



**International  
Standard**

**ISO 6289**

**Skis — Vocabulary**

*Skis — Vocabulaire*

**Third edition  
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## Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 83, *Sports and other recreational facilities and equipment*, Subcommittee SC 4 *Snowsports equipment*.

This third edition cancels and replaces the second edition (ISO 6289:2003), which has been technically revised. It also incorporates the Technical Corrigendum ISO 6289:2003/Cor 1:2005.

The main changes are as follows:

- many terms and definitions have been amended, deleted or added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Skis — Vocabulary

## 1 Scope

This document defines terms for the specification of important characteristics of alpine skis, cross-country skis (XC-skis) and snowboards.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1 Terms related to ski

#### 3.1.1

##### **ski**

sliding skid of narrow width in relation to its length, with the front end turned up in a radius to ride over obstacles, used as a sporting and recreational device for sliding on snow, ice and artificial snow, but also serving other purposes

Note 1 to entry: The term “ski” does not include use under other conditions, for example sliding on plastic mats, unless this is clearly stated by the manufacturer. In this document, the term “ski” is used to refer to the different types of snow skis.

Note 2 to entry: In the English language, the term “snow ski” is sometimes used in alpine and Nordic skiing. A similar term does not exist in German and French.

### 3.2 Terms related to alpine skiing

#### 3.2.1

##### **alpine ski**

snow *ski* (3.1.1) used for sliding down slopes as a result of gravitational force

Note 1 to entry: The control of direction and speed is accomplished through combined motion in the longitudinal and lateral directions of the ski. In order to transmit the steering forces, the edges of the *running surface* (4.1.1) are generally equipped with hard and wear-resistant materials.

#### 3.2.2

##### **mountaineering ski**

##### **alpine touring ski**

##### **randonnee ski**

*alpine ski* (3.2.1) designed for the ascent and descent of mountains

Note 1 to entry: Usually, mountaineering skis include so-called touring bindings which allow heel lift in the ascent phase. Normally, the ski is light, short and wide.

**3.2.3**

**snowfield slider**

**figl**

**skiboard**

**firnslider**

*ski* (3.1.1) used for sliding down snowfields

Note 1 to entry: Generally, the length of a snowfield slider does not exceed twice the length of the boot.

**3.2.4**

**downhill ski**

*alpine ski* (3.2.1) intended for downhill competitions in which high speeds are attained according to the downhill racing rules or with similar specifications for non-competitive use

**3.2.5**

**slalom ski**

*alpine ski* (3.2.1) intended for slalom competitions according to the slalom racing rules or with similar specifications for non-competitive use

**3.2.6**

**giant-slalom ski**

*alpine ski* (3.2.1) intended for giant-slalom competitions according to the giant-slalom racing rules or with similar specifications for non-competitive use

**3.2.7**

**freestyle ski**

**park and pipe ski**

**twintip ski**

**terrain park ski**

*alpine ski* (3.2.1) intended to be used in freestyle competitions according to the freestyle rules or with similar specifications for non-competitive use

**3.2.8**

**junior ski**

*ski* (3.1.1) intended to be used by persons of 9 years to 15 years of age

**3.2.9**

**children's ski**

*ski* (3.1.1) intended to be used by persons of 9 years of age and younger

**3.2.10**

**speed ski**

*alpine ski* (3.2.1) intended for speed competitions according to the speed racing rules or with similar specifications for non-competitive use

**3.2.11**

**super-G ski**

*alpine ski* (3.2.1) intended for super-G competitions according to the super-G racing rules or with similar specifications for non-competitive use

**3.2.12**

**rocker**

*alpine ski* (3.2.1) with a negative curve and with extended shovel length and/or tail turn-up length

Note 1 to entry: Rocker is a design feature.

**3.2.13**

**freeride ski**

*ski* (3.1.1) that is specially designed for non-groomed slopes

**3.2.14**

**powder ski**

*ski* (3.1.1) specially designed for powder snow

**3.3 Terms related cross-country skiing**

**3.3.1**

**cross-country ski**

**XC-ski**

**nordic ski**

snow *ski* (3.1.1) designed for skiing over flat and hilly terrain

**3.3.2**

**cross-country racing ski**

*cross-country ski* (3.3.1) designed for use in cross-country competitions

Note 1 to entry: Design emphasis is placed on light weight in addition to gliding ease in well-prepared tracks.

