



# **SPECIFICATIONS FOR COMPETITION EQUIPMENT AND COMMERCIAL MARKINGS**

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# Specifications for Competition Ski Equipment

## A. Definition

### General Principles

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

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

## 1. Competition equipment

The term „competition equipment“ implies all items of equipment used by athletes in competitive skiing, 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:

- a) the principle of safety
- b) 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. Given the specificity of jumping skis, the FIS Council may exceptionally accept an enterprise as an Effective Manufacturer without evidence of commercial activities at retail level relating to jumping skis.

### 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 sport equipment brand, which means that the Manufacturer’s Identification is principally used for Competition Equipment and is (i) not principally used for non-sport equipment, and/or (ii) not confusing similar or identical to an identification used in another line of business, unrelated to Competition Equipment.

Given the specificity of jumping skis, the FIS Council may exceptionally accept the use of Manufacturer’s identification, which does not fulfill the above requirement, notably the use of commercial markings, which have already been previously accepted.



It is clarified that this exception does not apply to sport events governed by the International Olympic Committee (IOC), which remain fully subject to rules issued by the IOC in relation commercial markings.

### **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.

### **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.

## **2. Commercial Marking on Equipment**

Specifications on pages 45 to 49

## **B. Alpine Competition Equipment**

### **Downhill, Slalom, Giant Slalom, Super G**

Measurements are valid only if they have been carried out by appointed FIS equipment measurement experts using official FIS measurement tools.

Measurements are valid at the time of measurement, irrespective of previous measurements.

## **1. Alpine racing skis**

### **1.1 Definition**

Skis, predominantly for use in Downhill, Slalom, Giant Slalom and Super-G, 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.

### **1.2 Restrictions**

#### **1.2.1 Geometric features**

Geometric features

For MAS racers the following specifications in regard to ski length (except Super G), radius and profile width are recommendations. The minimum ski length for Super G skis is compulsory for MAS racers.

Those are the Geometric Features for all Alpine FIS level competitions listed on the FIS Calendar.

1.2.1.1	Ski length (Minimum)	DH Ladies	<b>210 **</b>
		DH Men	<b>218 **</b>
	Ski length measurement tolerance of +/-1cm	SG Ladies	<b>205 **</b>
		SG Men	<b>210 **</b>
	<b>** -5cm tolerance for FIS * Men U18 (first year) at FIS -10cm tolerance</b>	GS Ladies	<b>188 **</b>
		GS Men	<b>193 **</b>
		SL Ladies	<b>155</b>
		SL Men	<b>165 *</b>
1.2.1.2.1	Profile width under Binding	DH Ladies	<b>&lt;=65</b>
		DH Men	<b>&lt;=65</b>
		SG Ladies	<b>&lt;=65</b>
		SG Men	<b>&lt;=65</b>
		GS Ladies	<b>&lt;=65</b>
		GS Men	<b>&lt;=65</b>
		SL Ladies	<b>&gt;=63</b>
		SL Men	<b>&gt;=63</b>
1.2.1.2.2	Profile width in front of Binding	DH Ladies	<b>&lt;=95</b>
		DH Men	<b>&lt;=95</b>
		SG Ladies	<b>&lt;=95</b>
		SG Men	<b>&lt;=95</b>
		GS Ladies	<b>&lt;=103</b>
		GS Men	<b>&lt;=103</b>
		SL Ladies	
		SL Men	
1.2.1.3	Radius (Minimum)	DH Ladies	<b>50</b>
		DH Men	<b>50</b>
		SG Ladies	<b>40</b>
		SG Men	<b>45</b>
		GS Ladies	<b>30</b>
		GS Men	<b>30</b>
		SL Ladies	
		SL Men	
2.1.2	Max. Standing height (ski/plates/binding)		<b>50</b>

U14 and U16

		U14	U16
1.2.1.1	Ski length Ski length measurement tolerance of +/-1cm		
	SG Ladies		>=183
	SG Men		>=183
	SL Ladies	>=130	>=130
	SL Men	>=130	>=130
	GS Ladies	<=188	<=188
	GS Men	<=188	<=188
1.2.1.3	Radius (Minimum)		
	SG Ladies		30
	SG Men		30
	GS Ladies	17	17
	GS Men	17	17
1.2.1.2.1	Profile width under binding	GS/SG	<=65
2.1.2	Max. Standing height (ski/plates/binding)	50	50

>= minimum  
<= maximum

Masters

		Masters
1.2.1.1	Ski length (Minimum) For MAS racers the specifications in regard to ski length (except SG) are recommondations. The minimum ski length for SG skis is compulsory	
	SG Ladies **	180*
	SG Men **	185*
	GS Ladies	180***
	GS Men	185***
	* without tolerance ** GS Skis permitted ***- 5cm tolerance	
2.1.2	Max. Standing height (ski/plates/binding)	50

1) No length, width or ski radius restriction for Ladies above 55 and Men above 65 years of age

1.2.1.1 *Ski length*

Minimum length "developed" length (unwound length) in accordance with ISO Norm including a measurement tolerance of +/- 1 cm. The ski length must be marked on the ski.

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.

Recommendation for children younger than 12 years

For children younger than 12 years: Use only one pair of skis in all events if the ski length is shorter than 130 cm.

1.2.1.2 *Profile width*

Width of the running surface under the binding and in front of the binding without any tolerance according to art. 1.2.1.2.1 and 1.2.1.2.2.

1.2.1.2.1 *Profile width under binding*

See table

1.2.1.2.2 *Profile width in front of binding*

See table

1.2.1.3 *Radius*

The radius must be marked on the ski.

Radius measurement for DH skis with a preparation tolerance of -1 m.

Method of radius measurement see page 43.

1.2.1.4 *Overall height of sectional view*

No limitations.

1.2.1.5 *Camber*

No limitations.

1.2.1.6 *Contour, length and height of shovel (measurement from top)*

Slalom and Giant Slalom:

minimum height per ski: 50 mm \*

Downhill and Super G:

minimum height per ski: 30 mm \*

\* (tolerance of 2mm)

1.2.1.7 *Contour of tail (measurement from sole)*

Maximum height: 10 mm (tolerance 2mm).

1.2.1.8 *Running surface*

No limitations

1.2.1.9 *Running Groove*

No limitations

1.2.2 *Flexibility*

No limitations with regard to the rigidity in all grades of flex.

1.2.3 *Mass*

No limitation with regard to weight and distribution of mass.

1.2.4 *Construction*

1.2.4.1 *Type*

No limitation with regard to composite structure.

1.2.4.2 *Ski components*

- Running surface: no limitations with regard to material and dimensions.
- Torsion box: no limitations with regard to material and dimensions.
- Edges: no limitations with regard to material and dimensions.
- Top surface: no limitations with regard to material and dimensions.
- Core: no limitations with regard to material and dimensions.

1.2.5 *Durability*

With regard to the mounting of bindings, the „ ISO norm8364“, must be observed.

1.2.6 *Additional equipment*

1.2.6.1 *No additional equipment is permitted which*

- a) makes use of foreign energy (e.g. heaters, chemical energy accumulators, electric batteries, mechanical aids, etc.)
- b) causes or intends to cause changes in the outer conditions of the competition to the disadvantage of fellow competitors (e.g. changes to piste or snow)
- c) increases the risk to the users or other persons, when used for the purpose for which it was intended.

## **2. Safety bindings**

Safety bindings function as strain limiters. That is, these devices transfer specific demands occurring during skiing to an acceptable limit, and when this limit is overstepped, they release their firm hold on the ski.

### **2.1 Anti-vibration plates**

Anti-vibration plates can be mounted if the following conditions are taken into consideration:

2.1.1 *Width of ski surface*

The width of the plates must not exceed the width of the ski surface.

2.1.2 *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 (Ladies, Men and U14 & U16).

## **2.2 Ski stoppers**

The ski stopper is a braking apparatus for skis, the function of which following the release of the safety binding is to stop or bring to a standstill the loose ski within the immediate vicinity of the skier's fall. The use of skis without ski stoppers during competitions or official training runs is prohibited. The functioning of the release mechanism must not be compromised by the method of its mounting. It is the manufacturers' responsibility to ensure that the ski stopper functions correctly.

## **3. Ski boots**

**3.1** 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.

The relevant national and international guidelines and norms establish the requirements.

### **3.2 Thickness of ski boot soles**

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

Ladies, Men and U14 & U16: maximum 43 mm

MAS: maximum 45 mm (Recommendation)

Recommendation for children younger than 12 years

The height of the skis and the boots should be the same as in the categories U14 and U16.

## **4. 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 risk of injury, metal baskets are not permitted.

## **5. Racing 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 m<sup>2</sup>/sec. Seams may only exist in order to join the portions of the suit. Outer tucks and darts are not allowed. The competition 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 unstretched fabric must show a medium air permeability of a minimum of 30 litres per m<sup>2</sup>/sec under 10 mm of water pressure (with a measurement tolerance of 3,0 litres per m<sup>2</sup>/sec.).

Competitors are allowed to protect all parts of the body with so called protectors in all events:

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 litre permeability measurement with a measurement tolerance of 3,0 litres per m<sup>2</sup>/sec with the exception of the shoulder, scapular region, chest, arms and legs. The anatomical body shape may not be changed.

#### Competition Suit Measurement Method

The competition suit will be tested at four randomly selected spots. If one measurement is less than 30 litres per m<sup>2</sup>/sec, the following procedure will be carried out:

- The competition suit will be re-tested at six new randomly selected spots.
- The two extreme values (highest and lowest) will not be taken into consideration.
- The average value of the four valid measurements is created. The result is served with 0,1 l/m<sup>2</sup>/sec Graduation.
- There after a tolerance value of 3,0 l/m<sup>2</sup>/sec is added. This serves the final value of the measurement.
- The final value of the measurement will be compared against the specification.

#### **Label attesting conformity with FIS specifications for competition suits**

(DH/SG/GS):

Fulfillment of requirements is to be attested by a specific standardized conformity label affixed in a non-removable way at the back of the lower left leg above the top of the ski boot cuff area of the competition suit in a location, which is and shall remain visible during competition. The conformity label is shown in the attachment (see page 44). The conformity label shall include the following text: «Competition Suit conforms to FIS specifications 2015». Labels affixed by manufacturers shall comply with the specifications set forth in the attachment.

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 m<sup>2</sup>/sec with a measurement tolerance of 3,0 litres per m<sup>2</sup>/sec.

Both conformity systems, label and plomb systems, will be valid during the transition period until the end of the 2017/18 season.

Scheduled controls of different materials will still be offered to the NSA's and manufacturers as determined by the FIS Controller. A maximum of 4 test patches per NSA will be permitted per session.

According to the World Cup testing procedures of past seasons, the controllers will determine pre competition testing sessions. The NSA's will have the opportunity to make a control on their World Cup competition suits prior to the competitions.

This control only gives a confirmation that the material being tested may conform to the FIS Specifications.

## **5.1 Examination of materials, suits**

The guidelines for minimum air permeability established by the Control Procedures/Equipment Working Groups in collaboration with the Federal Institute for Materials Control are valid. Multi-layered materials are accordingly permitted for alpine racing suits and undergarments, as long as they conform to the air permeability requirements in question.

## **6. Crash helmets**

### **6.1 General Principles**

The use of crash helmets is compulsory at all FIS alpine ski 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 disciplines.

### **6.2 Safety standards**

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

#### **6.2.1 GS/SG/DH**

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
  - o 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 (GS/SG/DH):**

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 in the attachment (see page 44). It shall include the following text: «Racing helmet conform to FIS specifications 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 6.2.1. Upon request, the certification documentation and test protocol shall be provided to the FIS.



## 6.2.2 SL

### **Requirements:**

- Helmet model to be certified under EN 1077 (class B) or ASTM 2040 as minimum standards
  - o NB1: soft ear padding is allowed
  - o NB2: 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 GS/SG/DH specific standard described above.

### **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 6.2.1 (i.e. helmets fulfilling the requirements for GS/SG/DH can be used in SL).

## 6.2.3 *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.

## 6.2.4 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.

## 6.2.5 *Helmet rules for Masters*

In all events, competitors and forerunners are obliged to wear a crash helmet.

## **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.

## **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 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.

## **9. Back protectors**

### **9.1 Definition**

The back protector is an additional item of equipment, which protects the athlete's back against weather and external forces.

### **9.2 Specifications**

The back protector 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.

### **9.3 Recommendation for specifications for children**

Children under 12 years should use back protectors, also for U14 and U16.

## **C. Nordic Competition Equipment Cross-Country Skiing**

### **1. Cross-Country racing skis**

#### **1.1 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, downhill). The basic features of this type of ski are defined in these rules.

#### **1.2 Restrictions**

##### *1.2.1 Geometric features*

###### *1.2.1.1 Ski length*

Minimum: height of skier minus 100 mm

###### *1.2.1.2 Ski width*

In the binding fixation area of the ski defined by ISO 9119 or Ö-Norm S4072

Minimum 40 mm

###### *1.2.1.3 Tip*

The minimal shovel curvature is 30 mm.

###### *1.2.1.4 Tail*

The tail must not rise more than 30 mm on the unweighted ski when laying on a flat surface.

