SNOWSPORTS EQUIPMENT SPECIFICATIONS 2025/2026

EDITION JULY 2025

INTERNATIONAL
SKI AND SNOWBOARD
FEDERATION

INTERNATIONAL
SKI AND SNOWBOARD
FEDERATION

Blochstrasse 2
CH-3653 Oberhofen am Thunersee
Switzerland

Phone: +41 33 244 6161
E-mail: mail@fisski.com
Website: fis-ski.com

Oberhofen, July 2025

Table Of Contents

SPECIFICATIONS FOR PARA SNOWSPORTS COMPETITION EQUIPMENT

A DEFINITIONS

General Principles
The FIS Council shall be the sole authority to determine whether the use of a name, designation, trademark, logo or any other distinguishing sign complies with the FIS Rules and Guidelines; and

FIS reserves the right to further interpret and/or supplement these Rules and Guidelines in order to help ensure that their spirit and purpose are respected.

1 COMPETITION EQUIPMENT

The term “competition equipment “implies all items of equipment used by athletes/guides in competitive skiing and snowboarding, including clothing and implements that serve a technical function. The entire competition equipment forms a functional unit. In this connection the following points must be observed:

- The principle of safety
- The principle of fairness

1.1 EFFECTIVE MANUFACTURER

“Effective Manufacturer” means the enterprise which itself manufactures the Competition Equipment and/or effectively controls and manages the manufacturing of the Competition Equipment under its own responsibility through customary subcontracting processes, and whose Competition Equipment is effectively offered on the market to end users. If requested by FIS, the manufacturer shall provide documentary evidence of such commercial activities at retail level (such as manufacturing activity in the market of the relevant Competition Equipment, including control over the manufacturing process, retail activity and marketing expenditures linking the brand to the relevant piece of equipment) as a condition for the commercial markings to be accepted as a Manufacturer’s Identification as further defined in these Specifications.

1.2 MANUFACTURER’S IDENTIFICATION

“Manufacturer’s Identification” means the trade name, brand, logo, or other designation of the Effective Manufacturer under which the particular Competition Equipment is manufactured and commercially offered to the market.

The Manufacturer’s Identification must be a sports equipment brand, which means that the Manufacturer’s Identification is principally used for Competition

Equipment and is (i) not principally used for non-sports equipment, and/or (ii) cannot be confused with a similar or identical article used in another line of business, unrelated to Competition Equipment.

1.3 COMPETITION IMPLEMENTS

Competition implements refer to equipment which fulfil essential functions during the competition but which can be separated from the actual competition.

Examples: skis, bindings, boots, poles, clothing, helmets, ski goggles.

1.4 ADDITIONAL EQUIPMENT (ACCESSORIES)

Additional competition equipment (accessories) are those components or implements which exert an influence on the technical function of the competition equipment and which are attached directly to the equipment by means of recognised fastenings. Such accessories do not perform essential functions during the competition.

Example: parablacks, plastic tip covers, additional weights, back protectors, cut resistant undergarment.

1.5 AUXILIARY EQUIPMENT

Auxiliary equipment refers to those components of the competition equipment which do not fulfil an essential function, and which do not fall under the heading of additional equipment.

Example: measuring instruments

1.6 PROCEDURES FOR THE ACCEPTANCE OF NEW DEVELOPMENTS IN COMPETITION EQUIPMENT.

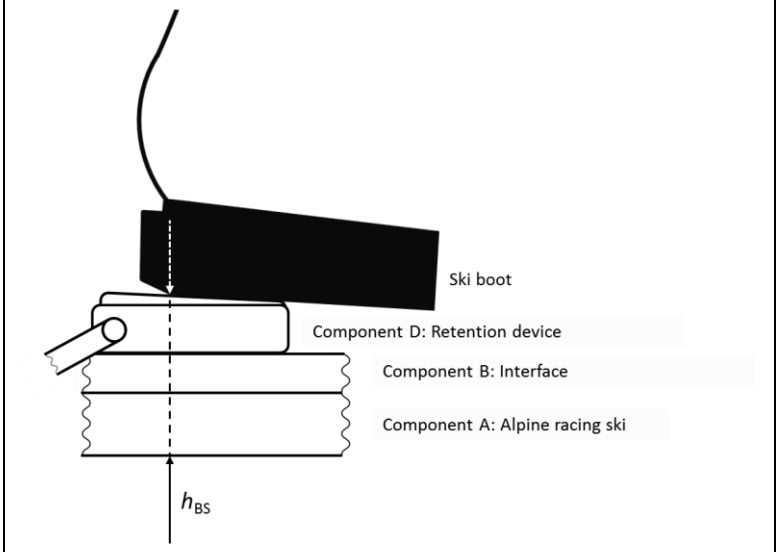
As per art. 222.4 of the ICR.

2 SPECIFICATIONS FOR PARA ALPINE SKIING COMPETITION EQUIPMENT

FUNCTIONAL SKI SYSTEM (SKI, INTERFACES, RELEASE BINDINGS)

Definition

Functional Ski System is the assembled unit of the single components: (A) ski, (B) interfaces, (C) release bindings and (D) retention device.

Parameter	Value
Bearing surface height h_{BS} (mm) (±)	50_{Max}
	

2.1 ALPINE SKIING RACING SKIS

2.1.1 DEFINITION

Skis, predominantly for use in Downhill (DH), Slalom (SL), Giant Slalom (GS) and Super- G (SG), racing on suitable terrain and utilising the force of gravity. In order to allow transmission of lateral forces, the edges of the running surface of the ski are made mainly of a hard material resistant to wear and tear.

2.1.2 SKI LENGTH

Minimum length, "developed" length (unwound length) in accordance with ISO Norm including a measurement tolerance.

Precision for the length of Slalom Skis*:*

When a ski tip different from the main body of the ski is used, the measurement will only be taken into account to the extent it covers a surface corresponding to the natural shape of the ski.

The manufacturer must mark the tip showing the limit of the natural shape and thereby allow an easy measurement.
To prevent doubt, specific designs of ski tips as part of the main body of the ski are allowed.

2.1.3 PROFILE WIDTH

Minimum width of the running surface under the binding and in front of the binding without any tolerance (see table in section 2.5).

2.1.4 RADIUS

The radius must be marked on the ski.
Radius measurement for DH skis with a preparation tolerance of -1 m.

2.1.5 SPECIFICATIONS OF ALPINE RACING SKIS (APPLICABLE TO ALL PARA ALPINE SKIING SANCTIONED COMPETITIONS)

Ski Length (Minimum) Ski Length measurement tolerance of – 1cm	DH Women DH Men	200 cm 205 cm
	SG Women SG Men	200 cm 205 cm
	GS Women GS Men	183 cm 188 cm
	SL Women SL Men	155 cm 165 cm
Width of the shoulder of the ski (Maximum)	DH Women DH Men	95 mm 95 mm
	SG Women SG Men	95 mm 95 mm
	GS Women GS Men	103mm 103mm
	SL Women SL Men	None None
Radius (Minimum)	DH Women DH Men	40m 40m
	SG Women SG Men	40m 40m
	GS Women GS Men	30m 30m
	SL Women SL Men	None None
Maximum Standing Height (ski/plate/binding)		50mm

Labels “FIS” attesting conformity with FIS Specifications for Alpine Competition skis. (All competitions Levels)

- VI AS1 athletes (men) and guides may use 155 cm skis for SL
- Ski length must be marked on the skis by the manufacturer
- SG skis may be used in DH competitions at all race levels
- VI AS1 athletes and guides may use GS skis for speed events

2.2 RELEASE BINDINGS

Ski binding, which releases the boot from the ski, when during alpine ski racing conditions certain loads reach pre-set values.