**3.3.3**

**back-country touring ski**

*ski* (3.1.1) intended to be used in back country as well as in touring areas

**3.3.4**

**cross-country adult's ski**

*ski* (3.1.1) intended to be used by adult persons who are 16 years of age and older

**3.3.5**

**cross-country junior ski**

*ski* (3.1.1), usually of the same construction as an adult's ski but shorter, intended for juniors of 10 years to 15 years of age

**3.3.6**

**cross-country children's ski**

*ski* (3.1.1), usually of a special construction, intended to be used by children who walk rather than glide on the snow and are 9 years of age and younger

**3.4 Terms related to snowboarding**

**3.4.1**

**snowboard**

single-plane device ridden with a sideways stance with the feet angled to the longitudinal axis of the device

**3.4.2**

**alpine snowboard**

*snowboard* (3.4.1) designed for the practice of alpine type of riding, especially competition oriented

**3.4.3**

**free-ride snowboard**

*snowboard* (3.4.1) for the purpose of riding the mountains on natural terrain with different snow conditions

**3.4.4**

**free-style snowboard**

*snowboard* (3.4.1) for the purpose of doing tricks and manoeuvres adopted directly from skateboarding

**3.4.5**

**goofy**

stance on the *snowboard* (3.4.1) with the right foot forward

**3.4.6**

**regular**

stance on the *snowboard* (3.4.1) with the left foot forward

3.4.7

**split board**

snowboard (3.4.1) divisible in two or more parts for the purpose of ascent and reassembled for descent

3.5 Terms related to specific skis

3.5.1

**monoski**

single-plane sliding ski (3.1.1) ridden with the feet parallel to the longitudinal axis of the ski

3.5.2

**telemark skiing**

type of alpine skiing technique where the heel of the boot is not fixed during downhill skiing

4 Terms related to design features

4.1 Terms related to functional ski elements

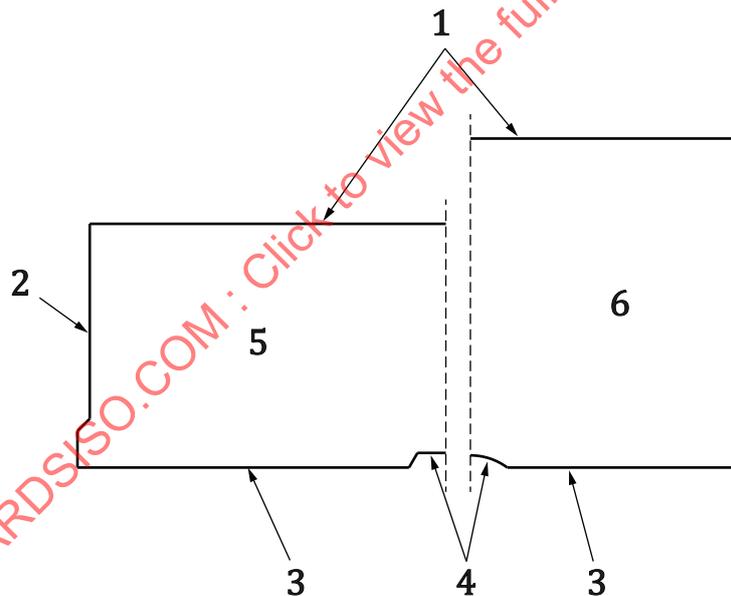
4.1.1

**bottom surface**

**running surface**

underside of the ski (3.1.1) which interfaces the snow when skiing

Note 1 to entry: See [Figure 1](#).



**Key**

- 1 top surface (4.1.2)
- 2 side surface (4.1.3)
- 3 bottom surface
- 4 bottom groove (4.1.4)
- 5 alpine ski (3.2.1)
- 6 cross-country ski (3.3.1)

**Figure 1 — Functional ski elements**

4.1.2

**top surface**

side of the *ski* (3.1.1) opposite to the *bottom surface* (4.1.1)

Note 1 to entry: See [Figure 1](#).

4.1.3

**side surface**

surface which borders the sides of the *ski* (3.1.1)

Note 1 to entry: See [Figure 1](#).

4.1.4

**bottom groove**

concave recess running longitudinally along the *bottom surface* (4.1.1) of the *ski* (3.1.1)

Note 1 to entry: See [Figure 1](#).