- 1.2.1.5 *Overall height of sectional view*  
Maximum 35 mm  
Minimum 20 mm
- 1.2.1.6 *Same construction*  
Both skis must be constructed in the same way, and must be the same length.
- 1.2.2 *Flexibility*  
No restrictions with regard to the rigidity in all grades of flex.
- 1.2.3 *Mass*  
Skis must weigh at least 750 g per pair. No limitations with regard to the distribution of mass.
- 1.2.4 *Construction*
- 1.2.4.1 *Type of construction*  
No limitations.
- 1.2.4.2 *Ski components*
- 1.2.4.2.1 *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. Models driven by means of foreign energy of any kind are not permitted.
- 1.2.4.2.2 *Top surface*  
No limitations
- 1.2.4.2.3 *Edges*  
The edges must not face up and outwards, making the running surface narrower than the top surface (no wedge shape).
- 1.2.5 *Durability*  
No limitations
- 1.2.6 *Additional equipment*
- 1.2.6.1 No additional equipment is permitted which
- a) makes use of foreign energy (e.g. heaters, chemical energy accumulators, electric batteries, mechanical aids, etc.)
  - b) causes or intends to cause changes in the outer conditions of the competition to the disadvantage of fellow competitors (e.g. changes to piste or snow)
  - c) increases the risk of injury to users or other persons, when used for the purpose it was intended for.

**2. Cross-Country racing bindings**

No limitations with regard to material and make, subject to decisions 1.2.6 b) and c).

**3. Cross-Country racing boots**

No limitations with regard to material and make.

**4. Cross-Country racing poles**

**4.1 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).

**4.2 General rules**

*4.2.1 Poles of equal length*

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

*4.2.2 Pole length*

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 centimeter as follows: less than 0.5 cm will be rounded down and 0.5 cm and above will be rounded up.

*4.2.3 Constant length*

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

*4.2.4 Foreign energy*

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

*4.2.5 Weight*

No limitations regarding the weight of the pole.

*4.2.6 Construction*

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

### **4.3 Technical Specifications**

#### **4.3.1 Grip**

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

#### **4.3.2 Straps**

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

#### **4.3.3 Shaft**

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

#### **4.3.4 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.

#### **4.3.5 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.

## **D. Nordic Competition Equipment**

### **Ski Jumping**

### **1. Jumping skis**

#### **1.1 Definition**

Jumping Skis are manufactured especially for use on Ski Jumping hills. Their construction is adapted to the requirements of Ski Jumping.

#### **1.2 Restrictions**

##### **1.2.1 Geometric features**

##### **1.2.1.1 Ski length**

According to the body weight/height relationship ( $BMI = \text{body weight} / \text{body height}^2$  in  $\text{kg}/\text{m}^2$ ). See enclosure.

However, the maximum ski length is 145 % of the total body height of the competitor based on a minimum BMI of 21 for Ladies and 21 for Men. For athletes with less than minimum BMI a grading table of 0,125 BMI per 0,5 % of ski length will be applied.

Exception: For Youth competitions, the maximum ski length is limited to 140 % from the body height only (no BMI formula will be applied).

##### **1.2.1.2 Profile width (see enclosure)**

The curvature from A through B to C indicates the shape of the ski side cut. This curvature must be equal on both sides and symmetrical to the ski centre line. As a maximum the line connection from A to B, as well as B to C should appear as a straight line.

Minimum width of the running surface at the point of balances 95 mm, maximum width 105 mm.

The edges must form a 90° angle to the running surface and the top surface along the entire length of the ski.

Rounded top-to-bottom edges must never be more than 2 mm.

The difference between the above-mentioned measurement of the width of the ski tip and the ski tail may not exceed 5 mm.

#### 1.2.1.3 *Contour, length and height of shovel*

The ski tip may be individually modified as long as it remains symmetric and centred to the middle part and that the minimum distance to the ground of 30 mm is observed.

#### 1.2.1.4 *Contour of tail*

According to the sketch (see page 40)

Maximum height 10 mm

#### 1.2.1.5 *Running surface*

Running surface must be flat and may have a fine base structure in a longitudinal direction. With the exception of the grooves, the entire ski base cannot have any additional shapes. There can be one or more grooves; however the total of the measured surface area of all the grooves may not exceed 50% of the minimal width of the ski. The width of a single groove may not exceed 10 mm. The base must be of a polyethylene material.

#### 1.2.2 *Shape and Flexibility*

Aerodynamic coverings on the tips, as well as fins in the form of stabilizers on all sides are not allowed. A design, which makes a desired aerodynamic flex possible during flight, is not allowed. Otherwise there are no limitations with regard to rigidity in all grades of flex. The top surface of the ski must be smooth and flat.

#### 1.2.3 *Mass*

A single non-mounted ski must have a minimum weight conforming to its length (the weight in kg results of the ski length in cm: e.g. 250 cm = 2,50 kg, 262 cm = 2,62 kg). Lead-weights used for balancing the centre of gravity are not considered (see 1.2.6.2).

#### 1.2.4 *Construction*

##### 1.2.4.1 *Ski components*

Torsion box: No limitations with regard to material and dimensions.

Edges: see 1.2.1.2.

##### 1.2.5 *Durability*

The jumping ski must have screw retention strength of 1600 N in the area of the binding mounting.

## 1.2.6 *Additional equipment*

### 1.2.6.1 *No additional equipment is permitted which*

- a) makes use of foreign energy (e.g. heaters, chemical energy accumulators, electric batteries, mechanical aids, etc.).
- b) causes or intends to cause changes in the outer conditions of the competition to the disadvantage of fellow competitors (e.g. changes to piste or snow).
- c) increases the risk of injury to users or other persons, when used for the purpose it was intended for.

### 1.2.6.2 *Additional weights*

Additional weights for balancing the centre of gravity are permitted.

## 2. **Jumping ski bindings**

Safety bindings in Ski Jumping function as strain limiters. That is, these devices transfer specific demands occurring during skiing to an acceptable limit, and when this limit is overstepped, they release their firm hold on the ski.

Additional devices creating foreign energy of any kind as an aid to take-off are forbidden.

The complete binding system must be mounted so, that the Ski Jumping shoes are fixed to the skis symmetrically, parallel and centrally to the running direction. After fixing the front part of the jumping shoe into the front part of the binding it must stay fixed and horizontal to the top surface of the ski. The outline of the heel wedge of the shoe sole in its normal production form may not protrude over the side-walls of the Jumping ski.

### 2.1 **Binding wedges**

Binding wedges are permitted to improve the in run position. The entire height of the boot sole and binding wedge must not exceed 70 mm.

### 2.2 **Mounting of the bindings**

The binding must be mounted in such a way that maximum 57% of the entire ski length is used as the front part. Measured from the ski tip (with shovel curvature) to the shoe cap (leather part). (The 57% will be rounded up or down to full centimetres).

## 3. **Ski Jumping boots**

The shoe size and form must equal the foot size and form. Reshaping the boots in order to attain more aerodynamic features is not allowed. The boot sole may not exceed 45 mm.

## 4. **Ski Jumping suits**

All portions of the ski jumping suit must be made of the same material (see 4.2) and must show the same air permeability from the outside in and from the inside out.

The suit must close by means of a zipper placed at the centre of the front. The closed zipper strap must exceed the collar end with 1,5 to 5 cm. The maximum zip length is allowed to end at least 10 cm before the cross part of the crotch. The width of this zipper may not exceed 15 mm.

During the jump the zipper must be completely closed. The design of the suit (seams) must conform to the image "Ski Jumping Suits" in the enclosure.

See enclosure 1

The suit must be close-fitting in any part of the body. The measured circumference of any unstretched part of the suit must not exceed the respective body measurement. It is not allowed to fix the sleeves of the suit to the gloves.

Exceptions are:

- to accommodate the fit of the suit around the boot with a maximum tolerance of 10 cm. This tolerance may start from the close-fitted part below the knee with a transition to the bottom hem of the leg panel.
- to accommodate the fit of the suit around the glove with a maximum tolerance of 4 cm. This tolerance is given for the last 10 cm of the sleeve.

Additional restrictions

- Marking of the suit (for measuring and control) is allowed.
- The thickness of all parts of the suit must be the same.
- No additional chemical (gaseous, liquid or solid) or mechanical treatment of the material or suits is allowed.
- The height difference between the front and the back of the collar may not exceed 5 cm (see the illustration - mark X1 and X2).
- Outer tucks and darts, folds and padding are not allowed.
- Only one fixed (non-adjustable) strap per leg is allowed for fixing the suit around the ski boot. The strap is of one continuous piece and without clips, buckles or other means of fastening multiple pieces of material. The fixation of either strap must be made at the hem of the suit in the middle of the posterior and anterior seam of the leg panels (see the illustration - mark S).
- Length of the sleeve must reach the wrist joint. The lower hem of the sleeve is cut evenly and has no integrated hole for fingers.
- All hems must be sewn by a singular piece and the entire piece must have the same physical material characteristics.
- Standardized measuring control points:
  - Anterior arm length (see the illustration - mark AL) is measured from the intersection of the seams at the armpit, following the seam to the end of the sleeve. Measured length must be no greater than the length of the arm and no shorter than a maximum tolerance of 4 cm.
  - Anterior crotch length (see the illustration - mark SL) is measured from the intersection of the seams at the crotch of the suit (see the illustration - mark SX) following the anterior seam to the hem of the leg part of the suit.  
Measured length of the suit must be no shorter than the measured length of the controlled crotch height.
- Number of parts of the material of which the suit consists is:
  - One part for each sleeve (see the illustration - mark 3). The sleeve must be joined to the main part of the suit and must reach the wrist joint. In addition, when the arm is extended from the torso, the anterior seam of the sleeve must be aligned with the torso seam.



- Three parts for the torso (upper body above the waist seam): left and right front panels (see the illustration - mark 1) and back part (see the illustration – mark 4) Starting from the armpit down to the waist seam, the front and back part must be equal.
- 2 for each leg (under the waist seam): the front leg panels (see the illustration - mark 2) and the back leg panels (see the illustration - mark 5). Starting from the waist seam, the size of the panels must be equal front and back. The alignment of the posterior and anterior seams is entered along the length of the leg. The front and back crotch seams must connect with the anterior leg seams at the lowest point of the crotch (see the illustration - mark SX).
- Zipper, elastics and strings for the attachments do not count as a separate part of the suit.
- The waist seam must be placed in relationship to the body within 5 cm above and below the hip bone (narrow part of the waist). The seam must go around the torso horizontally.
- The seam connecting the upper front and side panel must align vertically with the seam of the leg panels from the armpit to the posterior ankle bone.
- The bottom hem of the leg panels may be altered to accommodate the fixing of the binding at the heel of the boot.
- Seams may only exist in order to join the portions of the suit. Seams must be inside the suit. It is not allowed to edge-stitch (sew) the ends of the material; it is not allowed to join (sew) the maximum seam of 10 mm (material behind the seam to the edge). All seams must be straight or formed differently only to fit the form of the body. Any additional seams or transformation of the seams, any strings, rods, folds, tapes, etc., inside or outside the suit in order to attain greater volume or more aerodynamic features is not allowed (the same for the underwear).
- The enclosed suit illustrations are the determining bases for these written rules. Exception for Youth competitions: no limit for number of parts and cutting of the suits.

#### **Additional specifications for the Ladies Ski Jumping suit**

Number of parts of the material of which the suit consists of is:

- 7 parts for the upper body (see the illustration – mark 1, 7, 4 and 8).
- 8 parts for the lower body (see the illustration – mark 2, 9, 6 und 10).  
The waist seem must go around the torso horizontally and must be placed at the part of the body with the smallest circumferences.
- Two parts for each sleeve including shoulder: front part of the sleeve (see the illustration - mark 3) and back part of the sleeve (see the illustration - mark 5). Each sleeve starts from the neck opening and extends over the shoulder maximally to the wrist joint. Starting from the armpit down the size of the panels must be equal front and back. The alignment of the posterior seam must be centered along the length of the sleeve and parallel to the torso seam. In addition, when the arm is extended from the torso, the anterior seam of the sleeve must be aligned with the torso seam.
- Side parts (Pos. 9 and Pos. 10)  
Both the side parts end at the height of the athlete's knee. The tolerance for the end of both parts, above and below the knee, is +/- 15 cm.
- Upper front parts (Pos 1, A1)

The upper area of front part 1 must have a width of at least 10 cm. The front seam between the side part 1 and 7 must run over the middle part of the breast.

#### 4.1 **Material, Fabric**

The structure of the surface of the material and the composition of the material for all parts of the suit must be the same. The only exceptions are different colours of the same material.

The thickness of the suit may not exceed 6.0 mm, nor be less than 4.0 mm.

Construction of the Ski Jumping suit is a five-layer laminated fabric and consists of:

- outer fabric/ first layer
- foam
- elastic membrane
- foam
- lining fabric

The components are laminated together by either a hot-melt process or flame laminated, where 4 acts are necessary to laminate the fabric.

The controlled air permeability of 40 l/m<sup>2</sup>/sec. (FIS Rules) is reached by perforation and guarantees a constant value.