2.3 RETENTION DEVICE

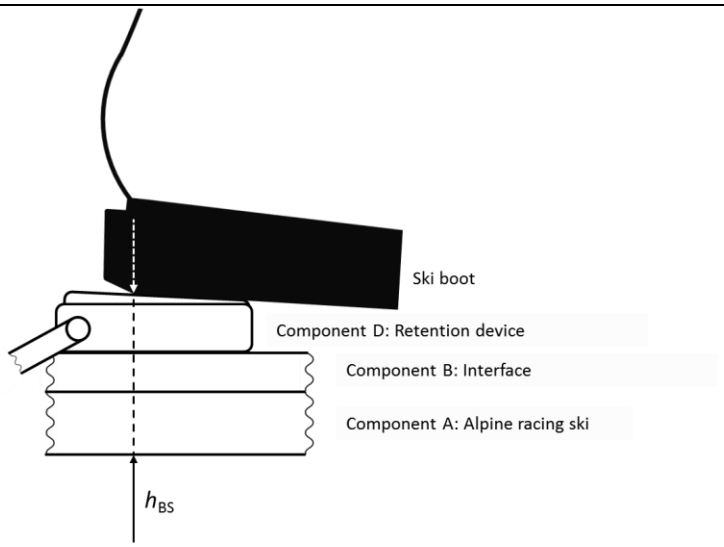
Retention device for alpine skiing is a ski brake which is designed to slow down a ski which has come off after the release of a ski binding. The use of skis without ski brake during competitions or unofficial training runs is prohibited. The functioning of the bindings release mechanism must not be compromised by the method of its mounting.

2.4 INTERFACES (EG. PLATES, LIFTERS)

Functional component, mounted between skis and release bindings.
Interfaces can be mounted if the following conditions are taken into consideration:
Width of the interface: At each point of the interface, its width must not exceed the width of the running surface.

Maximum height: Maximum height (distance between the bottom of the running surface of the ski and the ski boot sole) for all categories is 50 mm (Women, Men).

Definition:	Distance between the bottom of the running surface of the ski and the ski boot sole.
Related ISO Norm	
Description of measurement:	For h_{BS}, the maximum rectangular distance from the running surface of the ski to the contact area between the bearing surface of the ski boot and the bearing surface of Component D has to be considered.

		
Measuring device:	Caliper	Accuracy class:DIN 862
		Graduation: 0.01mm
Measuring value documentation	e.g. 49.25mm	
Additional Information	Note: The overall standing height of the athlete is the sum of bearing surface height and thickness of the ski boot soles. However the overall height is not specified, instead the individual specifications for bearing surface height and thickness of the ski boot soles apply.	

2.5 SKI BOOTS

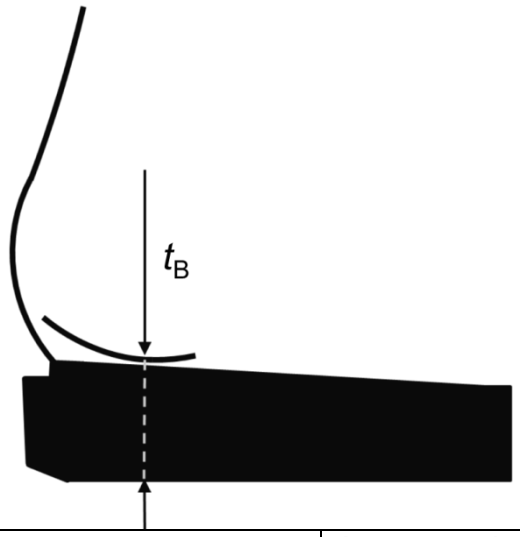
Ski boots are robust footwear developed specifically for skiing, offering protection against jolts and bumps as well as injury from ski edges and other external influences. The ski boot encloses the foot firmly, while at the same time allowing the movement necessary for skiing techniques, in that the ankle has the room it needs to flex, but at the same time facilitating the transfer of every steering movement completely to the ski (according to ISO 5355).

2.5.1 THICKNESS OF SKI BOOT SOLES

Distance between the ski boot sole and the base of the heel including all hard and soft parts:

Women, Men: maximum 43 mm

Definition:	Distance between the bottom side of the ski boot sole and the base of the heel including all hard and soft parts.
Related ISO Norm	
Description of measurement:	Determine the thickness of the ski boot soles by measuring the distance between the ski boot sole and the base of the heel including all hard and soft parts (t_B).

		
Measuring device:	FIS measuring device	Accuracy class: DIN 862
		Graduation: 0.01mm
Measuring value documentation	e.g. 42.12mm	
Note: Information regarding the measuring device is available on request at FIS!		

2.6 SKI POLES

The ski pole is an item of equipment, the function of which is to aid the skier and facilitate balance.

National and international rules establish the minimum requirements for ski pole tips, grips, shafts, baskets, straps, length, etc. Owing to the risk of injury, metal baskets are not permitted.

2.7 COMPETITION SUITS

Competition suits used in DH, SG and GS and clothing worn underneath, such as undergarments, etc., must have a textile surface on the inside and the outside. The surfaces may not be plasticised or treated by any chemical means (gaseous, liquid or solid) and must have a minimum permeability of 30 litres per m2/sec. Seams may only exist in order to join the portions of the suit. Outer tucks and darts are not allowed. The suits must be equally porous in all parts, both from the outside in and from the inside out. Minimum air permeability is established whereby the un-stretched fabric must show a medium air permeability of a minimum of 30 litres per m2/sec under 10 mm of water pressure (with a measurement tolerance of 3.0 litres per m2/sec).

Label attesting conformity with FIS specifications for competition suits (DH/SG/GS):

Fulfilment of requirements is to be attested by a specific standardized conformity label affixed in a non-removable way. which is and shall remain

visible during competition. The conformity label is shown below. The conformity label shall include the following text: «Conforms to FIS Specifications CS 2015». Labels affixed by manufacturers shall comply with the actual specifications. The conformity label attests that the manufacturer and NSA are guaranteeing that the surfaces of the competition suit are not plasticised or treated by any chemical means (gaseous, liquid or solid) and that they have a minimum permeability of 30 litres per m2/sec with a measurement tolerance of 3,0 litres per m2/sec.

.

Width: **30mm**
Height: **45mm**

Label attesting conformity with FIS specifications for Alpine competition suits (GS/SG/DH).

2.8 CUT RESISTANT UNDERGARMENT

2.8.1 DEFINITION

Cut-resistant undergarment are clothing items worn underneath the competition suit, designed to improve the athlete's protection against cut injuries.

2.8.2 GENERAL SPECIFICATIONS

In order to provide appropriate protection, the cut-resistant undergarment must be sized correctly based on producer's guidelines and worn in strict compliance with manufacturer instructions of use. The undergarment shall be used without alteration/modification, as certified by the manufacturer. Cut-resistant undergarment is intended to provide supplementary protection and not infinite cut protection.

2.8.3 TECHNICAL SPECIFICATIONS

The cut-resistant undergarment level of protection is defined by the specifications of the FIS-DITF test standard 2021. Basic definition parameters are: The minimum uncut measuring length for each level are: 200mm, cut resistance at cutting force of the corresponding level 4 out of 5 tests of the same textile must have the corresponding cut resistance in 3 directions of

textile positions: 0° / 45° / 90°. The direction with the lowest cut resistance value defines the FIS star level.