4.1.5

**bottom-surface edge**

intersection of *bottom surface* (4.1.1) and *side surface* (4.1.3)

4.2 Terms related to ski sections

4.2.1

**ski tip**

extreme forward point of the *ski* (3.1.1)

4.2.2

**ski tail**

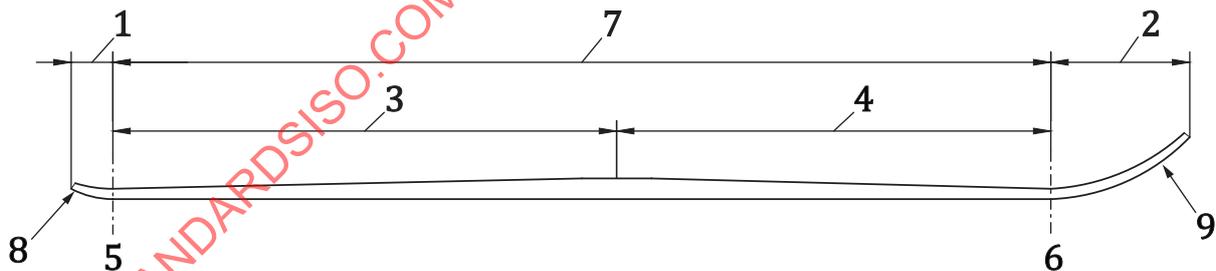
extreme rear-edge point of the *ski* (3.1.1)

4.2.3

**ski shovel**

forward section of the *ski* (3.1.1), which is turned up in order to ride easily over obstacles

Note 1 to entry: See [Figure 2](#).



**Key**

- |   |                                  |   |                              |
|---|----------------------------------|---|------------------------------|
| 1 | tail turn-up (4.2.7)             | 6 | forward contact line (4.2.4) |
| 2 | ski shovel / tip turn up (4.2.8) | 7 | body of ski (4.2.6)          |
| 3 | afterbody of ski (4.2.10)        | 8 | ski tail (4.2.2)             |
| 4 | forebody of ski (4.2.9)          | 9 | ski tip (4.2.1)              |
| 5 | rear contact line (4.2.5)        |   |                              |

**Figure 2 — Ski sections**

#### 4.2.4

##### **forward contact line**

forwardmost contact line between the *bottom surface* (4.1.1) of the *ski* (3.1.1) and a flat surface against which the ski body is pressed

Note 1 to entry: See [Figure 2](#).

#### 4.2.5

##### **rear contact line**

rearmost contact line between the *bottom surface* (4.1.1) of the *ski* (3.1.1) and a flat surface against which the ski body is pressed

Note 1 to entry: See [Figure 2](#).

#### 4.2.6

##### **body of ski**

part of the *ski* (3.1.1) between the *forward contact line* (4.2.4) and the *rear contact line* (4.2.5)

Note 1 to entry: See [Figure 2](#).

#### 4.2.7

##### **tail turn-up**

turned-up portion of the *ski* (3.1.1) rearward of the *rear contact line* (4.2.5)

Note 1 to entry: See [Figure 2](#).

#### 4.2.8

##### **tip turn-up**

turned-up portion of the *ski* (3.1.1) forward of the *forward contact line* (4.2.4)

#### 4.2.9

##### **forebody of ski**

front half of the *ski* (3.1.1) body towards the shovel

Note 1 to entry: See [Figure 2](#).

#### 4.2.10

##### **afterbody of ski**

rear half of the *ski* (3.1.1) body towards the *tail turn-up* (4.2.7)

Note 1 to entry: See [Figure 2](#).

#### 4.2.11

##### **neutral plane**

plane internal to the *ski* (3.1.1) where no bending stresses occur when the ski is bent perpendicular to its *bottom surface* (4.1.1)

### 4.3 Terms related to types of construction

#### 4.3.1

##### **sandwich construction**

composite structure in which the *ski core* (4.4.3) is reinforced above and below with materials of higher strength and higher Young's modulus than the core itself

Note 1 to entry: These reinforcing materials are generally distributed over the entire width and length of the ski. The ski core may be partly hollow and made from a variety of materials, such as wood or polyurethane.

**4.3.2**

**box construction**

composite structure in which the load-carrying members are built as a combination of webs and flanges arranged in box form following the external shape of the ski cross-section or partly in the interior of the ski

Note 1 to entry: The ski core may be partly hollow and made from a variety of materials, such as wood or poly-urethane.

**4.3.3**

**wood ski**

ski (3.1.1) with wood core (4.4.3), not having load-carrying layers of higher strength and higher Young's modulus than wood, except the steel edge

**4.3.4**

**metal ski**

sandwich or box structure where the load-carrying layers are metal, normally aluminium alloy

Note 1 to entry: The core (4.4.3) material may be partly hollow and made from a variety of materials, such as wood or polyurethane.