##### *Outer fabric / first layer*

The outer fabric for the ski jumper laminate is a bi-elastic warp-knit fabric, called Charmeuse (pattern notation). This material is produced on a 2-thread system warp knitting machine.

Material:

81 % Polyamid gloss dtex 44f12

19 % Elasthane (Lycra) dtex 44f1

Weight:

180/190 g/m<sup>2</sup> approx.

Elasticity:

Length 150-160%

Width approx. 85-95%

Finishing:

The quality is dyed in a classical piece dyeing method (acid dyestuff). Beside the dyestuff and eventual dyeing assistant there is no use of other chemical stuff allowed, which would change the characteristics of the surface.

Material has two different sides:

- a) Lengthwise stripe "rip fabric (even side)"
- b) Transverse thread connection, called satin-side

The satin side is the visible outside of the jumping suit. The satin side must be chinzed. There are no other additional treatments like chemical or mechanic surface changes allowed (for example by aluminium steam, foil application, shaping or others).

##### **Lining fabric**

Lining fabric is identical with the outer fabric (material and weight) but only white.

### **Inside fabric / foam and elastic membrane**

The inner life of the material is a three-layer laminate built up of a two 2,1 mm foam layers (volumetric weight ca. 55g) and with an elastic membrane in the middle. This laminate is perforated to reach the defined air permeability.

#### **4.2 Air permeability of the suit material**

The material of a jumping suit must show a minimum air permeability which is the same from the outside in and from the inside out. Minimum air permeability is established as follows:

The unstretched fabric must show a medium air permeability of a minimum of 40 litres per m<sup>2</sup>/sec with 10 mm water pressure.

This value is compulsory at the time of distribution by the manufacturer that means at the moment of plumbing. At controls in competitions it must not be less than 40 litres.

Although usage may result in some stretching of the material, the back portion of the suit must show air permeability as high or higher than the other parts of the suits.

#### **4.3 Underwear**

- The thickness of the underwear must not exceed 3,0 mm (cumulative - all layers and parts of the underwear together).
- Air permeability of the underwear must exceed 60 l/m<sup>2</sup>.
- The size, fit and form of underwear must conform the size and shape of the body.
- No form of a hood is allowed.
- No fixations (i.e. integrated holes for fingers) are allowed.

#### **4.4 Examination of materials, suits**

The guidelines for minimum air permeability established by the FIS Control Procedures/Equipment Working Group in collaboration with the Federal Institute for Materials Control are valid.

Multi-layered materials are accordingly permitted for Ski Jumping suits, as long as they conform to the technical specifications and air permeability requirements and all portions of the suit are made from the same material.

### **5. Crash helmets**

The use of crash helmets is compulsory for all events. The shape of the helmet must conform to the shape of the head. The distance measured at any point between the outside surface of the helmet and the head shall not exceed 7 cm. Helmets with visors or integrated face shields, detachable or not are not permitted.

The crash helmets used for international FIS competitions shall comply with the standards applicable for crash helmets for alpine ski competition (crash helmets to be used in GS/SG/DH).

Compliance with the standards is to be attested by the corresponding 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 (Label "RH2013") confirming compliance with the standard applicable to helmets to be used for international FIS competitions is shown in

attachment. The labels affixed by manufacturers shall comply with the specifications set forth in the enclosure (page 44).

## **6. 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 goggles is recommended. Reshaping the ski goggles in order to attain more aerodynamic features is not allowed.

## **7. Ski gloves**

Gloves offer protective covering against weather and external forces. The use of gloves is compulsory for all events.

The glove size must correspond to the hand size. Thickness of the material is maximally 5mm.

Only gloves with fingers (for all fingers) are allowed. The gloves may not be fin-shaped.

## **E. Freestyle Skiing competition Equipment**

### **1. Definition**

Competition equipment

The term „competition equipment“ embraces all items of equipment used by the athletes in competition skiing, 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:

- a) The principle of safety
- b) The principle of fairness

### **1.1 Competition implements**

Competition implements refer to those parts of the equipment, which fulfil essential functions for the competition and which are separable from the competition.

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

### **1.2 Additional equipment (accessories)**

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

Example: plastic tip covers, additional weights.

### **1.3 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.

## **2. Commercial Markings on Equipment**

Specifications on page 45 - 49 and refer to ICR 207.

### **2.1. Freestyle Competition Equipment**

Only measurements which are carried out by the appointed FIS equipment measurement experts using the official FIS measurement tools are valid.

The results of measurements carried out at the time are valid and final, irrespective of previous measurements.

### **2.2 Freestyle skis**

#### *2.2.1 Definition*

Skis employed in Freestyle competition events where the principal source of motive power is gravity. To assist with directional and speed control, the edges of the running surface are constructed from hard materials and sealed into the ski.

#### *2.2.2 Criteria*

#### *2.2.3 Geometric features*

There are no limitations or restrictions for ski length and radius.

#### *2.2.4 Ski length*

No limitations. (See 4306.1.1 is, 4206.1.1)

#### *2.2.5 Profile width*

No limitations

#### *2.2.6 Radius*

No limitations

#### *2.2.7 Overall height of sectional view*

No limitations.

#### *2.2.8 Camber*

No limitations.

#### *2.2.9 Contour, length and height of shovel*

No limitations

#### *2.2.10 Contour of tail*

No limitations.

#### *2.2.11 Running surface*

No limitations.

#### *2.2.12 Running Groove*

No limitations.

#### *2.2.13 Flexibility*

No limitations with regard to the rigidity in all grades of flex.

**2.2.14**    *Mass*

No limitation with regard to weight and distribution of mass.

**2.3**        **Construction**

**2.3.1**      *Type*

No limitation with regard to composite structure.

**2.3.2**      *Ski components*

- Running surface: no limitations with regard to material and dimensions.
- Torsion box: no limitations with regard to material and dimensions.
- Edges: no limitations with regard to material and dimensions.
- Of top surface: no limitations with regard to material and dimensions.
- Core: no limitations with regard to material.

**2.3.4**      *Durability*

With regard to the mounting of bindings, the „ISO 8364“, must be fulfilled.

**3.**         **Additional equipment**

No additional equipment is permitted which

- a) makes use of foreign energy (e.g. heaters, chemical energy accumulators, electric batteries, mechanical aids, etc.)
- b) causes or intends to cause changes in the outer conditions of the competition to the disadvantage of fellow competitors (e.g. changes to piste or snow)
- c) increases the risk for the users or other persons, when used for the purpose it was intended for

**3.1**         **Safety bindings**

Safety bindings function as strain limiters. That is, these devices transfer specific demands occurring during skiing to an acceptable limit, and when this limit is overstepped, they release their firm hold to the ski. (See 4306.1.2, 4206.1.2, 4008.2.2)

**3.2**         **Anti-vibration plates**

Mounting of such plates is permitted under the following conditions:

**3.3**         **Width of ski surface**

The plates may not exceed the width of the ski surface.

**3.4**         **Maximum height**

For FIS, ENL, U14 and U16 events the maximum height is 50 mm.

**3.5**         **Ski stoppers**

The ski stopper is a catching apparatus for skis, whose function is to stop or bring to a standstill the loose ski following the release of the safety binding within the intermediate area of the skiers fall. In competitions and official training skis without ski stoppers are not permitted. Ski Stoppers must be mounted in such a way as not to impede the operation of the device. The manufacturer is responsible for a perfect function of the ski stoppers.

#### **4. Ski boots**

Ski boots are robust footwear developed especially for skiing, offering protection against jolts and bumps as well as injury from ski edges and other external causes. 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 move, but at the same time allowing the transfer of every steering movement completely to the ski.

The relevant national and international guidelines and norms establish the requirements.

Thickness of ski boot soles

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

Ladies & Men	maximum 43 mm
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#### **5. Ski poles**

The ski pole is a sports article whose function should aid the skier, facilitate balance and, if necessary, enable stopping. The national and international guidelines and norms establish the minimum requirements for ski pole tips, grips, shaft, baskets, straps, length, etc. Due to risk of injury, metal baskets are not permitted.

#### **6. Competition suits**

##### **6.1 Ski Cross**

(From Freestyle ICR Ski Cross 4511.4)

Ski suits

Ski suits must be two pieces; pants and a separate top.

Suits worn in the Alpine events of Downhill (DH), Super-G (SG), Giant Slalom (GS), Slalom (SL) and Speed Skiing are not allowed.

Suit base material shall be textile fabrics excluding rubber, neoprene, leather or vinyl like materials or fabrics. Patches of different material are allowed provided that textile fabrics shall remain, in any event, predominant.

Non-protruding body protection and padding is recommended.

Protection equipment including back protector or any other padding or body armour must be worn on the body and separate from the ski suit (outer wear). Protection and padding must not be built into the ski suit or attached to the ski suit by a zipper, Velcro or any other means. Fastening devices such as elastic straps, zippers, nylon straps, buttons, snaps, velcro, one or 2 sided tape, or any other methods shall not be used to tighten the suit material closer to the body or prevent the natural fall of the clothing.

The gap in the material must be a minimum of 80mm, measured everywhere around the circumference of each leg from the mid-thigh to the top of the ski boot and 60 mm everywhere around the elbow and the bicep. The vertical distance between the ski boot sole and the bottom of the pant leg, must be a maximum of 170mm.

A tolerance of two (2) mm (width of material) and 5 mm (pant length) (as noted on the measurement tool or actual 4mm of material) outside of the measurement regulations shall be allowed for one control.

A warning shall be issued in this the case and announced. Each subsequent control must be within the specified regulations.

#### Ski Suit Measurement Method

Body position and stance for taking measurements:

Any competitor shall appear in full race wear with ski boots on. They shall stand with feet shoulder-width apart, in an upright standing position with arms relaxed at the sides and the legs relaxed forward into the support of the cuffs of their boots. ("full race wear" includes all under layers and padding that is worn while competing.)

The measurement shall take place before or after each qualification run, as decided by the Jury and announced at the First Team Captains Meeting. The measurement shall take place after each heat in the KO Final by first measuring each eliminated competitor prior to exiting the finish area. All competitors in the Final and Small Final heats will be measured prior to exiting the finish area.

The material gap shall be found everywhere at the measuring control points, without stretching or pulling the fabric apart from the underwear. The measurement tool shall be certified through the FIS Office.

Standardized measuring control points:

Lower Body:

Anywhere below the person's mid point of the thigh to the bottom of the pant leg.

The pant leg must cover the top of the skier's boot (top of ski boot is the area directly above the upper most buckle of the boot)

Upper Body:

Mid-bicep (mid-bicep is found by finding the mid-point between the tip of one's elbow and the point on the top of the shoulder where the Acromion bone in the shoulder meets the head of the Humerus.)

## **6.2 Moguls**

No limitations.

## **6.3 Aerials**

No limitations.

## **6.4 Halfpipe**

No limitations.

## **6.5 Helmets**

The use of helmets is compulsory for all events. (See ICR 3054.6, 4008.2.1, 4206.1.3, 4306.1.3, , 4511.3)

#### **Requirements:**

- Helmet model to be certified under EN 1077 (class B) or ASTM 2040 as minimum standards
  - o NB1: soft ear padding is allowed
  - o NB2: crash helmets fulfilling higher safety standards can be used. This includes:
    - EN 1077 (Class A), SNELL 98 and all helmets fulfilling the specific standard described above such as CEN 1385.



For Ski Cross, the helmet shall fulfil the following requirements:

- Helmet model to fulfil and to be certified under both ASTM 2040 and EN 1077 (class A – hard sided)
- In addition Helmet model to pass an additional specific test under EN 1077 test procedure but at higher test speed of 6.8m/s

## **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.

## **8. Ski gloves**

Gloves offer protective covering against weather and external forces. The wearing of gloves is strongly recommended. 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.

## **9. Back protectors**

### **9.1 Definition**

The back protector is an additional item of equipment, which protects the athlete's back against weather and external forces. The use of back protections is recommended.

### **Specifications**

The back protector must adapt to the anatomical bend of the athlete's spine and lay flat against the body. The top edge of the back protector has to be situated in the area of the spinal column. Fastening of the back protector may take place with a stomach belt, straps or suspenders. The maximum thickness has to be in the middle part and may not exceed 45 mm; the thickness reduces towards the edges of the back protector. The back protector may be worn exclusively under the competition suit.

## **10. Competition data and event presentation**

For the purpose of improved television presentation and the technical development of the event, the Freestyle Committee has introduced the collection of digital information on the performance competitor with the use recorders and transmission devices worn by the competitor using systems approved by Freestyle Committee and the Equipment Committee.

## **F. Snowboarding competition Equipment**

### **1. Snowboards**

Only Snowboards can be used in competitions. The boards minimal width is restricted as follows:

Gliding surface length (Minimal width):

up to 135 cm	14 cm
more than 135 cm	16 cm

## **2. Bindings**

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

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

2.2 Retention devices, leashes  
Safety leashes are optional unless required by the organiser or the ski area.

## **3. Competition Clothing**

Competition suits must be two piece – pants and separate top. Form fitting speed or downhill suits are not permitted. Non protruding body protection and padding is recommended.