Force (N)	100	200	300	400	500
FIS-star	*	**	***	****	*****

Fulfilment of requirements is to be attested by these standardised conformity labels, affixed on the outer side of the protection garment in a non-removable way at the back of the lower left leg above the top of the ski boot cuff area in the size of 30x50mm. “Conforms to FIS Specifications CRG 2021” and depict the achieved FIS-star(s) level. The conformity label certifies that the manufacturer has obtained the required certifications (FIS-DITF 2021) fulfils the above requirements. To receive the label, the test protocol must be submitted to FIS Athletes Health Unit.

Label attesting conformity with FIS specifications for cut resistant undergarment.

2.8.4 IMPLEMENTATION OF CUT RESISTANT UNDERGARMENT

The use of cut-resistant undergarment is strongly recommended for all disciplines events at all levels.

2.9 CRASH HELMETS (RACE HELMETS)

2.9.1 SPECIFICATIONS

Event	Safety Standards
DH/SG/GS/PAR	ASTM 2040 EN 1077 (class A) EN 1077 (class A) at test speed of 6.8m/s
+ Label attesting conformity with FIS specifications for racing helmets “RH 2013”	
Width of the label	10mm
Height of the label	15mm
SL*	Minimum standards: ASTM 2040 EN 1077 (class B)

*Exception: the use of certified full face cycle helmets is permitted for sit ski athletes in SL.

2.9.2 GENERAL PRINCIPLES

The use of crash helmets is compulsory for all FIS Para Alpine Skiing events. The crash helmets shall have no spoilers, nor protruding parts. The crash helmets models shall comply with safety standards set forth below in regard to the specific events.

2.9.3 SAFETY STANDARDS

The crash helmets used in the respective alpine ski events shall satisfy the following safety standards:

DH/SG/GS/PAR Requirements:

- Helmet model to fulfill and to be certified under both ASTM 2040 and EN 1077 (class A)
- In addition, Helmet model to pass an additional specific test under EN 1077 test procedure but at higher test speed of 6.8m/s.
    - Additional test to be effected through CEN laboratories. The laboratory shall issue a test protocol showing that the tested model passed the EN test requirements at the increased speed.

Label attesting conformity with FIS specifications for racing helmets (DH/SG/GS/PAR):

Fulfilment of requirements is to be attested by a specific standardised conformity label affixed in a non-removable way at the back of the helmet in a location which is and shall remain visible. The label shall in particular not be covered by the goggle strap. The conformity label is shown below. It shall include the following text: «Conform to FIS Specifications RH 2013». Labels affixed by manufacturers shall comply with the specifications set forth in the attachment.

The conformity label attests that the manufacturer has obtained the required certifications (EN 1077 A and ASTM 2040) and obtained a test protocol confirming that the concerned helmet model fulfils the requirements set forth above under art. 2.1.10.2 Upon request, the certification documentation and test protocol shall be provided to the FIS.

Width: 10 mm
Height: 15 mm
Label attesting conformity with FIS specifications for Alpine racing helmets (DH/SG/GS)

SL Requirements*:

- Helmet model to be certified under EN 1077 (class B) or ASTM 2040 as minimum standards
  - Note 1: soft ear padding is allowed
  - Note 2: crash helmets fulfilling higher safety standards can be used a fortiori in SL. This includes:
    - EN 1077 (Class A), SNELL 98 and all helmets fulfilling the DH/SG/GS specific standard described above.

SL Labels:
Compliance with the above requirements is attested by the corresponding certification label (e.g. CE label) and/or by the conformity label set forth above under art. 2.1.10.2**Error! Reference source not found.** (i.e. helmets fulfilling t he requirements for DH/SG/GS can be used in SL).

* Exception: the use of certified full face cycle helmets is permitted for sit ski athletes in SL.

2.9.4 GENERAL REMINDERS

It is reminded that the manufacturers remain the only entities liable in regard of product liability in connection with manufactured helmets. It is further reminded that crash helmets must be worn in strict compliance with instructions of use and do not offer an absolute protection against the consequences of accidents.

2.9.5 ALTERATION/MODIFICATION/ADDITIONAL ELEMENT*

The helmets shall be used without alteration/modification, as certified by the manufacturer. Furthermore, no additional element/equipment shall be affixed on the surface of the helmet.

*Exception: VI athletes and Guides may attach a communication system, this needs to be registered and approved in the FPDMS Adaptive Equipment Register

2.10 SKI GOGGLES

Ski goggles are devices protecting the eyes against weather and rays with optically correct lenses. Their aim is to guarantee good, contrast-free visibility in all weather conditions. The use of ski goggles is recommended. It is prohibited to reshape the ski goggles in order to obtain aerodynamic advantages.

2.11 SKI GLOVES

Gloves offer a protective covering against weather and external forces. The wearing of gloves is urgently recommended. Reshaping the glove, the application of a plastic coating on the outer surface, or the use of skai (imitation leather) with the aim of attaining more aerodynamic features, are not allowed. The glove must not reach beyond the elbow. Protective padding along the entire length of the glove is permitted. The use of protective guards in the form of shields, which are pulled over the glove, is permitted.

2.12 PROTECTORS

Competitors are allowed to protect all parts of the body with so called protectors in all events. It remains in the athlete's/NSA's discretion and responsibility to individually decide about the use of protectors.
In Downhill, protectors may not be integrated into the competition suit itself.
In all events these protectors must be worn underneath the conforming competition suit. (Exception forearm protection used in SG, GS and SL and shin protection used in SL)
Protectors must fulfil the 30 litres permeability measurement with a measurement tolerance of 3.0 litres per m2/sec, with the exception of the shoulder, scapular region, chest, arms and legs. The anatomical body shape may not be changed.

2.12.1 BACK PROTECTORS

Back protectors must adapt to the anatomical bend of the athlete's spine and lie flat against the body. The top edge of the back protector must be situated in the area of the spinal column and may not go above the 7th cervical vertebrae (C7). The maximum thickness must be in the middle part and may not exceed 45 mm; the thickness reduces at the edges of the back protector. Designs with the view to improve aerodynamic properties are forbidden. The back protector must be worn underneath the competition suit. It is strongly

recommended to use protectors that are certified according to the latest EN 1621:2 standard.

3 SPECIFICATIONS FOR PARA CROSS-COUNTRY COMPETITION EQUIPMENT

3.1 GENERAL RULES

The following rules apply to all type of Cross-Country competition equipment such as skis, bindings, boots, poles and any additional equipment.

3.1.1 RESTRICTIONS

No equipment is permitted which:

a) Affect the natural push-off movement of competitors' feet and arms or those that enhance it (such as spring devices or other mechanisms in skis, poles, binding or boots).

b) Makes use of energy not originating from the competitor, such as artificial heating devices, chemical energy accumulators, electric batteries, mechanical aids, etc.).

c) Affect the external conditions of the competition to the detriment of other competitors, such as changing the track or snow conditions.

d) Increase the risk of injury to competitors and other persons who are authorized to be present at the competition venue, when used normally.

3.1.2 PROCEDURE AND COLLABORATION WITH IBU

Any new developments in equipment produced by the industry or the NSAs for the following season must be submitted to the FIS & IBU no later than the 1st of May of the year in which the season begins.

The submission must be accompanied by appropriate information material such as drawings, descriptions or test results.

Prototypes must be submitted without exception. New developments that are in compliance with the rules will be immediately approved by the FIS & IBU.