**4.3.5**

**fibreglass ski**

sandwich construction (4.3.1) or box construction (4.3.2) where the load-carrying facings (except the steel edges or metal top edges) are made from glass fibre-reinforced plastics

Note 1 to entry: The core (4.4.3) material may be partly hollow and made from a variety of materials, such as wood or polyurethane.

**4.3.6**

**carbon or aramid fibre ski**

sandwich construction (4.3.1) or box construction (4.3.2) where the load-carrying facings (except the steel edges or metal top edges) are made from carbon fibre-reinforced plastics, aramid fibre or other fibre, usually in combination with glass fibres

Note 1 to entry: The core (4.4.3) may be partly hollow and made from a variety of materials, such as wood or polyurethane.

**4.3.7**

**fibre-metal ski**

ski (3.1.1) with load-carrying layers which consist of a combination of fibre-reinforced plastics and metals

Note 1 to entry: The core (4.4.3) may be partly hollow and made from a variety of materials, such as wood or polyurethane.

**4.3.8**

**asymmetrical**

ski (3.1.1) or snowboard (3.4.1) which is designed asymmetrically along the longitudinal axis

**4.3.9**

**twin-tip snowboard**

snowboard (3.4.1) with turned-up tips

**4.3.10**

**cap construction**

form of sandwich construction (4.3.1) with a continuous peripheral envelope, forming the top surface (4.1.2) and whole or part of the sides

**4.3.11**

**shell construction**

form of box construction (4.3.2) with a continuous peripheral envelope, the top surface (4.1.2) and whole or part of the sides forming the structure of the ski

## 4.4 Terms related to ski elements

### 4.4.1

#### **load-caring layer**

facing of materials of high strength and high Young's modulus located near the outer zones of the *top surfaces* (4.1.2) and *bottom surfaces* (4.1.1) of the ski, which, when the ski is bent, carry in one layer tensile stress (tensile facing) and in one layer compressive stress (compression facing) only

### 4.4.2

#### **load-carrying web**

##### **rib**

layer of materials of high strength and high Young's modulus which are usually arranged parallel to the *side surfaces* (4.1.3) of the *ski* (3.1.1) in combination with the top and bottom facings, forming a box-like structure that carries bending and shear stresses

### 4.4.3

#### **core**

structural element situated between the load-carrying layers and webs

### 4.4.4

#### **insert**

commonly threaded attachment points permanently fixed in the *ski* (3.1.1) or *snowboard* (3.4.1), used to mount the bindings to the ski or snowboard and typically arranged in a pattern corresponding to a particular manufacturer's binding pattern

### 4.4.5

#### **bottom edge**

structural element forming the lateral termination of the *bottom surface* (4.1.1) in order to provide protection and transmission of steering forces

Note 1 to entry: The bottom edge usually consists of a metal strip.

### 4.4.6

#### **bottom-surface element**

##### **base**

structural element, serving as *bottom surface* (4.1.1)-covering layer of the *ski* (3.1.1)

Note 1 to entry: It is usually made from low-friction plastics with good wax penetration.

### 4.4.7

#### **top-surface element**

structural element used on the *top surface* (4.1.2) of the *ski* (3.1.1)

Note 1 to entry: It serves to protect the underlying structural elements as well as providing a base for the top cosmetics.

### 4.4.8

#### **top edge**

structural element forming the top-surface edge, serving principally for protection

### 4.4.9

#### **tip protector**

structural element with the purpose of protecting the *side surface* (4.1.3), *top edge* (4.4.8) and *bottom edge* (4.4.5) in the tip and shovel area

### 4.4.10

#### **tail protector**

structural element located near the *ski tail* (4.2.2) with the purpose of protecting the tail area

### 4.4.11

#### **kicking aid**

special surface configuration or preparation at the *bottom surface* (4.1.1) which aids in the creation of propulsion needed for forward motion

**4.4.12**

**step wax application area**

suitable part of the *bottom surface* (4.1.1) coated with step waxes properly selected in accordance with the slope conditions

**4.4.13**

**step pattern**

steps designed in a special way in order to allow *gliding* (8.2.1.1) in the forward direction and give resistance to motion in the reverse direction

**4.4.14**

**micro-structure**

roughness of the gliding surface obtained by special grinding techniques or by the use of composite materials in the ski base

Note 1 to entry: These materials are sometimes used in combination. As a *kicking aid* (4.4.11), this type of microstructure is usually confined to the central portion of the *running surface* (4.1.1).