Protective equipment i.e. back protection must be worn on the body. No straps, fastening devices or other methods can be used to tighten the suit material closer to the body. Shin guards are excluded from this rule.

## **4. Crash Helmets**

The use of crash helmets is compulsory for all snowboard events. Helmets used in FIS 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.

## **G. Bibs**

Alpine:  
Downhill / Slalom / Giant Slalom / Super G

Nordic:  
Cross-Country / Ski Jumping

Examples: See Enclosure

### **1. FIS Specifications for Alpine bibs**

#### **1.1 Advertising**

According to "FIS Advertising Rules"

#### **1.2 Numbers**

According to "FIS Advertising Rules"

#### **1.3 Assignment**

Bibs must be assigned as follows:  
Ladies sizes: with elastic band  
Men's sizes: with elastic band

#### **1.4 Fabric, Material**

T-shirt style bibs, 100% Polyester / Interlock

**1.5 Elasticity (stretch)**

Measured on a piece of material 10 cm wide:  
Stretch ability in the width 24 cm.

**1.6 Seams, Sewing**

Side seams: Material is sewn together, hemmed and stitched - overlock.  
Neckline and armholes are trimmed with edging and double-stitched.  
Waistband with 2 cm wide seam, double-stitched with an elastic band pulled trough. (See enclosure)

**2. FIS Specifications for Cross-Country starting bibs**

**2.1 Advertising**

According to "FIS Advertising Rules"

**2.2 Numbers**

According to "FIS Advertising Rules"

**2.3 Assignment**

Starting bibs must be assigned as follows and must be cut in such a way that the skier's shoulders are allowed free movement:

Ladies size: without elastic band

Men's size: without elastic band

**2.4 Fabric, material**

T-shirt starting bibs in smooth material quality 100% Polyester / Interlock or 100 % polyester knitwear (meshed or non-meshed).

**2.5 Elasticity (stretch)**

Meshed starting bibs: measured on a piece of fabric 10 cm wide:  
Stretch ability in the width 18,5 cm

None meshed starting bibs: measured on a piece of fabric 10 cm wide:  
Stretch ability in the width: 24 cm (see enclosure)

**3. FIS Specifications for Ski Jumping starting bibs**

**3.1 Advertising**

According to "FIS Advertising Rules"

**3.2 Numbers**

According to "FIS Advertising Rules"

**3.3 Assignment**

Starting bibs are assigned to the men in men's sizes.

**3.4 Fabric, material**

T-Shirt starting bibs 100 % Polyester with an air permeability of 40 litres per m<sup>2</sup>/sec under 10 mm of water pressure.

**3.5 Elasticity (stretch)**

Measured on a piece of fabric 10 cm wide:  
Stretch ability in the width 24 cm.

**3.6 Seams, sewing**

Side seams: material is sewn together, hemmed and stitched - overlook.  
Neckline and armholes are trimmed with edging and double-stitched.  
Waistband with 2 cm wide seam, double-stitched (see enclosure).

## **Procedures for the Acceptance of Innovations in Competition Equipment**

### **Article 222.4 of the ICR reads as follows:**

New developments must be submitted by May 1st, at the latest, for the following season. The first year new developments can only be approved provisionally for the following season and must be finally confirmed prior to the subsequent competition season

#### **1. Eligible applicants**

- a) Manufactures or distributors of the innovation
- b) National Associations
- c) Members of the Committee for Competition Equipment

#### **2. Items for application**

Any significant innovation or further development of existing products which is to be used as equipment in competition skiing, may be submitted for acceptance. It is solely the responsibility of the Committee for Competition Equipment to decide whether an innovation or further development conforms to the FIS „Competition Equipment Specifications“. The Committee can at any time, however, arrange the execution of an application with regard to items of equipment to be used in competition sport, in accordance with the decisions of these guidelines.

#### **3. Prototype, samples**

The application must include a detailed description of the innovation. A prototype or sample must be submitted with the application. Relevant reports by scientific experts, as well as reports of experiences made by trainers or participants are to be submitted.

#### **4. Decisions of the Committee for Competition Equipment**

The Committee for Competition Equipment deals with these applications at its next meeting. If the Committee is of the opinion that the item being presented conforms fully to the valid Specifications for Competition Equipment, this decision will be recorded in a relevant decision.

If the Committee reaches the conclusion that the innovation could be accepted in accordance with the relevant principles and decisions of the FIS Specifications for Competition Equipment in competition sports, the innovation can be provisionally approved for testing for the duration of the following season.

This approval can, however, also be conditionally accepted. On the grounds of fairness, exceptions can be made for certain competitions (Olympic Winter Games, World Championships, etc.).

However, the Committee for Competition Equipment can also take the following measures before provisional approval. These can be dealt with individually or together:

- a) requesting further information from the applicants, such as reports by experts and technical data
- b) seeking reactions of the FIS Technical Committees. These opinions must be submitted in writing and take the following factors into consideration:
  - 1. explanation with regard to the usefulness and necessity of the innovation
  - 2. opinions with regard to the safety of the innovation
  - 3. assurance that in accepting the innovation, the principle of fairness will be guaranteed
- c) soliciting reports by experts and further information through the Committee for Competition Equipment itself.

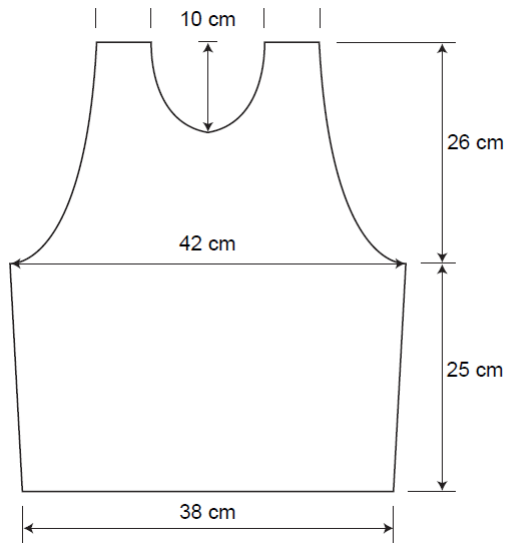
Should the innovation not conform to the principles of the FIS Specifications for Competition Equipment, either through the application itself, or during the course of the procedures, the use of the innovation in question will be forbidden for competition sport. This will also occur if, during the item's probation period, circumstances result which lead the Committee to decide that the innovation does not conform to the principles of the FIS Specifications for Competition Equipment. In such a case, the provisional approval will be rescinded, with immediate effect.

## **5. FIS Council**

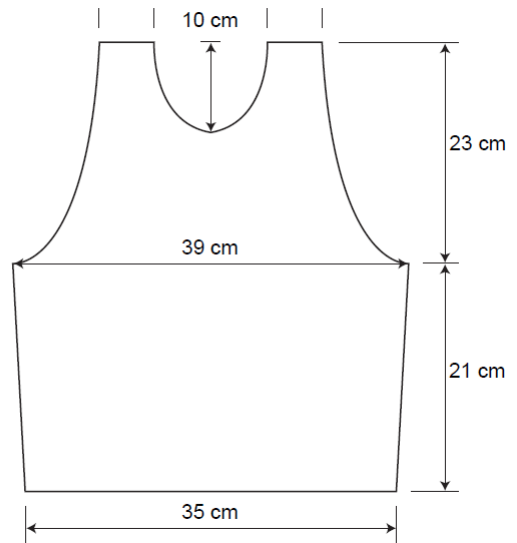
Changes in the Specifications for Competition Equipment can be proposed to the FIS Council only through the Committee for Competition Equipment - either by means of an initiative from the Committee itself or through an application of one of the National Ski Associations or Technical Committees to the Committee for Competition Equipment.

## Ski Jumping

Ski Jumping - Men:  
without elastic band

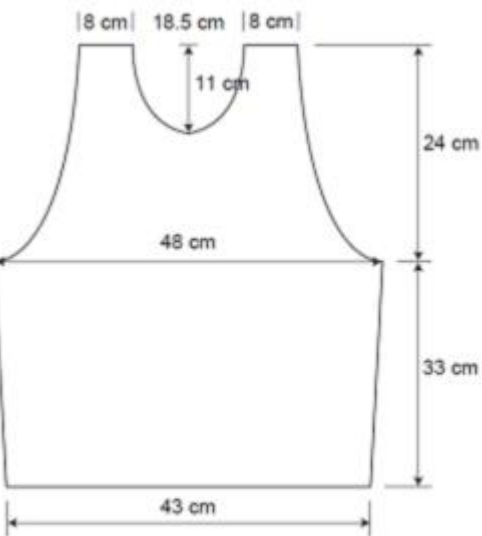


Ski Jumping - Ladies:  
without elastic band

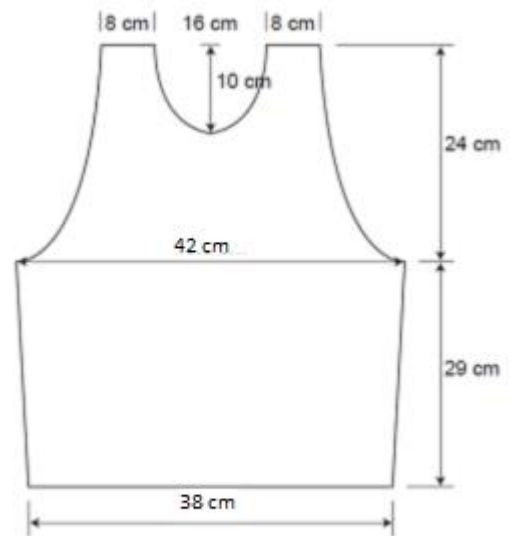


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## Alpine



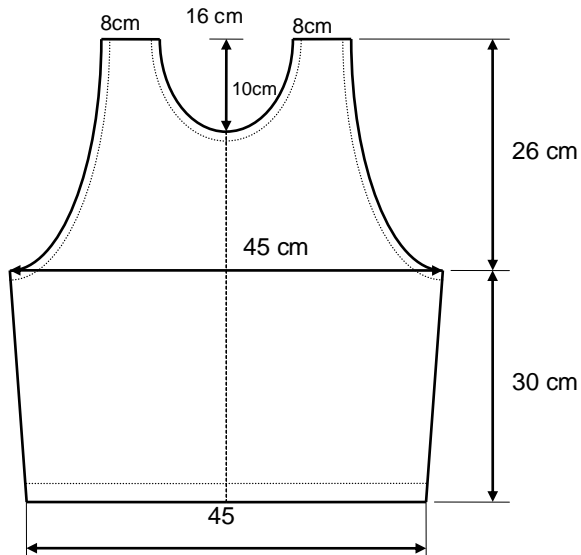
Alpine - Men:  
with elastic



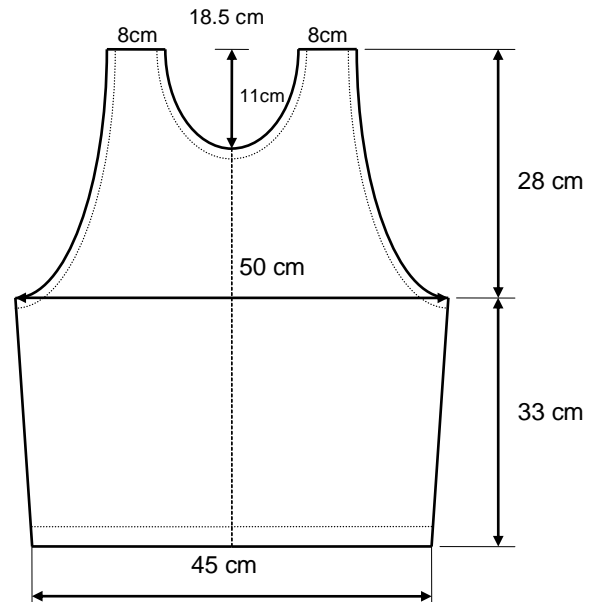
Alpine - Ladies:  
with elastic

## Freestyle Skiing Bibs

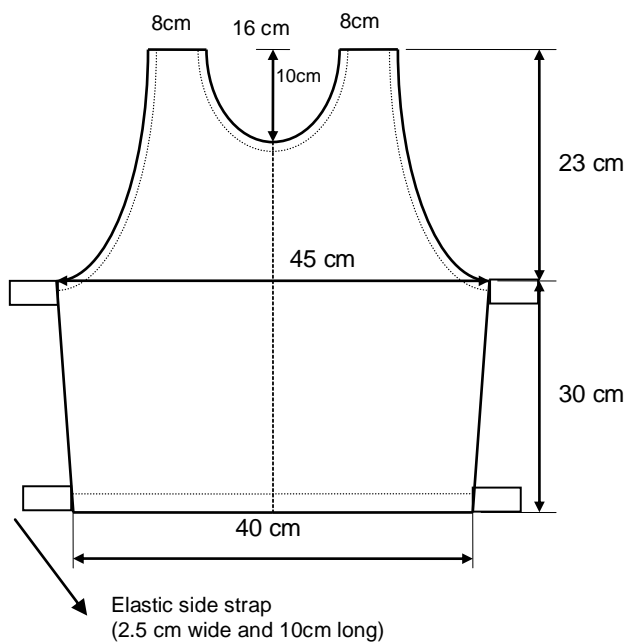
Ladies - Aerials and  
Ski Cross Qualifications