IBU and FIS shall update each other about prototypes for equipment used in both Federations' sports to ensure the same allowance process.

3.2 CROSS-COUNTRY RACING SKIS

3.2.1 DEFINITION

The Cross-Country racing ski is a type of ski, whose features guarantee the best possible application of the gliding techniques to master Cross-Country pistes (uphills, bumpy terrain, downhills). The basic features of this type of ski are defined in these rules.

3.2.2 RESTRICTIONS

Cross-Country racing skis must have the same basic geometric features (ski width, overall height, height of the tail and height of the tip) than cross-skiing skis commercially available with the following restrictions:

3.2.2.1 Same construction

Both skis must be constructed in the same way and must be the same length.

3.2.2.2 Mass

Skis must weigh at least 750 g per pair (without bindings). No limitations with regard to the distribution of mass.

3.2.2.3 Running surface

The entire width of the running surface can be smooth or slightly grooved length- wise. With the exception of the running groove, however, the level must be constant in the entire length and width. Climbing aids in the form of scale patterns or step patterns are permitted. Devices that are activated by any energy other than the competitor's own muscular power are not permitted.

3.2.2.4 Edges

The edges must not face up and outwards, making the running surface narrower than the top surface (no wedge shape).

3.3 CROSS-COUNTRY RACING BINDINGS

As commercially available. No limitations with regard to material and make, subject to the restrictions described at article 1.

3.4 CROSS-COUNTRY RACING BOOTS

As commercially available. No limitations with regard to material and make, subject to the restrictions described at article 1.

3.5 CROSS-COUNTRY RACING POLES

3.5.1 DEFINITION

The Cross-Country racing pole is a pole, whose features guarantee the best possible application of the gliding techniques to master Cross-Country pistes (uphills, bumpy terrain, downhills).

3.5.2 GENERAL RULES

3.5.2.1 Poles of equal length

Two poles of equal length must be used in competition, with one pole held in each hand.

3.5.2.2 Pole length (not applicable for athletes competing in the sit-ski category)

The maximum pole length must not exceed the competitor's height, nor measure below the hips (measurements are taken by placing the tip of the pole on the ski in front of the binding).

In classical technique competitions, the maximum pole length must not exceed 83% of the competitor's body height. In free technique competitions, the maximum pole length must not exceed 100% of the competitor's height. The body height is measured with ski boots on from a flat surface, to the top of the uncovered head.

The pole length is measured from the bottom of the pole to the highest attachment of the strap.
All measurements will be rounded to the nearest centimetre as follows: less than 0.5 cm will be rounded down and 0.5 cm and above will be rounded up.

3.5.2.3 Constant length
The pole must have a constant length. It may not, for example, possess a telescopic system.

3.5.2.4 Foreign energy
The pole must not create a foreign energy to favour push-off (e.g. springs or mechanical devices).

3.5.2.5 Weight
No limitations regarding the weight of the pole.

3.5.2.6 Construction
The poles may be constructed asymmetrically (e.g. there may be a difference between left- and right-hand poles).

3.5.3 TECHNICAL SPECIFICATIONS

3.5.3.1 Grip
The grip must be attached to the shaft. There are no limitations with regard to geometric features or material.

3.5.3.2 Straps
The straps must be joined to the grip or the shaft. They may be adjustable in length and width.

3.5.3.3 Shaft
There are no limitations with regard to material and make of the shaft or distribution of mass.

3.5.3.4 Baskets
Baskets with varying geometric features and materials are permitted to master various snow conditions. The baskets, however, must not change the condition of the track, so that other competitors suffer disadvantages.

3.5.3.5 Tip
Tips may be joined to the shaft at any angle. It is permitted to use one or more tips per pole. There are no limitations with regard to material.

4 SPECIFICATIONS FOR PARA SNOWBOARD COMPETITION EQUIPMENT

4.1 SNOWBOARDS

Only Snowboards can be used in competitions. Snowboard tail must have no sharp edges. The board's minimal width is restricted as follows:

Gliding surface length:	Minimal width:
up to 135 cm	14 cm
more than 135 cm	16 cm

4.2 BINDINGS

The bindings must be fixed diagonally on the long axis of the board. The boots cannot overlap each other.

Plate Systems that connect both bindings are not allowed in SBX (individual plate systems are allowed on each binding)

4.3 RETENTION DEVICES AND LEASHES

Safety leashes are optional unless required by the organiser or the ski area.

4.4 BALANCE AND SPEED CONTROL

The competitors are not allowed to wear anything on the hands besides gloves or to use any kind of devices to additionally support their balance, reduce or accelerate their speed, like poles or sticks etc.

4.5 COMPETITION CLOTHING

Snowboard Cross competition suits must be two pieces – pants and separate top. Forms fitting speed or downhill suites are not permitted. No straps, fastening devices or other methods can be used to tighten the suit material closer to the body.

4.6 HELMETS

The use of crash helmets is compulsory for all snowboard events. Helmets used in FIS and IPC Snowboard events shall be specifically designed and manufactured for the respective discipline and shall bear a CE mark and conform to recognized and appropriate standards such as CEE 1077 or US 2040, ASTM 2040. The use of full-face helmet is prohibited.

4.7 SKI GOGGLES

Ski goggles are devices protecting the eyes against weather and rays with optically correct lenses. Their aim is to guarantee good, contrast-free visibility in all weather conditions. The use of ski goggles is recommended. It is prohibited to reshape the ski goggles in order to obtain aerodynamic advantages. Goggles straps must be worn outside the helmet

4.8 SKI GLOVES

Gloves offer protective covering against weather and external forces. The wearing of gloves is urgently recommended. Reshaping the glove, the application of a plastic coating on the outer surface, or the use of ski (imitation leather) with the aim of attaining more aerodynamic features, are not allowed. The glove must not reach beyond the elbow. Protective padding along the entire length of the glove is permitted. The use of protective guards in the form of shields, which are pulled over the glove, is permitted.

4.9 PROTECTORS

Protectors are an additional item of equipment, which protects the athlete's back against weather and external forces.

Back protectors must adapt to the anatomical bend of the athlete's spine and lie flat against the body. Designs with the view to improve aerodynamic properties are forbidden. The back protector must be worn underneath the competition suit.

Any additional protectors such as chest and shoulder protectors must be designed for snow ski racing and worn under the racing suit.

5 SPECIFICATIONS FOR PARA SNOWSPORTS ADAPTIVE EQUIPMENT

5.1 DEFINITION

The term “Adaptive Equipment” refers to all the implements and apparatus adapted to the special needs of Para athletes and used by athletes during the competition on the field of play (e.g. sit-ski, protections, prostheses and orthoses).

General rules for (adaptive) equipment:

a. Safety (should not harm the athlete, spectators or environment)
b. Fairness (regulated in our rules)
c. Universality (the principal components must be commercially available and affordable)
d. Physical prowess (no motor, computer, robotically components)

(For more information, see https://www.paralympic.org/sites/default/files/2024-04/Sport%20Equipment%20Policy_2011.pdf)

6 SPECIFICATIONS FOR PARA ALPINE SKIING ADAPTIVE EQUIPMENT

6.1 ADAPTIVE EQUIPMENT CONTROLS

6.1.1 FIS, through its appointed officials, will monitor the use of technology and equipment prior to and/or at FIS Para Alpine Skiing Sanctioned Competitions to ensure that it conforms to the principles outlined in the IPC Policy on Sport Equipment. This may include, but will not be limited to, the assessment of:

6.1.1.1 whether equipment and/or prosthetic components are commercially available to all athletes (prototypes that are purpose built by manufactures exclusively for the use of a specific athlete shall not be permitted);

6.1.1.2 whether equipment contains materials or devices that store, generate or deliver energy and/or are designed to provide function to enhance performance beyond the natural physical capacity of an athlete; and/or

6.1.1.3 whether equipment conforms with the terms of Specifications for Para Alpine Skiing Adaptive Equipment set forth under art.6.