**4.4.15**

**cambered design**

**cambered construction**

concave profile for snowsports gliding equipment that may appear about the entire contact length or partially

**4.4.16**

**reversed cambered design**

**reversed cambered construction**

convex profile for *skis* (3.1.1) and *snowboards* (3.4.1) which can appear about the entire contact length or partially

**5 Terms and symbols related to the geometry of ski**

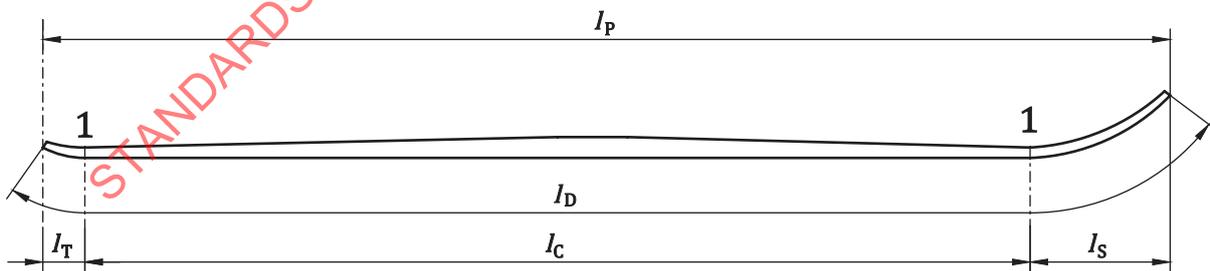
**5.1 Terms related to length definition**

**5.1.1**

**developed length**

$l_D$   
length of the *running surface* (4.1.1) measured between the *ski tail* (4.2.2) and the *ski tip* (4.2.1)

Note 1 to entry: See [Figure 3](#).



**Key**

- $l_p$  projected length (5.1.2)
- $l_T$  tail turn-up length (5.1.5) surface
- $l_D$  developed length

- $l_C$  contact length (5.1.3)
- $l_S$  shovel length (5.1.4)
- 1 contact line

Figure 3 — Length dimensions

**5.1.2  
projected length**

$l_P$   
length of the projection of the *ski* (3.1.1), measured between the *ski tail* (4.2.2) and the *ski tip* (4.2.1) with the ski body pressed against a planar surface

Note 1 to entry: See [Figure 3](#).

**5.1.3  
contact length**

$l_C$   
distance between the two contact lines where a 0,5 mm thick (for *alpine skis* (3.2.1)) or 0,1 mm thick (for *cross-country skis* (3.3.1)) feeler gauge intersects the *running surface* (4.1.1), with the ski body pressed against a planar surface

Note 1 to entry: See [Figure 3](#).

**5.1.4  
shovel length**

$l_S$   
projected length of the forward turn-up, measured from the tip to the contact line

Note 1 to entry: See [Figure 3](#).

**5.1.5  
tail turn-up length**

$l_T$   
projected length, measured from the *ski tail* (4.2.2) to the contact line

Note 1 to entry: See [Figure 3](#).

**5.2 Terms related to width definition**

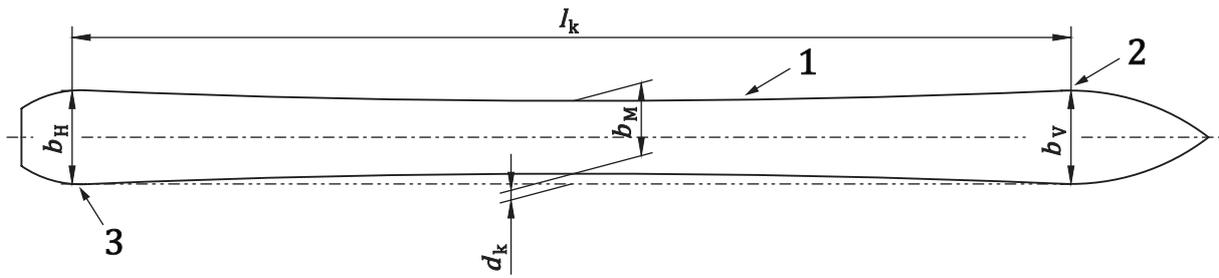
**5.2.1  
side geometry**

form of the curve bordering the *running surface* (4.1.1) and defined by the *bottom edge* (4.4.5)

**5.2.2  
nominal width**

<alpine skis> narrowest width of the *running surface* (4.1.1) in the central section of the *ski* (3.1.1)

Note 1 to entry: See [Figure 4](#).