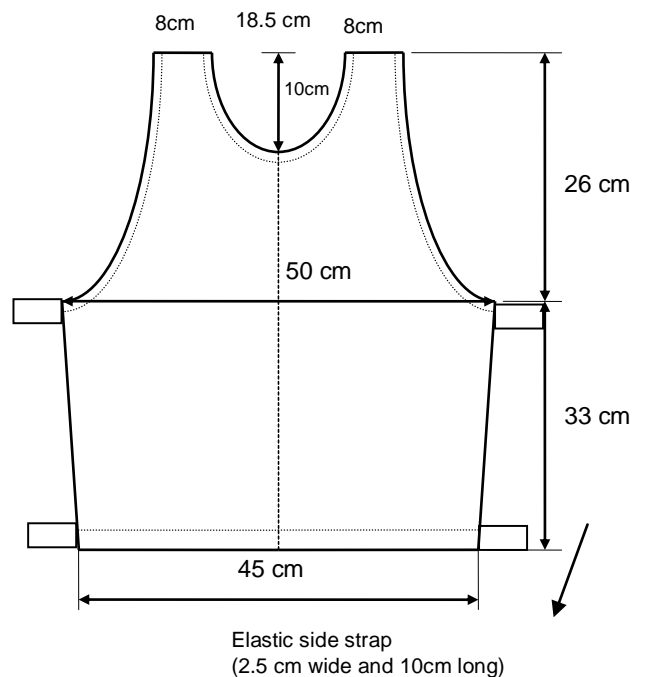
Men - Aerials and  
Ski Cross Qualifications



Ladies - Moguls, Ski Halfpipe, Ski  
Cross Finals, Ski Slopestyle - open  
sides and 4 elastic straps

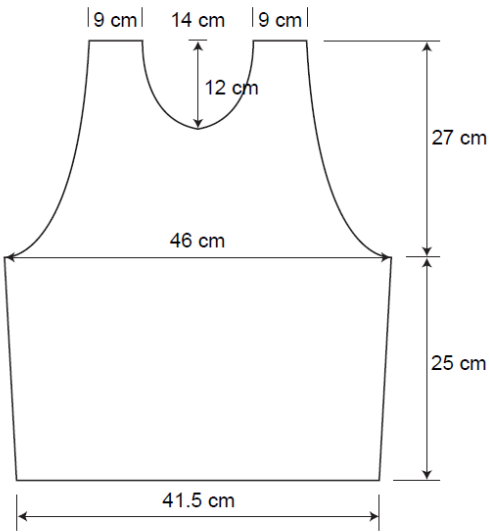


Men - Moguls, Ski Halfpipe, Ski  
Cross Finals, Ski Slopestyle - open  
sides and 4 elastic straps

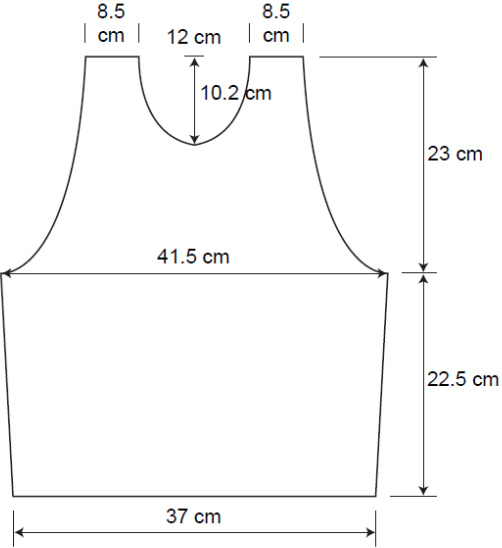




### Cross Country



Cross-Country - Men



Cross-Country - Ladies

**Measurement table for ski length and weight – BMI 21.0 – LADIES and MEN  
(valid from summer 2012)**

Body Height	A		B		C		D		E		F	
	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length
BMI / %	21.000	145.0	20.875	144.5	20.750	144.0	20.625	143.5	20.500	143.0	20.375	142.5
cm	kg	cm	kg	cm	kg	cm	kg	cm	kg	cm	kg	cm
140	41.2	203	40.9	202	40.7	202	40.4	201	40.2	200	39.9	200
141	41.8	204	41.5	204	41.3	203	41.0	202	40.8	202	40.5	201
142	42.3	206	42.1	205	41.8	204	41.6	204	41.3	203	41.1	202
143	42.9	207	42.7	207	42.4	206	42.2	205	41.9	204	41.7	204
144	43.5	209	43.3	208	43.0	207	42.8	207	42.5	206	42.2	205
145	44.2	210	43.9	210	43.6	209	43.4	208	43.1	207	42.8	207
146	44.8	212	44.5	211	44.2	210	44.0	210	43.7	209	43.4	208
147	45.4	213	45.1	212	44.8	212	44.6	211	44.3	210	44.0	209
148	46.0	215	45.7	214	45.5	213	45.2	212	44.9	212	44.6	211
149	46.6	216	46.3	215	46.1	215	45.8	214	45.5	213	45.2	212
150	47.3	218	47.0	217	46.7	216	46.4	215	46.1	215	45.8	214
151	47.9	219	47.6	218	47.3	217	47.0	217	46.7	216	46.5	215
152	48.5	220	48.2	220	47.9	219	47.7	218	47.4	217	47.1	217
153	49.2	222	48.9	221	48.6	220	48.3	220	48.0	219	47.7	218
154	49.8	223	49.5	223	49.2	222	48.9	221	48.6	220	48.3	219
155	50.5	225	50.2	224	49.9	223	49.6	222	49.3	222	49.0	221
156	51.1	226	50.8	225	50.5	225	50.2	224	49.9	223	49.6	222
157	51.8	228	51.5	227	51.1	226	50.8	225	50.5	225	50.2	224
158	52.4	229	52.1	228	51.8	228	51.5	227	51.2	226	50.9	225
159	53.1	231	52.8	230	52.5	229	52.1	228	51.8	227	51.5	227
160	53.8	232	53.4	231	53.1	230	52.8	230	52.5	229	52.2	228
161	54.4	233	54.1	233	53.8	232	53.5	231	53.1	230	52.8	229
162	55.1	235	54.8	234	54.5	233	54.1	232	53.8	232	53.5	231
163	55.8	236	55.5	236	55.1	235	54.8	234	54.5	233	54.1	232
164	56.5	238	56.1	237	55.8	236	55.5	235	55.1	235	54.8	234
165	57.2	239	56.8	238	56.5	238	56.2	237	55.8	236	55.5	235
166	57.9	241	57.5	240	57.2	239	56.8	238	56.5	237	56.1	237
167	58.6	242	58.2	241	57.9	240	57.5	240	57.2	239	56.8	238
168	59.3	244	58.9	243	58.6	242	58.2	241	57.9	240	57.5	239
169	60.0	245	59.6	244	59.3	243	58.9	243	58.6	242	58.2	241
170	60.7	247	60.3	246	60.0	245	59.6	244	59.2	243	58.9	242
171	61.4	248	61.0	247	60.7	246	60.3	245	59.9	245	59.6	244
172	62.1	249	61.8	249	61.4	248	61.0	247	60.6	246	60.3	245
173	62.9	251	62.5	250	62.1	249	61.7	248	61.4	247	61.0	247
174	63.6	252	63.2	251	62.8	251	62.4	250	62.1	249	61.7	248
175	64.3	254	63.9	253	63.5	252	63.2	251	62.8	250	62.4	249
176	65.0	255	64.7	254	64.3	253	63.9	253	63.5	252	63.1	251
177	65.8	257	65.4	256	65.0	255	64.6	254	64.2	253	63.8	252
178	66.5	258	66.1	257	65.7	256	65.3	255	65.0	255	64.6	254
179	67.3	260	66.9	259	66.5	258	66.1	257	65.7	256	65.3	255
180	68.0	261	67.6	260	67.2	259	66.8	258	66.4	257	66.0	257
181	68.8	262	68.4	262	68.0	261	67.6	260	67.2	259	66.8	258
182	69.6	264	69.1	263	68.7	262	68.3	261	67.9	260	67.5	259
183	70.3	265	69.9	264	69.5	264	69.1	263	68.7	262	68.2	261
184	71.1	267	70.7	266	70.3	265	69.8	264	69.4	263	69.0	262
185	71.9	268	71.4	267	71.0	266	70.6	265	70.2	265	69.7	264
186	72.7	270	72.2	269	71.8	268	71.4	267	70.9	266	70.5	265
187	73.4	271	73.0	270	72.6	269	72.1	268	71.7	267	71.2	266
188	74.2	273	73.8	272	73.3	271	72.9	270	72.5	269	72.0	268
189	75.0	274	74.6	273	74.1	272	73.7	271	73.2	270	72.8	269
190	75.8	276	75.4	275	74.9	274	74.5	273	74.0	272	73.6	271
191	76.6	277	76.2	276	75.7	275	75.2	274	74.8	273	74.3	272
192	77.4	278	77.0	277	76.5	276	76.0	276	75.6	275	75.1	274
193	78.2	280	77.8	279	77.3	278	76.8	277	76.4	276	75.9	275
194	79.0	281	78.6	280	78.1	279	77.6	278	77.2	277	76.7	276
195	79.9	283	79.4	282	78.9	281	78.4	280	78.0	279	77.5	278
196	80.7	284	80.2	283	79.7	282	79.2	281	78.8	280	78.3	279
197	81.5	286	81.0	285	80.5	284	80.0	283	79.6	282	79.1	281
198	82.3	287	81.8	286	81.3	285	80.9	284	80.4	283	79.9	282
199	83.2	289	82.7	288	82.2	287	81.7	286	81.2	285	80.7	284
200	84.0	290	83.5	289	83.0	288	82.5	287	82.0	286	81.5	285

Body Height	G		H		I		J		K		L	
	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length
BMI / %	20.250	142.0	20.125	141.5	20.000	141.0	19.875	140.5	19.750	140.0	19.625	139.5
cm	kg	cm	kg	cm	kg	cm	kg	cm	kg	cm	kg	cm
140	39.7	199	39.4	198	39.2	197	39.0	197	38.7	196	38.5	195
141	40.3	200	40.0	200	39.8	199	39.5	198	39.3	197	39.0	197
142	40.8	202	40.6	201	40.3	200	40.1	200	39.8	199	39.6	198
143	41.4	203	41.2	202	40.9	202	40.6	201	40.4	200	40.1	199
144	42.0	204	41.7	204	41.5	203	41.2	202	41.0	202	40.7	201
145	42.6	206	42.3	205	42.1	204	41.8	204	41.5	203	41.3	202
146	43.2	207	42.9	207	42.6	206	42.4	205	42.1	204	41.8	204
147	43.8	209	43.5	208	43.2	207	42.9	207	42.7	206	42.4	205
148	44.4	210	44.1	209	43.8	209	43.5	208	43.3	207	43.0	206
149	45.0	212	44.7	211	44.4	210	44.1	209	43.8	209	43.6	208
150	45.6	213	45.3	212	45.0	212	44.7	211	44.4	210	44.2	209
151	46.2	214	45.9	214	45.6	213	45.3	212	45.0	211	44.7	211
152	46.8	216	46.5	215	46.2	214	45.9	214	45.6	213	45.3	212
153	47.4	217	47.1	216	46.8	216	46.5	215	46.2	214	45.9	213
154	48.0	219	47.7	218	47.4	217	47.1	216	46.8	216	46.5	215
155	48.7	220	48.4	219	48.1	219	47.7	218	47.4	217	47.1	216
156	49.3	222	49.0	221	48.7	220	48.4	219	48.1	218	47.8	218
157	49.9	223	49.6	222	49.3	221	49.0	221	48.7	220	48.4	219
158	50.6	224	50.2	224	49.9	223	49.6	222	49.3	221	49.0	220
159	51.2	226	50.9	225	50.6	224	50.2	223	49.9	223	49.6	222
160	51.8	227	51.5	226	51.2	226	50.9	225	50.6	224	50.2	223
161	52.5	229	52.2	228	51.8	227	51.5	226	51.2	225	50.9	225
162	53.1	230	52.8	229	52.5	228	52.2	228	51.8	227	51.5	226
163	53.8	231	53.5	231	53.1	230	52.8	229	52.5	228	52.1	227
164	54.5	233	54.1	232	53.8	231	53.5	230	53.1	230	52.8	229
165	55.1	234	54.8	233	54.5	233	54.1	232	53.8	231	53.4	230
166	55.8	236	55.5	235	55.1	234	54.8	233	54.4	232	54.1	232
167	56.5	237	56.1	236	55.8	235	55.4	235	55.1	234	54.7	233
168	57.2	239	56.8	238	56.4	237	56.1	236	55.7	235	55.4	234
169	57.8	240	57.5	239	57.1	238	56.8	237	56.4	237	56.1	236
170	58.5	241	58.2	241	57.8	240	57.4	239	57.1	238	56.7	237
171	59.2	243	58.8	242	58.5	241	58.1	240	57.8	239	57.4	239
172	59.9	244	59.5	243	59.2	243	58.8	242	58.4	241	58.1	240
173	60.6	246	60.2	245	59.9	244	59.5	243	59.1	242	58.7	241
174	61.3	247	60.9	246	60.6	245	60.2	244	59.8	244	59.4	243
175	62.0	249	61.6	248	61.3	247	60.9	246	60.5	245	60.1	244
176	62.7	250	62.3	249	62.0	248	61.6	247	61.2	246	60.8	246
177	63.4	251	63.0	250	62.7	250	62.3	249	61.9	248	61.5	247
178	64.2	253	63.8	252	63.4	251	63.0	250	62.6	249	62.2	248
179	64.9	254	64.5	253	64.1	252	63.7	251	63.3	251	62.9	250
180	65.6	256	65.2	255	64.8	254	64.4	253	64.0	252	63.6	251
181	66.3	257	65.9	256	65.5	255	65.1	254	64.7	253	64.3	252
182	67.1	258	66.7	258	66.2	257	65.8	256	65.4	255	65.0	254
183	67.8	260	67.4	259	67.0	258	66.6	257	66.1	256	65.7	255
184	68.6	261	68.1	260	67.7	259	67.3	259	66.9	258	66.4	257
185	69.3	263	68.9	262	68.5	261	68.0	260	67.6	259	67.2	258
186	70.1	264	69.6	263	69.2	262	68.8	261	68.3	260	67.9	259
187	70.8	266	70.4	265	69.9	264	69.5	263	69.1	262	68.6	261
188	71.6	267	71.1	266	70.7	265	70.2	264	69.8	263	69.4	262
189	72.3	268	71.9	267	71.4	266	71.0	266	70.5	265	70.1	264
190	73.1	270	72.7	269	72.2	268	71.7	267	71.3	266	70.8	265
191	73.9	271	73.4	270	73.0	269	72.5	268	72.0	267	71.6	266
192	74.6	273	74.2	272	73.7	271	73.3	270	72.8	269	72.3	268
193	75.4	274	75.0	273	74.5	272	74.0	271	73.6	270	73.1	269
194	76.2	275	75.7	275	75.3	274	74.8	273	74.3	272	73.9	271
195	77.0	277	76.5	276	76.1	275	75.6	274	75.1	273	74.6	272
196	77.8	278	77.3	277	76.8	276	76.4	275	75.9	274	75.4	273
197	78.6	280	78.1	279	77.6	278	77.1	277	76.6	276	76.2	275
198	79.4	281	78.9	280	78.4	279	77.9	278	77.4	277	76.9	276
199	80.2	283	79.7	282	79.2	281	78.7	280	78.2	279	77.7	278
200	81.0	284	80.5	283	80.0	282	79.5	281	79.0	280	78.5	279