6.1.2 For all licensed athletes, all adaptive equipment, including but not limited to sit skis, prostheses, orthoses, blacked-out goggles (only for AS1 athletes), and adaptive support must be registered by 30 September each year, using the FPDMS Adaptive Equipment Registration Manual, published on the FIS website.

Any changes, adjustments or modifications after this date must be immediately communicated via email at ParaAlpine@fis-ski.com. The approval of Adaptive Equipment registered after 30 September of each year is at the discretion of FIS.

6.1.3 The final decision as to any applicable sanction(s) in respect of any breach by a competitor of competition equipment and technology rules pursuant to these Specifications for Para Alpine Skiing Adaptive Equipment shall lie with the jury.

6.2 SIT SKI

A sit-ski consists of a moulded seat mounted on a metal frame. A suspension system beneath the seat eases riding on uneven terrain and helps in turning by maximizing ski-snow contact. A metal or plastic block in the shape of a boot sole is the base that clicks into the ski's binding.

A sit-ski can be used in Uni-Ski or Dual-Ski.

A sit-ski needs a braking device on both sides of the seat. This device creates friction to prevent sliding.

6.3 OUTRIGGERS

Arm crutches with ski tips attached. The system can flip out to allow the ski attachment to rise vertically to be used as a normal crutch.

6.4 HAND/FOREARM PROTECTORS

Hand/forearm protectors are permitted.

The hand protector cannot be designed to create additional length to the hand.

No extensions perpendicular to the long axis of the forearm are permitted.

The forearm cannot exceed the skier's anatomical length as defined in the section under unilateral upper limb prosthesis.

6.5 ORTHOSIS; ORTHOTIC DEVICE

Externally applied device used to modify the structural and functional characteristics of the neuro-muscular and skeletal systems. (For stabilizing, support, compensation, protection, prevention)

6.6 PROSTHESIS; PROSTHETIC DEVICE

Externally applied device used to replace wholly, or in part, an absent or deficient limb segment.

6.6.1 ATHLETES WITH AN UPPER LIMB IMPAIRMENT/AMPUTATION:

1. Unilateral

The overall length of the limb, including the prosthesis, cannot exceed the length of the unaffected limb with the fist closed as if gripping a pole.

2. Bilateral

The overall arm measurement from the tip of the acromion to the distal end of the prosthetic should be no longer than 0.399 x height (centimetres), with the arm in the anatomical position.

In the event that the arm can't rest in the anatomical position, then limb segments should be taken.

The Upper Arm measurement:
Tip of acromion to lateral epicondyle = 0.191 x height (cm)

The Forearm measurement:
Lateral epicondyle to radial styloid = 0.1485 x height (cm)

The Hand measurement:
Radial styloid to distal end of second metacarpal = 0.119/2 x height (cm)

The double below elbow amputee that will be wearing prosthesis, calculation can be simplified to:

Lateral epicondyle to the end of the prosthetic should be no longer than 0.208 x height (cm)

3. For those classes where the use of poles is specifically excluded (no poles), any prosthesis cannot have an extension device perpendicular to the long axis.

6.6.2 ATHLETES WITH A LOWER LIMB IMPAIRMENT/AMPUTATION:

1. Lower limb prostheses must be used with ski boots. Exception may apply for certain prostheses, that have been designed to be used without a ski boot. In this case, the NSA must follow the Adaptive Equipment approval process.

2. Unilateral
The overall length of the lower limb, including the prosthesis cannot exceed the overall length of the unaffected limb.

3. Bilateral

6.6.3 ATHLETES WITH BILATERAL BELOW KNEE AMPUTATIONS:

Will be limited by the following formula as to the overall length of their lower extremities, including prostheses and ski boots for competition purposes:
Overall leg length (in cm)* = or < [(thigh length-13)/0.4 + 4.3] x 1.05
**including prosthesis and ski boots*
The overall length of the leg including the prosthesis and ski boot equals or is less than the length of the thigh minus 13, divided by 0.4, plus a 4.3cm for the thickness of the ski boot sole with an additional 5% to the final length allowing for natural variation.
The thigh length is measured from the anterior superior iliac spine to the inferior pole of the kneecap or to the lower point of the medial femoral condyle if there is no patella. This measurement is carried out with the athlete supine.
The overall length of the leg will be measured from the anterior superior iliac spine to the heel of the ski boot placed on the prosthesis with the athlete standing.
The Maximal Allowed Standing Height (including the prosthesis and ski boots) will be measured in the standing position by using a vertical line from the top of the skull to a line connecting the base of the heels of ski boots. If there is any doubt the measurement can be taken with the athlete standing on 2 sets of scales (equal weight) with the height being the vertical distance between the top of the skull and a line joining the base of both ski boot heels. Where possible a metal tape measure should be used for measuring. When the competition prosthesis has a fixed flexion in ankle or knee, the measure should be taken along the leg axis.

6.6.4 ATHLETES WITH BILATERAL ABOVE KNEE AMPUTATION:

The length of prostheses used by athletes with bilateral lower limb amputations will be determined using the 3-Step process described below.

Step 1: Estimate maximum standing height from Ulna length

Measure the distance between point of the elbow (olecranon process) and the ulna styloid.

Measure between the point of the elbow and the midpoint of the prominent bone of the wrist. The height in metres is determined from the below table based on the ulna length as measured in centimetres.

Table: Ulna length and maximum standing height		
Ulna length (centimetres)	Men height (metres)	Women height (metres)
21		1.54
21.5		1.55
22		1.56
22.5		1.58
23		1.59
23.5		1.61
24	1.64	1.62
24.5	1.66	1.63
25	1.67	1.65
25.5	1.69	1.66
26	1.71	1.68
26.5	1.73	1.69
27	1.75	1.70
27.5	1.76	1.72
28	1.80	1.73
28.5	1.82	1.75
29	1.84	1.76
29.5	1.85	1.77
30	1.87	1.79
30.5	1.89	
31	1.91	
31.5	1.93	
32	1.94	

Step 2: Estimate maximum standing height based on measurement of Demi-span.

Demi-span is measured as the distance from the middle of the sternal notch to the tip of the middle finger in the coronal plane.
The measure is best obtained with the athlete standing with their back against a stable wall, right shoulder abducted to 90° with the palm of the hand facing forward. The measure is taken in centimetres.
The maximum standing height is then calculated from the following formula:

- Women: Height in cm = (1.35 x demi-span (cm)) +60.1
- Men: Height in cm = (1.40 x demi-span (cm)) +57.8

Step 3: Final estimate of maximum standing height:

Take the mean of the two estimates, maximum standing height estimated from the ulna length and maximum standing height estimated from demi-span.
The overall standing height of the Athlete with their competitive prostheses must be less than or equal to the mean estimated height, plus 4.3cm for the thickness of the ski boot sole plus an additional 2.5% to the final figure allowing for natural variation. This is demonstrated in the below formula:
Overall standing height (cm)* = or < [(result method 1 + result method 2)/ 2 + 4.3 cm] x 1.025
*including prosthesis and ski boots
The athlete's height is measured in the standing position by using a vertical line from the top of the skull to a line connecting the base of the heels of both ski boots. If there is any doubt the measurement can be taken with the athlete standing on 2 sets of scales (equal weight) with the height being the vertical distance between the top of the skull and a line joining the base of both ski boot heels. Where possible a metal tape measure should be used for measuring.
The Maximal Allowed Standing Height (including the prosthesis and ski boots) will be measured in the standing position by using a vertical line from the top of the skull to a line connecting the base of the heels of ski boots. If there is any doubt the measurement can be taken with the athlete standing on 2 sets of scales (equal weight) with the height being the vertical distance between the top of the skull and a line joining the base of both ski boot heels. Where possible a metal tape measure should be used for measuring. When the competition prosthesis has a fixed flexion in ankle or knee, the measure should be taken along the leg axis.