**Key**

- $l_k$  length of the side cut (5.2.8)
- $b_H$  width of the heel (5.2.6)
- $b_M$  width of the waist (5.2.5)
- $b_V$  width of the shoulder (5.2.4)
- $d_k$  side camber (5.2.9)
- 1 side geometry (5.2.1)
- 2 shoulder
- 3 heel

**Figure 4 — Width dimensions**

**5.2.3**

**nominal width**

<cross-country skis> width measured at the *mounting point* (7.1.2)

Note 1 to entry: See [Figure 4](#).

**5.2.4**

**width of the shoulder**

$b_V$

<ski> maximum width of the shovel section of the ski

Note 1 to entry: See [Figure 4](#).

**5.2.5**

**width of the waist**

$b_M$

<ski> narrowest width of the *running surface* (4.1.1) in the central section of the ski

Note 1 to entry: See [Figure 4](#).

**5.2.6**

**width of the heel**

$b_H$

<ski> maximum width of the *running surface* (4.1.1) in the rear section of the *ski* (3.1.1)

Note 1 to entry: See [Figure 4](#).

**5.2.7**

**side cut**

line describing the curved portion of the side contour between the *width of the shoulder* (5.2.4),  $b_V$ , and the *width of the heel* (5.2.6),  $b_H$ , and defined by the *bottom-surface edge* (4.1.5)

Note 1 to entry: See [Figure 4](#).

**5.2.8  
length of the side cut**

$l_k$   
distance between the lines at the *width of the heel* (5.2.6),  $b_H$ , and *width of the shoulder* (5.2.4),  $b_V$ , dimensions

Note 1 to entry: See [Figure 4](#).

**5.2.9  
side camber**

$d_K$   
maximum distance between the side of the *ski* (3.1.1) and the line drawn between the widest points of the ski

Note 1 to entry: See [Figure 4](#).

**5.2.10  
waist index**

$R_k$   
ratio of the *side camber* (5.2.9),  $d_K$ , to the *length of the side cut* (5.2.8),  $l_k$

$$R_k = \frac{d_K}{l_k}$$

**5.2.11  
taper**

$d_b$   
half of the difference between  $b_V$  and  $b_H$

$$d_b = \frac{b_V - b_H}{2}$$

**5.2.12  
radius of side cut**

$R$   
approximation of the average radius,  $R$ , allowing global specification of the lateral outline of the *ski* (3.1.1), specified by

$$R = \frac{l_{kR}^2}{2000(b_{HR} + b_{VR} - 2b_M)}$$

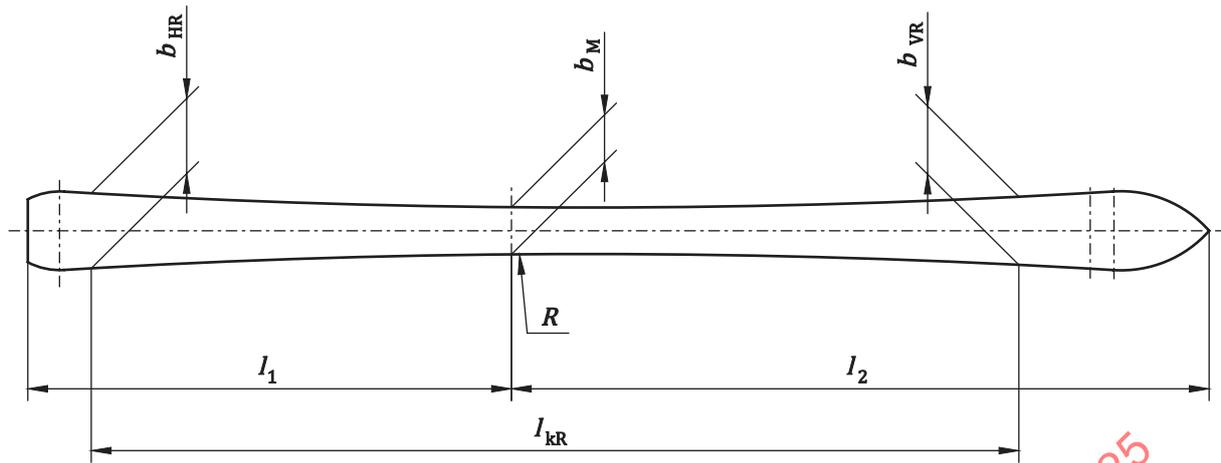
where

$$l_{kR} = 0,9l_1 + 0,8l_2$$

where

- $l_{kR}$  is the distance between the lines  $b_{HR}$  and  $b_{VR}$ , in millimetres;
- $l_1$  is the distance between  $b_M$  and the rear end of the ski, in millimetres;
- $l_2$  is the distance between  $b_M$  and the front end of the ski, in millimetres;
- $b_{HR}$  is the width of the *running surface* (4.1.1) at  $0,9 l_1$  from  $b_M$ , in millimetres;
- $b_{VR}$  is the width of the running surface at  $0,8 l_2$  from  $b_M$ , in millimetres;
- $b_M$  is the *width of the waist* (5.2.5), in millimetres.