Body Height	M		N		O		P		Q		R	
	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length
BMI / %	19.500	139.0	19.375	138.5	19.250	138.0	19.125	137.5	19.000	137.0	18.875	136.5
cm	kg	cm	kg	cm	kg	cm	kg	cm	kg	cm	kg	cm
140	38.2	195	38.0	194	37.7	193	37.5	193	37.2	192	37.0	191
141	38.8	196	38.5	195	38.3	195	38.0	194	37.8	193	37.5	192
142	39.3	197	39.1	197	38.8	196	38.6	195	38.3	195	38.1	194
143	39.9	199	39.6	198	39.4	197	39.1	197	38.9	196	38.6	195
144	40.4	200	40.2	199	39.9	199	39.7	198	39.4	197	39.1	197
145	41.0	202	40.7	201	40.5	200	40.2	199	39.9	199	39.7	198
146	41.6	203	41.3	202	41.0	201	40.8	201	40.5	200	40.2	199
147	42.1	204	41.9	204	41.6	203	41.3	202	41.1	201	40.8	201
148	42.7	206	42.4	205	42.2	204	41.9	204	41.6	203	41.3	202
149	43.3	207	43.0	206	42.7	206	42.5	205	42.2	204	41.9	203
150	43.9	209	43.6	208	43.3	207	43.0	206	42.8	206	42.5	205
151	44.5	210	44.2	209	43.9	208	43.6	208	43.3	207	43.0	206
152	45.1	211	44.8	211	44.5	210	44.2	209	43.9	208	43.6	207
153	45.6	213	45.4	212	45.1	211	44.8	210	44.5	210	44.2	209
154	46.2	214	45.9	213	45.7	213	45.4	212	45.1	211	44.8	210
155	46.8	215	46.5	215	46.2	214	45.9	213	45.6	212	45.3	212
156	47.5	217	47.2	216	46.8	215	46.5	215	46.2	214	45.9	213
157	48.1	218	47.8	217	47.4	217	47.1	216	46.8	215	46.5	214
158	48.7	220	48.4	219	48.1	218	47.7	217	47.4	216	47.1	216
159	49.3	221	49.0	220	48.7	219	48.3	219	48.0	218	47.7	217
160	49.9	222	49.6	222	49.3	221	49.0	220	48.6	219	48.3	218
161	50.5	224	50.2	223	49.9	222	49.6	221	49.2	221	48.9	220
162	51.2	225	50.8	224	50.5	224	50.2	223	49.9	222	49.5	221
163	51.8	227	51.5	226	51.1	225	50.8	224	50.5	223	50.1	222
164	52.4	228	52.1	227	51.8	226	51.4	226	51.1	225	50.8	224
165	53.1	229	52.7	229	52.4	228	52.1	227	51.7	226	51.4	225
166	53.7	231	53.4	230	53.0	229	52.7	228	52.4	227	52.0	227
167	54.4	232	54.0	231	53.7	230	53.3	230	53.0	229	52.6	228
168	55.0	234	54.7	233	54.3	232	54.0	231	53.6	230	53.3	229
169	55.7	235	55.3	234	55.0	233	54.6	232	54.3	232	53.9	231
170	56.4	236	56.0	235	55.6	235	55.3	234	54.9	233	54.5	232
171	57.0	238	56.7	237	56.3	236	55.9	235	55.6	234	55.2	233
172	57.7	239	57.3	238	56.9	237	56.6	237	56.2	236	55.8	235
173	58.4	240	58.0	240	57.6	239	57.2	238	56.9	237	56.5	236
174	59.0	242	58.7	241	58.3	240	57.9	239	57.5	238	57.1	238
175	59.7	243	59.3	242	59.0	242	58.6	241	58.2	240	57.8	239
176	60.4	245	60.0	244	59.6	243	59.2	242	58.9	241	58.5	240
177	61.1	246	60.7	245	60.3	244	59.9	243	59.5	242	59.1	242
178	61.8	247	61.4	247	61.0	246	60.6	245	60.2	244	59.8	243
179	62.5	249	62.1	248	61.7	247	61.3	246	60.9	245	60.5	244
180	63.2	250	62.8	249	62.4	248	62.0	248	61.6	247	61.2	246
181	63.9	252	63.5	251	63.1	250	62.7	249	62.2	248	61.8	247
182	64.6	253	64.2	252	63.8	251	63.3	250	62.9	249	62.5	248
183	65.3	254	64.9	253	64.5	253	64.0	252	63.6	251	63.2	250
184	66.0	256	65.6	255	65.2	254	64.7	253	64.3	252	63.9	251
185	66.7	257	66.3	256	65.9	255	65.5	254	65.0	253	64.6	253
186	67.5	259	67.0	258	66.6	257	66.2	256	65.7	255	65.3	254
187	68.2	260	67.8	259	67.3	258	66.9	257	66.4	256	66.0	255
188	68.9	261	68.5	260	68.0	259	67.6	259	67.2	258	66.7	257
189	69.7	263	69.2	262	68.8	261	68.3	260	67.9	259	67.4	258
190	70.4	264	69.9	263	69.5	262	69.0	261	68.6	260	68.1	259
191	71.1	265	70.7	265	70.2	264	69.8	263	69.3	262	68.9	261
192	71.9	267	71.4	266	71.0	265	70.5	264	70.0	263	69.6	262
193	72.6	268	72.2	267	71.7	266	71.2	265	70.8	264	70.3	263
194	73.4	270	72.9	269	72.4	268	72.0	267	71.5	266	71.0	265
195	74.1	271	73.7	270	73.2	269	72.7	268	72.2	267	71.8	266
196	74.9	272	74.4	271	74.0	270	73.5	270	73.0	269	72.5	268
197	75.7	274	75.2	273	74.7	272	74.2	271	73.7	270	73.3	269
198	76.4	275	76.0	274	75.5	273	75.0	272	74.5	271	74.0	270
199	77.2	277	76.7	276	76.2	275	75.7	274	75.2	273	74.7	272
200	78.0	278	77.5	277	77.0	276	76.5	275	76.0	274	75.5	273

Body Height	S		T		U		V		Z	
	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length	Weight with suit and boots	Ski length
BMI / %	18.750	136.0	18.625	135.5	18.500	135.0	18.375	134.5	18.250	134.0
cm	kg	cm	kg	cm	kg	cm	kg	cm	kg	cm
140	36.8	190	36.5	190	36.3	189	36.0	188	35.8	188
141	37.3	192	37.0	191	36.8	190	36.5	190	36.3	189
142	37.8	193	37.6	192	37.3	192	37.1	191	36.8	190
143	38.3	194	38.1	194	37.8	193	37.6	192	37.3	192
144	38.9	196	38.6	195	38.4	194	38.1	194	37.8	193
145	39.4	197	39.2	196	38.9	196	38.6	195	38.4	194
146	40.0	199	39.7	198	39.4	197	39.2	196	38.9	196
147	40.5	200	40.2	199	40.0	198	39.7	198	39.4	197
148	41.1	201	40.8	201	40.5	200	40.2	199	40.0	198
149	41.6	203	41.3	202	41.1	201	40.8	200	40.5	200
150	42.2	204	41.9	203	41.6	203	41.3	202	41.1	201
151	42.8	205	42.5	205	42.2	204	41.9	203	41.6	202
152	43.3	207	43.0	206	42.7	205	42.5	204	42.2	204
153	43.9	208	43.6	207	43.3	207	43.0	206	42.7	205
154	44.5	209	44.2	209	43.9	208	43.6	207	43.3	206
155	45.0	211	44.7	210	44.4	209	44.1	208	43.8	208
156	45.6	212	45.3	211	45.0	211	44.7	210	44.4	209
157	46.2	214	45.9	213	45.6	212	45.3	211	45.0	210
158	46.8	215	46.5	214	46.2	213	45.9	213	45.6	212
159	47.4	216	47.1	215	46.8	215	46.5	214	46.1	213
160	48.0	218	47.7	217	47.4	216	47.0	215	46.7	214
161	48.6	219	48.3	218	48.0	217	47.6	217	47.3	216
162	49.2	220	48.9	220	48.6	219	48.2	218	47.9	217
163	49.8	222	49.5	221	49.2	220	48.8	219	48.5	218
164	50.4	223	50.1	222	49.8	221	49.4	221	49.1	220
165	51.0	224	50.7	224	50.4	223	50.0	222	49.7	221
166	51.7	226	51.3	225	51.0	224	50.6	223	50.3	222
167	52.3	227	51.9	226	51.6	225	51.2	225	50.9	224
168	52.9	228	52.6	228	52.2	227	51.9	226	51.5	225
169	53.6	230	53.2	229	52.8	228	52.5	227	52.1	226
170	54.2	231	53.8	230	53.5	230	53.1	229	52.7	228
171	54.8	233	54.5	232	54.1	231	53.7	230	53.4	229
172	55.5	234	55.1	233	54.7	232	54.4	231	54.0	230
173	56.1	235	55.7	234	55.4	234	55.0	233	54.6	232
174	56.8	237	56.4	236	56.0	235	55.6	234	55.3	233
175	57.4	238	57.0	237	56.7	236	56.3	235	55.9	235
176	58.1	239	57.7	238	57.3	238	56.9	237	56.5	236
177	58.7	241	58.4	240	58.0	239	57.6	238	57.2	237
178	59.4	242	59.0	241	58.6	240	58.2	239	57.8	239
179	60.1	243	59.7	243	59.3	242	58.9	241	58.5	240
180	60.8	245	60.3	244	59.9	243	59.5	242	59.1	241
181	61.4	246	61.0	245	60.6	244	60.2	243	59.8	243
182	62.1	248	61.7	247	61.3	246	60.9	245	60.5	244
183	62.8	249	62.4	248	62.0	247	61.5	246	61.1	245
184	63.5	250	63.1	249	62.6	248	62.2	247	61.8	247
185	64.2	252	63.7	251	63.3	250	62.9	249	62.5	248
186	64.9	253	64.4	252	64.0	251	63.6	250	63.1	249
187	65.6	254	65.1	253	64.7	252	64.3	252	63.8	251
188	66.3	256	65.8	255	65.4	254	64.9	253	64.5	252
189	67.0	257	66.5	256	66.1	255	65.6	254	65.2	253
190	67.7	258	67.2	257	66.8	257	66.3	256	65.9	255
191	68.4	260	67.9	259	67.5	258	67.0	257	66.6	256
192	69.1	261	68.7	260	68.2	259	67.7	258	67.3	257
193	69.8	262	69.4	262	68.9	261	68.4	260	68.0	259
194	70.6	264	70.1	263	69.6	262	69.2	261	68.7	260
195	71.3	265	70.8	264	70.3	263	69.9	262	69.4	261
196	72.0	267	71.5	266	71.1	265	70.6	264	70.1	263
197	72.8	268	72.3	267	71.8	266	71.3	265	70.8	264
198	73.5	269	73.0	268	72.5	267	72.0	266	71.5	265
199	74.3	271	73.8	270	73.3	269	72.8	268	72.3	267
200	75.0	272	74.5	271	74.0	270	73.5	269	73.0	268