6.7 BLUETOOTH HEADSETS

VI athletes may choose to use Bluetooth Headsets for clear communication with their Guide. These must be securely attached to the crash helmet of both the athlete and guide and must not impact the safety performance of the crash helmet in any way.

7 SPECIFICATIONS FOR PARA CROSS-COUNTRY ADAPTIVE EQUIPMENT

7.1 EQUIPMENT CONTROLS

7.1.1 FIS, through its appointed officials, will monitor the use of technology and equipment prior to and/or at FIS Para Cross-Country Sanctioned Competitions to ensure that it conforms to the principles outlined in the IPC Policy on Sport Equipment. This may include, but will not be limited to, the assessment of:

7.1.1.1 whether equipment and/or prosthetic components are commercially available to all athletes (prototypes that are purpose built by manufactures exclusively for the use of a specific athlete shall not be permitted);

7.1.1.2 whether equipment contains materials or devices that store, generate or deliver energy and/or are designed to provide function to enhance performance beyond the natural physical capacity of an athlete; and/or

7.1.1.3 whether equipment conforms with the terms of Specifications for Para Cross-Country Adaptive Equipment art. 7.2 and 7.3.

7.1.2 For all licensed athletes, all adaptive equipment, including but not limited to sit skis, prostheses, orthoses, goggles (for NS1 athletes), corrective lenses and adaptive support must be registered by 15 November in the competition season, or prior to the first event the athlete is competing in, in that season (e.g. COC, International FIS Para Cross-Country Competitions, NC) using the FPDMS Adaptive Equipment online registration.

For new athletes who are licensed after 15 November, their adaptive equipment must be submitted as soon as practicably possible (see art 7.1.2.1).

7.1.2.1 Changes, adjustments or modifications to equipment made during the season must be registered as soon as practicably possible and a notification must be sent to ParaCrossCountry@fis-ski.com.

7.1.2.2 Before and during the competition season, or on submission of protests to the Technical Delegate at the competition concerned, controls may be carried out by the appointed official. The FIS Para Cross-Country Race Director will coordinate this process.

7.1.3 The final decision as to any applicable sanction(s) in respect of any breach by a competitor of competition equipment and technology rules pursuant to these Specifications for Para Cross-Country Adaptive Equipment shall lie with the jury.

7.2 EQUIPMENT RULES

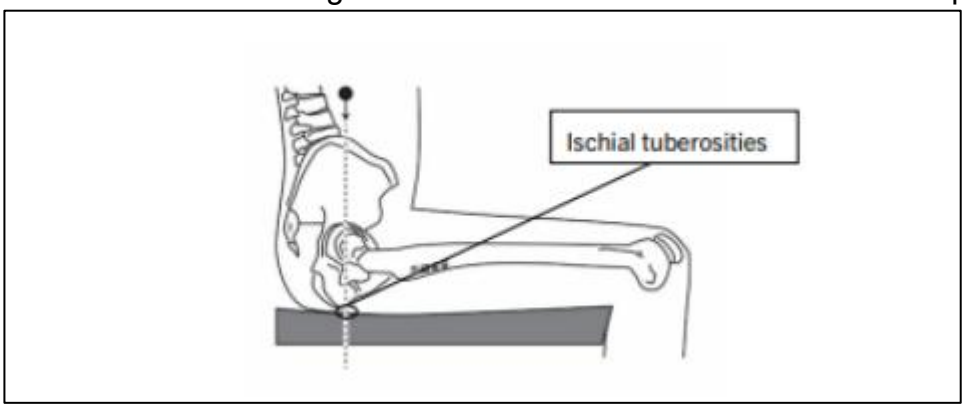
7.2.1 SIT SKI

7.2.1.1 The Para Cross-Country sit-ski shall consist of a sitting device with a fixed seat, which is not adjustable during the race. The sit-ski is mounted on a pair of cross-country skis or rolling devices (summer competition). No springs or flexible articulations are allowed in any segment of the sit ski, including the connection with the skis. The connection with the skis must be rigid.

7.2.1.2 The maximum allowable height difference between the athlete's seat surface (the point at which the athlete's most inferior aspect of the ischial tuberosity is positioned on a compressed seat cushion, if applicable, on the seat surface/seat cushion) and the top of the ski (the point on the ski, not including the binding, vertically aligned below the athlete's ischial tuberosity) is 40cm. (see graphic below)

7.2.1.3 Individual exceptions / allowances in the 40 cm seat height limit will be considered by FIS Para Cross-Country / Classification, on a case by case basis if the athlete experiences sit ski fitting limitations due to large stature/ large body proportions/ long lower extremity length. All ‚Exception Requests' must be sent to ParaCrossCountry@fis-ski.com as per the deadlines outlined under 7.1.2.

7.2.1.4 The sit-ski athlete must be seated on the sit-ski at all times during the race, meaning that the athlete's ischial tuberosities must remain in contact with the seat throughout all competition.



7.2.1.5 To prevent movement of the ischial tuberosities off the seat, the athlete's upper thigh (most proximal femur) / hip must be strapped securely to the seat at a point as proximal to the hip joint as possible, using a non-flexible material and a stable securing feature anchored posteriorly to the rear aspect of the seat frame.

7.2.1.6 On both sides of the sit ski there must be an area of at least 15cm x 15cm where the bib number sticker can be clearly displayed.

7.2.2 GOGGLES, OPAQUE SHADES OR GLASSES

7.2.2.1 Goggles, opaque shades or glasses worn by NS1 athletes must conform to art. 12330.2.4 of the Para Cross-Country International Competition Rules.

7.2.3 PROSTHESIS

7.2.3.1 A prosthesis or prosthetic device is an externally applied device used to replace wholly, or in part, an absent or deficient limb segment. Prosthetic devices used in FIS Para Cross-Country Competitions must conform with these Equipment Rules.

7.2.3.2 For standing athletes competing with Prostheses (i.e., bilateral above knee amputations, bilateral below knee amputations, bilateral lower limb dysmelia, or combined above knee and below knee amputations,), the following formulas apply for measuring the maximum allowable standing height (all measures are taken in centimetres (cm) rounded at 1 digit behind the comma):
For Athletes with below knee deficiencies:

Males	Max. height = 5.272 + (0.998 x sitting height) + (0.855 x thigh) + (0.882 x upper arm) + (0.820 x forearm) + 1.91
Females	Max. height = 0.126 + (1.022 x sitting height) + (0.698 x thigh) + (0.899 x upper arm) + (0.779 x forearm) + 1.73

For Athletes with above knee deficiencies:

Males	Max. height = 5.857 + (1.116 x sitting height) + (1.435 x upper arm) + (1.189 x forearm) + 2.62
Females	Max. height = 4.102 + (0.509 x arm span) + 0.966 x sitting height) + 2.14

In cases of multiple dysmelia, the formula with the highest R2 for which all parameters can be measured will be taken from the Canda 2009 publication (Canda, A. (2009) Stature estimation from body segment lengths in young adults: Application to people with physical disabilities. Journal of Anthropology, 28(2):71-82). The PE score will be added to the formula in table 4 (males) or table 5 (females) of this study (See tables below).