Note 1 to entry: See [Figure 5](#).



**Key**

- $l_{kR}$  distance between the lines  $b_{HR}$  and  $b_{VR}$
- $l_1$  distance between  $b_M$  and the rear end of the ski
- $l_2$  distance between  $b_M$  and the front end of the ski
- $b_{HR}$  width of the running surface at  $0,9 l_1$
- $b_M$  width of the waist (5.2.5)
- $b_{VR}$  width of the running surface at  $0,8 l_2$
- $R$  radius of side cut

**Figure 5 — Side-cut dimensions**

**5.2.13**

**width at the forward contact line**

distance between the outermost points in the dedicated area

Note 1 to entry: See [Figure 6](#).

**5.2.14**

**width at the rear contact line**

distance between the outermost points in the dedicated area

Note 1 to entry: See [Figure 6](#).

**5.2.15**

**forward deflection point**

forward end of the parallel-sides portion of ski body

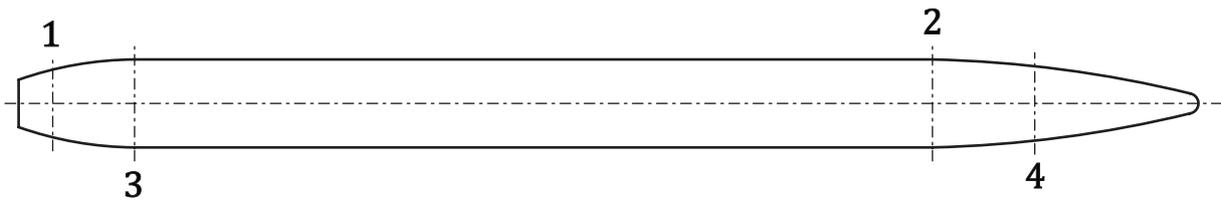
Note 1 to entry: See [Figure 6](#).

**5.2.16**

**length of the forward conical shape**

distance between the *forward contact line* ([4.2.4](#)) and the *forward deflection point* ([5.2.15](#))

Note 1 to entry: See [Figure 6](#).



**Key**

- 1 rear contact line (4.2.5)
- 2 forward deflection point (5.2.15)
- 3 rear deflection point
- 4 forward contact line (4.2.4)

**Figure 6 — Side-cut sections**

**5.3 Terms related to height definition**

**5.3.1 thickness**

$s$   
 <ski> thickness measured perpendicular to the *running surface* (4.1.1)

Note 1 to entry: See [Figure 7](#).

**5.3.2 distance between bottom surfaces**

maximum distance between the *bottom surfaces* (4.1.1) of two *skis* (3.1.1), measured in the vertical position

Note 1 to entry: For the measurement, the skis are positioned with the bottom surfaces facing each other.

**5.3.3 tip height**

$h_s$   
 height of the underside of the tip measured from a planar surface with the ski body pressed against the surface

Note 1 to entry: See [Figure 7](#).

**5.3.4 tail height**

$h_T$   
 height of the underside of the tail measured from a planar surface with the ski body pressed against the surface

Note 1 to entry: See [Figure 7](#).

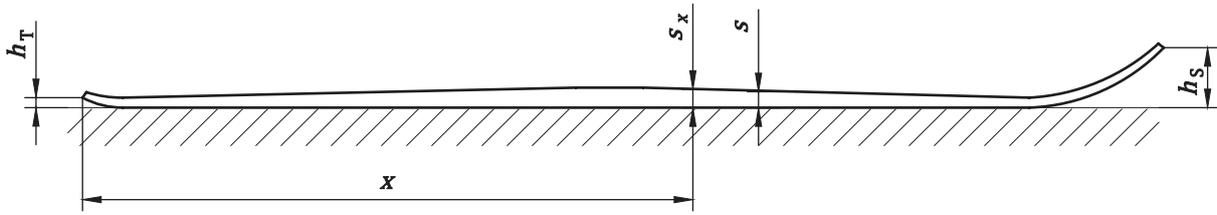
**5.3.5 x coordinate for ski measurements**

$s_x$   
 coordinate that originates at the *ski tail* (4.2.2) and defines a point on the *ski* (3.1.1) where the measurement is taken

EXAMPLE  $s_{123} = 1,6$  means that the thickness is 1,6 cm at a distance of 123 cm from the ski tail.