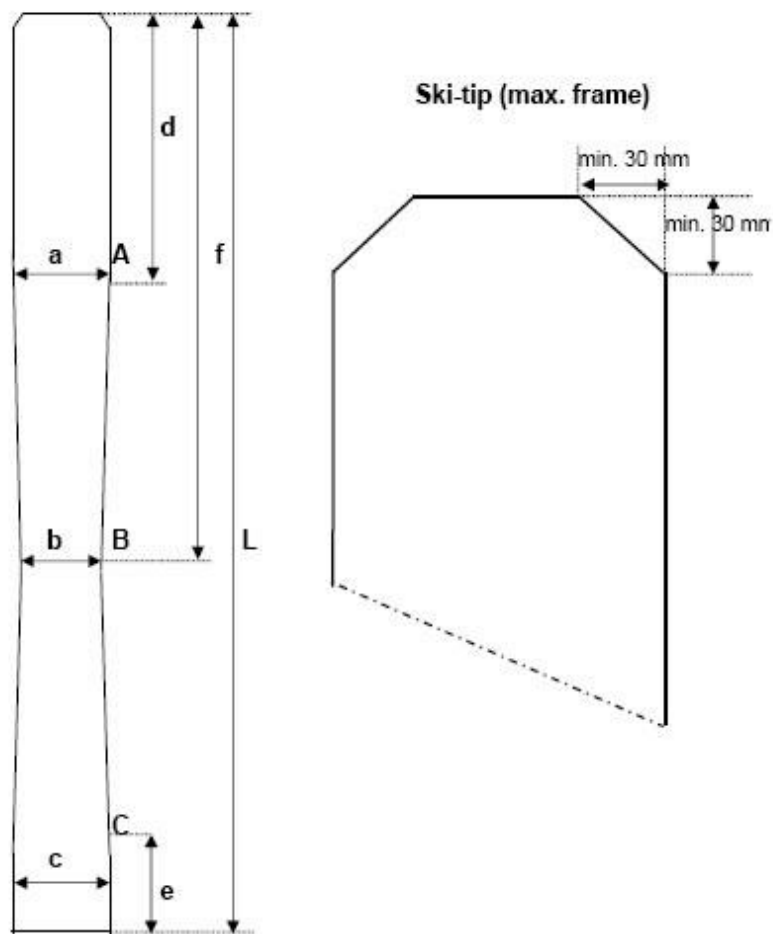
## Measurement table for mounting of Ski Jumping Bindings

Masstabelle für Montage der Skisprungbindung						Masstabelle für Montage der Skisprungbindung					
Measuring table for mounting of jumping bindings						Measuring table for mounting of jumping bindings					
ab Saison 2010/2011 - as from Season 2010/2011						ab Saison 2010/2011 - as from Season 2010/2011					
Body Height Körpergröße	Ski length 145% Skilänge 145%	Front ski = 57% Vorderski = 57%		Body Height Körpergröße	Ski length 145% Skilänge 145%	Front ski = 57% Vorderski = 57%		Body Height Körpergröße	Ski length 145% Skilänge 145%	Front ski = 57% Vorderski = 57%	
cm	cm	cm		cm	cm	cm		cm	cm	cm	
140	203	116		155	225	128		185	268	153	
141	204	116		156	226	129			269	153	
	205	117			227	129		186	270	154	
142	206	117		157	228	130		187	271	154	
143	207	118		158	229	131			272	155	
	208	119			230	131		188	273	156	
144	209	119		159	231	132		189	274	156	
145	210	120		160	232	132			275	157	
	211	120		161	233	133		190	276	157	
146	212	121			234	133		191	277	158	
147	213	121		162	235	134		192	278	158	
	214	122		163	236	135			279	159	
148	215	123			237	135		193	280	160	
149	216	123		164	238	136		194	281	160	
	217	124		165	239	136			282	161	
150	218	124			240	137		195	283	161	
151	219	125		166	241	137		196	284	162	
152	220	125		167	242	138			285	162	
	221	126			243	139		197	286	163	
153	222	127		168	244	139		198	287	164	
154	223	127		169	245	140			288	164	
	224	128						199	289	165	
								200	290	165	

<b>Jugend Cup - Masstabelle für Skilänge und Bindungsmontage</b>						
<b>Youth Cup - Measuring table for Ski length and mounting of the bindings</b>						
ab Saison 2010/2011 - as from Season 2010/2011						
<b>Body Height Körpergröße</b>	<b>Ski length = 140% Skilänge = 140%</b>	<b>Front ski = 57% Vorderski = 57%</b>		<b>Body Height Körpergröße</b>	<b>Ski length = 140% Skilänge = 140%</b>	<b>Front ski = 57% Vorderski = 57%</b>
<b>cm</b>	<b>cm</b>	<b>cm</b>		<b>cm</b>	<b>cm</b>	<b>cm</b>
125	175	100		156	218	124
126	176	100			219	125
	177	101		157	220	125
127	178	101		158	221	126
128	179	102			222	127
	180	103		159	223	127
129	181	103		160	224	128
130	182	104		161	225	128
131	183	104			226	129
	184	105		162	227	129
132	185	105		163	228	130
133	186	106			229	131
	187	107		164	230	131
134	188	107		165	231	132
135	189	108		166	232	132
136	190	108			233	133
	191	109		167	234	133
137	192	109		168	235	134
138	193	110			236	135
	194	111		169	237	135
139	195	111		170	238	136
140	196	112		171	239	136
141	197	112			240	137
	198	113		172	241	137
142	199	113		173	242	138
143	200	114			243	139
	201	115		174	244	139
144	202	115		175	245	140
145	203	116		176	246	140
146	204	116			247	141
	205	117		177	248	141
147	206	117		178	249	142
148	207	118			250	143
	208	119		179	251	143
149	209	119		180	252	144
150	210	120		181	253	144
151	211	120			254	145
	212	121		182	255	145
152	213	121		183	256	146
153	214	122			257	146
	215	123		184	258	147
154	216	123		185	259	148
155	217	124		186	260	148

**Article 1.2.1.2: Precision of the Profile Width**

L	Ski length
a	max. width at front portion = 115 mm
b	max. width at 57% of front portion (f) = 105 mm
c	max. width at tail portion = 115 mm
d	max. length between tip and begin of sidecut = 300 mm
e	max. length between tail and begin of sidecut = 150 mm
f	control point of b

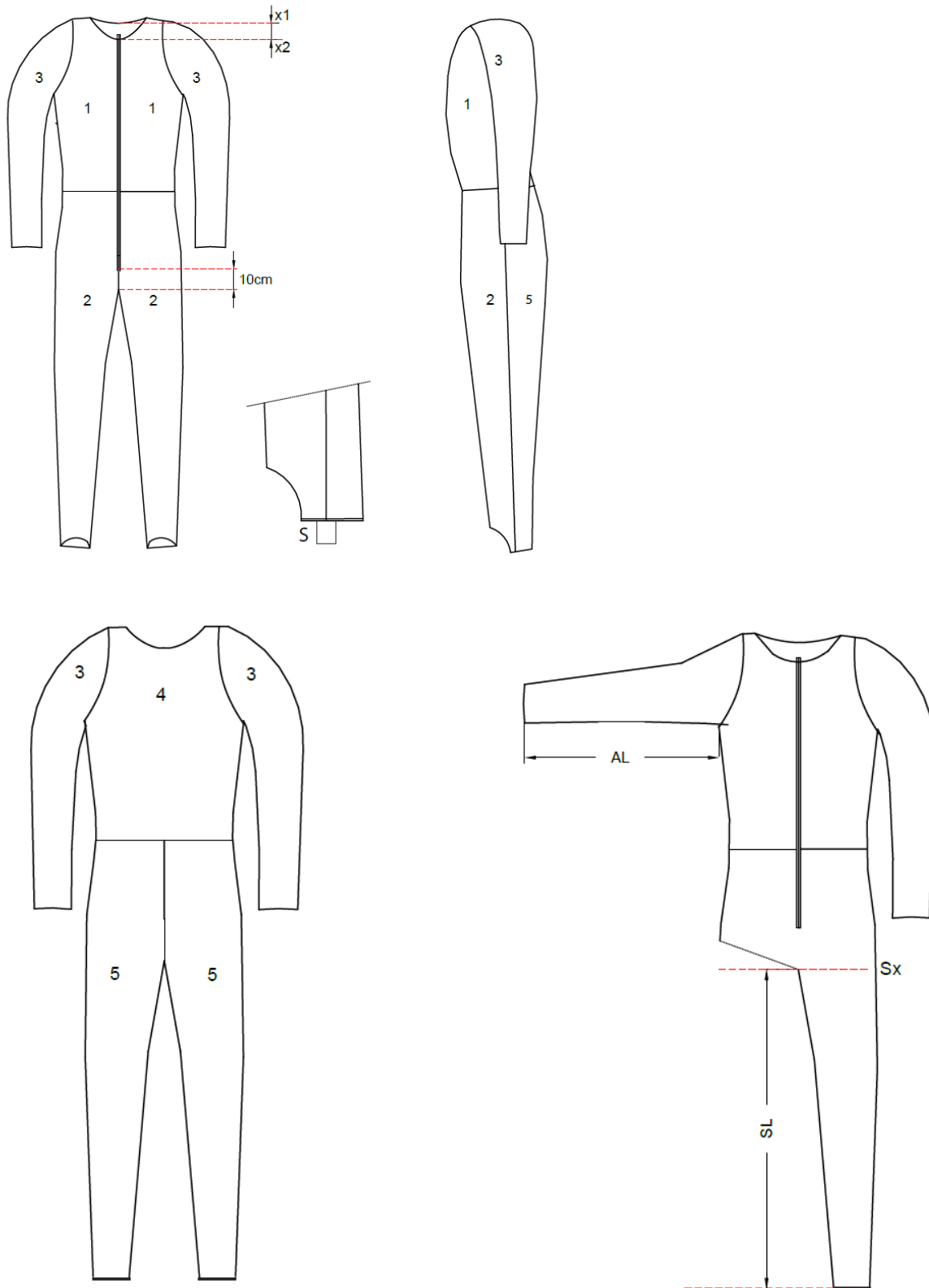




### Ski Jumping Suits for Men

Standardized measuring control points and number of parts of material of which the suits consist

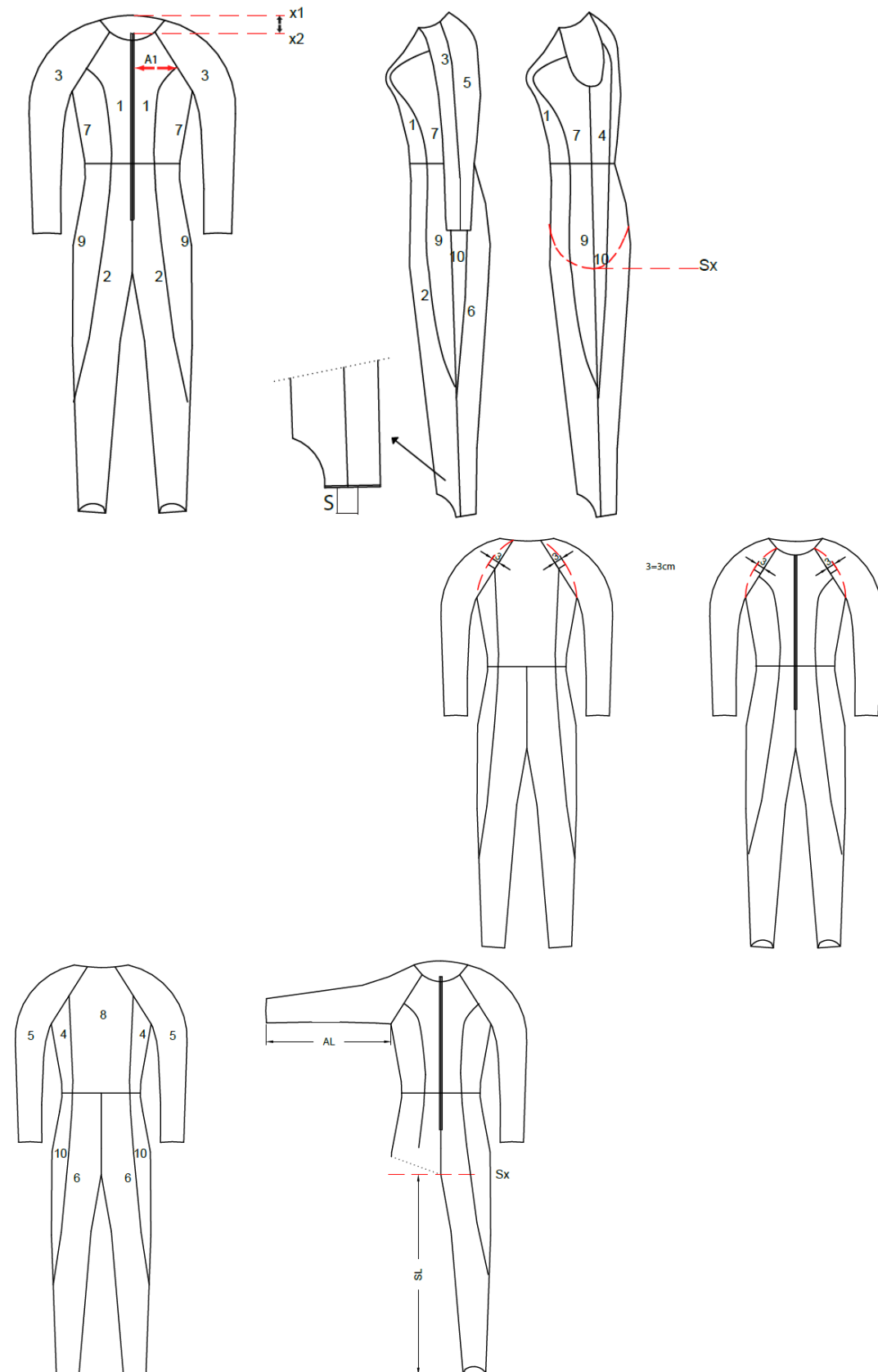
Valid is the image 1.1b (men) dated 11.06.2012