In cases with complex dysmelia, where no measures for the upper limb can be calculated, standing height will be based on the following formula:

Males	Max. height = sitting height / 0.52
Females	Max. height = sitting height / 0.533

In cases of Athletes with combined above and below knee amputation (or comparable dysmelia), the formula for below knee deficiency (see above) will be taken with the measurement of the thigh on the non-affected side.

All measures are taken in conformity with the ISAK standardized measures (International Society for the Advancement of Kinanthropometry).

Table 4 Regression equations on male sample

Code	R^2	RMSE	PE	Stature (cm)=
M 1_m	0.978	1.41	1.54	1.346+1.023 * lower leg+0.957 * sitting height+0.530 * thigh+0.493 * upper arm+0.228 * forearm
M 2_m	0.978	1.43	1.54	1.575+1.087 * lower leg+0.969 * sitting height+0.532 * thigh+0.551 * upper arm
M 3_m	0.978	1.44	1.47	0.947+0.135 * arm span+0.914 * sitting height+0.545 * thigh+1.067 * lower leg
M 4_m	0.975	1.53	1.50	2.630+0.992 * sitting height+1.245 * lower leg+0.609 * thigh+0.216 * foot
M 5_m	0.974	1.54	1.49	2.590+1.027 * sitting height+1.302 * lower leg+0.613 * thigh
M 6_m	0.969	1.69	1.77	2.354+0.179 * arm span+0.948 * sitting height+1.376 * lower leg
M 7_m	0.963	1.84	1.85	4.866+1.753 * lower leg+1.109 * sitting height
M 8_m	0.961	1.89	1.91	−5.272+0.998 * sitting height+0.855 * thigh+0.882 * upper arm+0.820 * forearm
M 9_m	0.955	2.03	2.03	−6.059+1.059 * sitting height+0.953 * thigh+1.233 * upper arm
M 10_m	0.936	2.43	2.62	−5.857+1.116 * sitting height+1.435 * upper arm+1.189 * forearm
M 11_m	0.931	2.52	2	−7.517+1.283 * sitting height+1.439* thigh
M 12_m	0.928	2.57	2.82	29.795+0.333 * arm span+0.935 * lower leg+0.673 * thigh+0.771 * foot
M 13_m	0.927	2.60	2.49	−9,049+ 0.527* arm span+0.973 * sitting height
M 14_m	0.923	2.65	2.88	31.768+0.411 * arm span+1.043 * lower leg+0.673 * thigh
M 15_m	0.922	2.67	2.97	−7.217+1.231 * sitting height+2.075 * upper arm
M 16_m	0.920	2.72	2.91	36.224+0.979 * lower leg+0.856 * upper arm+1.183 * foot+0.723 * thigh+0.402 * forearm
M 17_m	0.918	2.73	2.85	37.010+1.075 * lower leg+0.954 * upper arm+1.270 * foot+0.729 * thigh
M 18_m	0.910	2.87	2.97	34.937+0.479 * arm span+1.426* lower leg
M 19_m	0.908	2.91	2.98	41.771+1.421 * lower leg+1.518 * foot+0.887 * thigh
M 20_m	0.903	2.98	2.98	41.642+1.493 * lower leg+1.238 * upper arm+1.360 * foot
M 21_m	0.890	3.19	3.38	31.176+1.382 * upper arm+1.123 * thigh+1.068 * forearm+1.123 * hand
M 22_m	0.884	3.25	3.18	50.870+1.899 * lower leg+1.559 * upper arm
M 23_m	0.883	3.23	3.61	37.026+1.507 * upper arm+1.164 * thigh+1.451 * forearm
M 24_m	0.883	3.27	3.16	49.629+2.099 * lower leg+1.732 * foot
M 25_m	0.862	3.55	3.66	40.422+ 2.232 * upper arm+1.382 * thigh
M 26_m	0.844	3.79	3.88	35.854+2.203 * upper arm+1.577 * forearm+1.400 * hand
M 27_m	0.834	3.91	4.15	43.424+ 2.398 * upper arm+2.083 * forearm

Code M $n°_m$: M, multiple regression equation; n°, serial number; m: male. RMSE: root mean square error. PE: pure error

Table 5 Regression equations on female sample

Code	R^2	RMSE	PE	Stature (cm)=
M 1_f	0.959	1.57	1.25	1.772+0.159 * arm span+0.957 * sitting height+0.424 * thigh+0.966 * lower leg
M 2_f	0.959	1.57	1.34	2.305+1.013 * lower leg+0.970 * sitting height+0.451 * thigh+0.513 * upper arm +0.253 * foot
M 3_f	0.958	1.59	1.34	2.907+1.062 * lower leg+1.005 * sitting height+0.453 * thigh+0.529 * upper arm
M 4_f	0.955	1.65	1.33	3.326+1.007 * sitting height+1.219 * lower leg+0.523 * thigh+0.299 * foot
M 5_f	0.954	1.67	1.31	4.082+1.285 * lower leg+1.049 * sitting height+0.528 * thigh
M 6_f	0.951	1.71	1.45	1.815+0.212 * arm span+0.975 * sitting height+1.173 * lower leg
M 7_f	0.940	1.89	1.55	5.192+1.711 * lower leg+1.116 * sitting height
M 8_f	0.936	1.96	1.73	−0.126 +1.022 * sitting height+0.698 * thigh+0.899 * upper arm+0.779 * forearm
M 9_f	0.929	2.06	1.92	−0.686+1.061 * sitting height+0.814 * thigh+1.237 * upper arm
M 10_f	0.918	2.22	2.14	−4.102+0.509 * arm span+0.966 * Sitting height
M 11_f	0.911	2.3	2.04	−0.559+1.094 * sitting height+1.325 * upper arm+1.229 * forearm
M 12_f	0.892	2.54	2.34	−1.663+1.184 * sitting height+2.039 * upper arm
M 13_f	0.894	2.51	2.23	0.685+1.246 * sitting height+1.306 * thigh
M 14_f	0.875	2.74	2.68	35.709+0.328 * arm span+0.803 * lower leg+0.535 * thigh+0.973 * foot
M 15_f	0.866	2.84	2.96	40.436+1.009 * lower leg+1.359 * foot+0.627 * thigh+0.939 * upper arm
M 16_f	0.864	2.86	2.66	41.582+0.417* arm span+0.888 * lower leg+0.522 * thigh
M 17_f	0.852	2.98	2.77	42.556+0.489 * arm span+1.142 * lower leg
M 18_f	0.851	2.99	3.13	45.104+1.399 * lower leg+1.526 * foot+0.776 * thigh
M 19_f	0.825	3.24	3.10	42.361+1.240 * upper arm+0.934 * thigh+1.239 * hand+0.973 * forearm
M 20_f	0.822	3.26	3.36	50.489+2.047 * lower leg+1.693 * foot
M 21_f	0.815	3.33	3.20	41.502+1.578 * upper arm+1.075 * thigh+1.645 * hand.
M 22_f	0.795	3.50	3.49	52.044+2.077 * upper arm+1.154 * thigh
M 23_f	0.780	3.63	3.36	46.344+1.870 * upper arm+1.630 * forearm+1.278 * hand
M 24_f	0.769	3.71	3.57	53.970+2.105 * upper arm+1.966 * forearm

Code M $n°_m$: M, multiple regression equation; n°, serial number; f, female. RMSE: root mean square error. PE: pure error

Figure 1: (Canda, A. (2009). Stature estimation from body segment lengths in young adults: Application to people with physical disabilities. Journal of Anthropology, 28(2):71-82)

7.2.4 ORTHOSIS; ORTHOTIC DEVICE

7.2.4.1 An orthosis or an orthotic device is an externally applied device used to modify the structural and functional characteristics of the neuro-muscular and skeletal systems (For stabilizing, support, compensation, protection, prevention). Orthosis/orthotic devices worn by athletes during competition must conform to these Equipment Rules. Athletes wearing orthotic devices during competition must declare this during Athlete Evaluation. If an athlete changes or starts wearing an orthotic device after Athlete Evaluation, the athlete must declare the change to FIS.