### Ski Jumping Suits for Ladies

Standardized measuring control points and number of parts of material of which the suits consist

Valid is the image 1.3b (ladies) dated 11.06.2012



## Determination of ski length and side cut radius

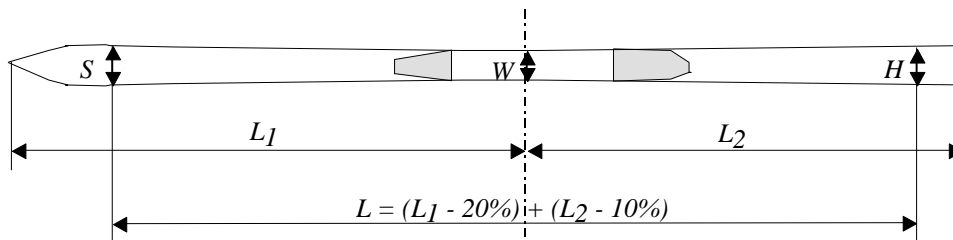
### Ski length

To control the ski length, the developed length (flat material length) is used.

### Side cut radius

The rear and front ski lengths are measured starting from the narrowest point of the ski. In order to avoid that the entire side cut radius becomes distorted by the different geometries of the tail and tip, the rear ski width is recorded at 90% of the measured rear ski length whilst the front ski width is recorded at 80% of the measured front ski length.

The length is measured using a measuring tape with a precision of 1 mm and the width using calipers providing a precision of 1/10 mm.



The side cut radius  $R$  is calculated by using the following formula:

$$R = \frac{L^2}{2000 * (S + H - 2 * W)}$$

$L$ ,  $S$ ,  $H$  and  $W$  must be given in mm.  $R$  is given in m.

If the side cut radius lies below the valid limit set by the rules after the first measurement, the measurement including the calculations must be repeated three times. The arithmetic mean  $X_R$  calculated from these three side cut measurements. To account for measurement errors in the length and width, the side cut radius is recorded as  $1.015 X_R$ . This figure will reflect a measurement error of 1.5% on average.  $1.015 X_R$  must be greater than or equal to the valid radius limit set by the rules.

Since the formula of the existing measuring method intends to reflect the unadulterated (undistorted) measurement of a side cut radius, this assumes that a continuously differentiable and monotonous curvature shall be maintained between point "S" and point "H", i.e. without any turning point in-between those two points.

In order to reflect the above, it is clarified that the radius determination assumes that:

At any point on the distance from W to H the width has to be smaller than at H.

At any point on the distance from W to S the width has to be smaller than at S.

If any of the above assumptions are not fulfilled, the concerned ski cannot be found as conform to the specifications.

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



Minimum Width : **10 Mm**

Minimum height : **15 Mm**

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



Width: 30 Mm

Heihgt: 45 Mm

## Commercial Markings on Equipment

### 1. General Principles

Athletes may display on their Competition Equipment a commercial marking (wording or logo) specifically permitted by para. 2.1 to 2.6 per product.

All other forms of commercial markings or advertising are not permitted if they are not explicitly mentioned.

The privilege of attaching Manufacturer's Identifications to Competition Equipment shall be exceptional and strictly limited to Effective Manufacturers. FIS recognizes as an Effective Manufacturer only those enterprises which meet, in the FIS own discretion, the Definition in Chapter A, para. 1.1 of these specifications.

Companies which are typically not engaged in the equipment manufacturing but produce certain equipment items mainly for the purpose of advertising shall not be allowed to benefit from the Manufacturer's Identification privilege.

Specifications concerning the size, the form and the number of commercial markings must be decided by the FIS (Council).

No commercial markings which appear on any Competition Equipment may be displayed on bibs or on clothing unless such commercial marking is a Manufacturer's Identification of that particular Competition Equipment.

### 2. Actual specifications

#### 2.1 *Skis, boots, bindings, ski poles, arm and leg protection, etc.*

2.1.1 Skis, ski boots, bindings, ski poles, separate arm and leg protection and other hardware are permitted to be used at FIS competitions with their commercially available designs and may only bear the Manufacturer's Identification as defined in Chapter A, para. 1.2 of these specifications.

2.1.2 The size of the commercial markings on the arm and leg protection is limited to one marking of 12 cm<sup>2</sup> on each item of equipment.

Other sponsor markings on arm and leg protection are permitted, if those protections are part of the clothing and within the specifications of art. 2.4 (3 - 4 parts).

There is an exception for jumping skis: Please see art. 2.6.3.

A commercial marking of the actual producer on the hand protector of ski poles is permitted. The marking may be divided into two parts per individual hand protector. The total surface area of the commercial markings per hand protector is limited to 15 cm<sup>2</sup>.

#### 2.1.3 Ski straps

Only hardware (skis, ski boots, bindings, ski poles) and wax suppliers are permitted to have advertising on ski straps.

No commercial advertising is permitted. Maximum 2 ski straps per pair of skis, for example one hardware and one wax supplier.

2.2 *Gloves*

A commercial marking of the actual producer of the glove is permitted. The marking may be divided into two parts per individual glove. The total surface area of the commercial markings per glove is limited to 15 cm<sup>2</sup>.

2.3 *Goggles*

Goggle-straps may carry two commercial markings of the actual producer, no larger than 15 cm<sup>2</sup> each in an unstretched position. A moulded logo may appear on the frame centrally on the forehead. This logo must be the same colour as the frame.

Straps shall not measure more than 4 cm in width. In case of double straps only one strap may carry the commercial markings. Lenses must be free of advertising.

Straps (without goggles) with commercial markings of goggle suppliers may not be worn.

2.4 *Clothing*

2.4.1 Articles of clothing may carry commercial markings belonging to the manufacturer and/or to other sponsors (as defined in art. 2.6)

2.4.2 The total surface area of all commercial markings on the clothing of one person shall not exceed 450 cm<sup>2</sup>.

The maximum surface area for a single marking is 100 cm<sup>2</sup>.

Commercial markings of the same sponsor may not appear one above the other or one beside the other.

The National Association may decide on the placing of commercial markings.

2.4.3 Roll necks may in addition to the 450 cm<sup>2</sup> also display the manufacturer's trademark and/or sponsor, which may also be divided into two parts, with a maximum total surface area of 20cm<sup>2</sup>.

2.4.4 A military symbol (emblem), indicating the national military organisation and similar organisations may be displayed on warm-up suits (not on headgear or race suits), with a maximum size of 20 cm<sup>2</sup>. This symbol is not included within the 450 cm<sup>2</sup> total surface area of the commercial markings. This applies also to markings of charitable organisations.

2.5 *Helmets and Headgear*

2.5.1 Helmets and headwear may carry two commercial markings of the manufacturer with a maximum size of 15 cm<sup>2</sup>, one on each side, placed over the ears. The front of helmets and headwear may only be used for the emblems of national teams, and sponsors, subject to art. 2.5.2.

2.5.2 The front (middle) of helmets and all headwear worn in competition and within the competition area, to include flower and prize-giving ceremonies, interviews etc., must carry the identification of the national ski association with a minimum size of 6 cm<sup>2</sup>.

A National Association may sign sponsorship contracts for helmet/headwear advertising rights of up to a maximum of 50 cm<sup>2</sup> (which may be divided between 2 identical - same size - logos) with firms who are not suppliers of ski equipment (hardware or outerwear), subject to the regulations of each National Association. In such a case, the front of helmets and headwear must carry the identification of the national ski association with a minimum size of 6 cm<sup>2</sup>.

The relevant advertising must be placed either to the side of or above the identification of the national ski association. The free space between the national ski association's identification (middle front of headgear) and the sponsor's advertising (50 cm<sup>2</sup>) must be at least 1 cm.

For headbands the relevant advertising may be placed at the front of the headband, with the identification of the national ski association to the side. No advertising is allowed on the movable or integrated chin straps of helmets.

Additionally it is not permitted to depict a website address which refers directly to the athlete, on headgear or other clothing. Names which appear on equipment or components (skis, bindings, poles, boots, crash-helmets, wax companies, etc.) may not be used on starting bibs and competition suits. In the case a hardware producer also produces outerwear materials this can be allowed if a different brand, not including the original hardware brand, is used.

2.5.3 Helmets and headgear worn in competition may carry the name of an athlete. The athlete name with a maximum size of 20 cm<sup>2</sup> must be placed at the back of the helmet or, on the rear of a hat/headband for Cross-Country, Nordic Combined, namely when a helmet is not worn. The athlete name can only consist of the full name of the athlete in a standard font and size defined by FIS which is the same for all athletes.

## 2.6 *Other sponsors*

2.6.1 A National Association may sign sponsorship contracts with firms which are not suppliers of ski equipment (hardware and software) See also ICR art. 206.

2.6.2 The dimensions of commercial markings of such sponsors must conform to the specifications in art. 2.1., art. 2.4. or art. 2.5.

2.6.3 Jumping skis: The dimensions of commercial markings of such a sponsor on jumping skis are limited to a total surface area of 160 cm<sup>2</sup> per ski. Only one commercial marking per ski is permitted, and the marking must be identical on both skis.

2.6.4 Aerial skis: The dimensions of commercial markings of such a sponsor on aerial skis are limited to a total surface of 120 cm<sup>2</sup> per ski. Only one commercial marking per ski is permitted and the marking must be identical on both skis.

2.6.5 Snowboards: the base bottom of snowboards may only carry the recognized commercial markings of the effective producer. The top of snowboards may carry the commercial markings of the effective producer and up to five (5) other sponsors within a total size of 250 cm<sup>2</sup>, according to the regulations of the relevant National Association.

2.7 *Accessories*

2.7.1 Fanny packs, drinking bottles, mobile phones and other gadgets

The commercial markings belong to the NSA.

The size of commercial markings is limited to a maximum of 50 cm<sup>2</sup>. The space can be used by the actual producer of the product or a commercial sponsor of the National Ski Association.

2.7.2 To avoid obstructing the view of the bib sponsor during the winners' presentation and/or award ceremony, all items mentioned in 2.7.1 cannot be worn in front of the leader board or on the podium during winners' presentation and/or the award ceremony.

2.8 All specifications also apply for officials, coaches, technicians, support personnel and forerunners.



## **II. By-laws for commercial markings and for advertising**

### **A. Commercial markings**

A.1 Trade names, brand names and logos of other products cannot be used as model names or be shown on ski equipment, except jumping skis and freestyle aerial skis.

A.2 Clothing or helmets shall not represent or simulate the logo or product of a manufacturer or sponsor.

#### *A.3 Measuring*

A.3.1 The size of the commercial marking is the surface area within the actual outline of the marking. The measuring is done in an un-stretched state.

A.3.2 If the marking is contained within an area of different colour, the total surface area of the different colour is to be measured.

A.3.3 The accuracy of measurement of all markings is the responsibility of the respective National Association.

A.3.4 For approval of commercial markings, it is strongly recommended to send a copy of all commercial markings in their original size, form and colour to the FIS before use. This should be done before October 1st or before the corresponding season begins in the Southern Hemisphere.

### **B. Advertising with athletes**

B.1 Advertising with athletes is allowed subject to the permission of the National Association.

B.2 Names, titles and illustrations of particular athletes can only be used in advertising with the permission of the National Association.

#### *B.3 Not allowed in advertising with athletes:*

B.3.1 Any kind of advertising with alcohol, tobacco, commercial betting companies and drugs.

B.3.2 The use of names, illustrations and titles of skiers for product names or product designs.

B.3.3 Any direct statement or active product presentation.

B.3.4 Any religious or racial discrimination

### **C. The above rules also apply in connection with press information or PR activities.**