7.3 PROHIBITED TECHNOLOGY

7.3.1 Use of the following technology is prohibited at FIS Para Cross-Country Sanctioned Competitions:

7.3.1.1 equipment that breaches the fundamental principles outlined in the IPC Policy on Sport Equipment;

7.3.1.2 equipment that results in athletic performance being generated by machines, engines, electronics, motors, robotic mechanisms or the like; and

7.3.1.3 osteo-integrated prosthesis.

7.3.2 At any IPC Games and FIS Para Cross-Country Sanctioned Competitions the FIS Para Cross-Country Technical Delegate shall be entitled to prohibit the use of any equipment prohibited by these Regulations. In every case of a suspected breach the FIS Para Cross-Country Technical Delegate must report the matter to FIS Para Cross-Country. Any further investigation and/or action will be determined by the FIS on a case by case basis.

7.3.3 FIS Para Cross-Country shall be entitled to prohibit the use of equipment either permanently or on a temporary basis (to allow for further investigation) where it considers, acting reasonably, that any of the fundamental principles of equipment design and availability are breached.

8 SPECIFICATIONS FOR PARA SNOWBOARD ADAPTIVE EQUIPMENT

8.1 ORTHOSIS; ORTHOTIC DEVICE

Externally applied device used to modify the structural and functional characteristics of the neuro-muscular and skeletal systems (For stabilizing, support, compensation, protection, prevention).

8.2 PROSTHESIS; PROSTHETIC DEVICE

Externally applied device used to replace wholly, or in part, an absent or deficient limb segment.

8.2.1 ATHLETES WITH AN UPPER LIMB IMPAIRMENT/AMPUTATION:

1. Unilateral

The overall length of the limb, including the prosthesis, cannot exceed the length of the unaffected limb with the hand open.

2. Bilateral

The overall arm measurement from the tip of the acromion to the distal end of the prosthetic should be no longer than 0.399 x height (centimetres), with the arm in the anatomical position.

In the event that the arm cannot rest in the anatomical position, then limb segments should be taken.

The Upper Arm measurement:
Tip of acromion to lateral epicondyle = 0.191 x height (cm)

The Forearm measurement:
Lateral epicondyle to radial styloid = 0.1485 x height (cm)

The Hand measurement:
Radial styloid to distal end of second metacarpal = 0.119/2 x height (cm)

The double below elbow amputee that will be wearing prosthesis, calculation can be simplified to:
Lateral epicondyle to the end of the prosthetic should be no longer than 0.208 x height (cm).

8.2.2 ATHLETES WITH A LOWER LIMB IMPAIRMENT/AMPUTATION:

1. Lower limb prostheses must be used with snowboard boots

2. Unilateral

The overall length of the lower limb, including the prosthesis cannot exceed the overall length of the unaffected limb.

3. Bilateral

8.2.3 ATHLETES WITH BILATERAL BELOW KNEE AMPUTATIONS:

Will be limited by the following formula as to the overall length of their lower extremities, including prostheses and snowboard boots for competition purposes:

Overall leg length (in cm)* = or < (thigh length-13)/0.4 x 1.05
**including prosthesis*

The overall length of the leg including the prosthesis equals or is less than the length of the thigh minus 13, divided by 0.4, with an additional 5% to the final length allowing for natural variation.
The thigh length is measured from the anterior superior iliac spine to the inferior pole of the kneecap or to the lower point of the medial femoral condyle if there is no patella. This measurement is carried out with the athlete supine.
The overall length of the leg will be measured from the anterior superior iliac spine to the heel of the prosthesis with the athlete standing.
The Maximal Allowed Standing Height (including the prosthesis) will be measured in the standing position by using a vertical line from the top of the skull to a line connecting the base of the heels of prosthesis. If there is any doubt the measurement can be taken with the athlete standing on 2 sets of scales (equal weight) with the height being the vertical distance between the top of the skull and a line joining the base of both heels. Where possible a metal tape measure should be used for measuring. When the competion prosthesis have a fixed flexion in ankle or knee, the measure should be taken along the leg axis.

8.2.4 ATHLETES WITH BILATERAL ABOVE KNEE AMPUTATION:

The length of prostheses used by athletes with bilateral lower limb amputations will be determined using the 3-Step process described below.

Step 1: Estimate maximum standing height from Ulna length
Measure the distance between point of the elbow (olecranon process) and the ulna styloid.

Measure between the point of the elbow and the midpoint of the prominent bone of the wrist. The height in metres is determined from the below table based on the ulna length as measured in centimetres.

Table: Ulna length and maximum standing height		
Ulna Length (centimetres)	Men Height (metres)	Women Height (metres)
21		1.54
21.5		1.55
22		1.56
22.5		1.58
23		1.59
23.5		1.61
24	1.64	1.62
24.5	1.66	1.63
25	1.67	1.65
25.5	1.69	1.66
26	1.71	1.68
26.5	1.73	1.69
27	1.75	1.70
27.5	1.76	1.72
28	1.80	1.73
28.5	1.82	1.75
29	1.84	1.76
29.5	1.85	1.77
30	1.87	1.79
30.5	1.89	
31	1.91	
31.5	1.93	
32	1.94	

Step 2: Estimate maximum standing height based on measurement of Demi-span.
Demi-span is measured as the distance from the middle of the sternal notch to the tip of the middle finger in the coronal plane.

The measure is best obtained with the athlete standing with their back against a stable wall, right shoulder abducted to 90° with the palm of the hand facing forward. The measure is taken in centimetres.

The maximum standing height is then calculated from the following formula:
Women: Height in cm = (1.35 x demi-span (cm)) +60.1
Men: Height in cm = (1.40 x demi-span (cm)) +57.8

Step 3: Final estimate of maximum standing height:

Take the mean of the two estimates, maximum standing height estimated from the ulna length and maximum standing height estimated from demi-span.

The overall standing height of the Athlete with their competitive prostheses must be less than or equal to the mean estimated height, plus an additional 2.5% to the final figure allowing for natural variation. This is demonstrated in the below formula:

Overall standing height (cm) = or < (result method 1 + result method 2)/ 2 x 1.025
*including prosthesis

The Maximal Allowed Standing Height (including the prosthesis) will be measured in the standing position by using a vertical line from the top of the skull to a line connecting the base of the heels of prosthesis. If there is any doubt the measurement can be taken with the athlete standing on 2 sets of scales (equal weight) with the height being the vertical distance between the top of the skull and a line joining the base of both ski boot heels. Where possible a metal tape measure should be used for measuring. When the completion prosthesis has a fixed flexion in ankle or knee, the measure should be taken along the leg axis.