Note 1 to entry: The length of the x coordinate shall be written as a subscript of the measured value.

Note 2 to entry: See [Figure 7](#).



**Key**

- $s$  thickness (5.3.1) of the ski
- $h_S$  tip height (5.3.3)
- $h_T$  tail height (5.3.4)
- $x$   $x$  coordinate for ski measurement (5.3.5)
- $s_x$  thickness of the ski at distance  $x$  from tail

**Figure 7 — Height dimensions**

**5.4 Terms related to camber definition**

**5.4.1**

**camber height**

$h_k$   
distance between the *running surface* (4.1.1) of the *ski* (3.1.1) and a planar surface

**5.4.2**

**unweighted camber height**

$h_{F0}$   
distance between the *running surface* (4.1.1) of the *ski* (3.1.1) and a flat vertical surface when the ski is unloaded

**5.4.3**

**weighted camber height**

$h_{Fg}$   
distance between the *running surface* (4.1.1) of the ski and a flat horizontal surface when the ski is loaded

Note 1 to entry: The distance is measured at the point P indicated in [Figure 9](#).

**5.4.4**

**final weighted bottom camber**

$h'_B$   
maximum distance between the *bottom surface* (4.1.1) of the ski and a flat and horizontal surface, measured under the influence of the ski's own mass

**5.4.5**

**camber**

curvature of the *running surface* (4.1.1) above a planar surface between the *forward contact line* (4.2.4) and the *rear contact line* (4.2.5)

**5.4.6**

**bottom camber**

$h_k$   
maximum distance between the *running surface* (4.1.1) of the *ski* (3.1.1) and a planar surface

Note 1 to entry: See [Figure 8](#).

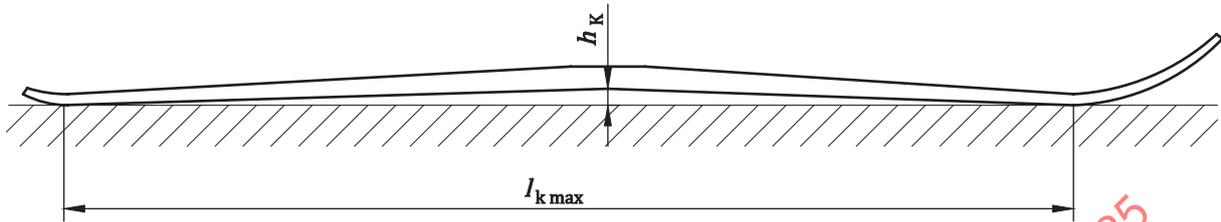
5.4.7

**maximum camber length**

$l_{kmax}$

length of the camber of the unloaded *ski* (3.1.1) when the ski is placed on a planar surface, measured with the ski resting freely under its own mass

Note 1 to entry: See [Figure 8](#).



**Key**

$h_k$  *bottom camber* (5.4.6)

$l_{kmax}$  *maximum camber length* (5.4.7)

Figure 8 — Camber

5.5 Terms related to residual camber definition

5.5.1

**residual camber height**

$h_{RF}$

distance measured at the load application point P, 8 cm behind the binding *mounting point* (7.1.2) between the *running surface* (4.1.1) of the *XC-ski* (3.3.1) and a flat horizontal surface, when the ski is subjected to a load  $F$

Note 1 to entry: See [Figure 9](#).

EXAMPLE The magnitude of load  $F$  can be from zero up to the *contact load* (5.5.2):

- $h_{R294}$  is the residual camber height when the ski is loaded with 294 N;
- $h_{R0}$  is the camber height when the ski is loaded only with its own mass.

5.5.2

**contact load**

load which reduces the *residual camber height* (5.5.1) to 0,3 mm

5.5.3

**residual camber length**

$l_{RF}$

length of separation between the *running surface* (4.1.1) of the *XC-ski* (3.3.1) and a flat horizontal surface which the ski is pressed against by a load  $F$

Note 1 to entry: See [Figure 9](#).

EXAMPLE The magnitude of load  $F$  can be from zero up to the contact load:

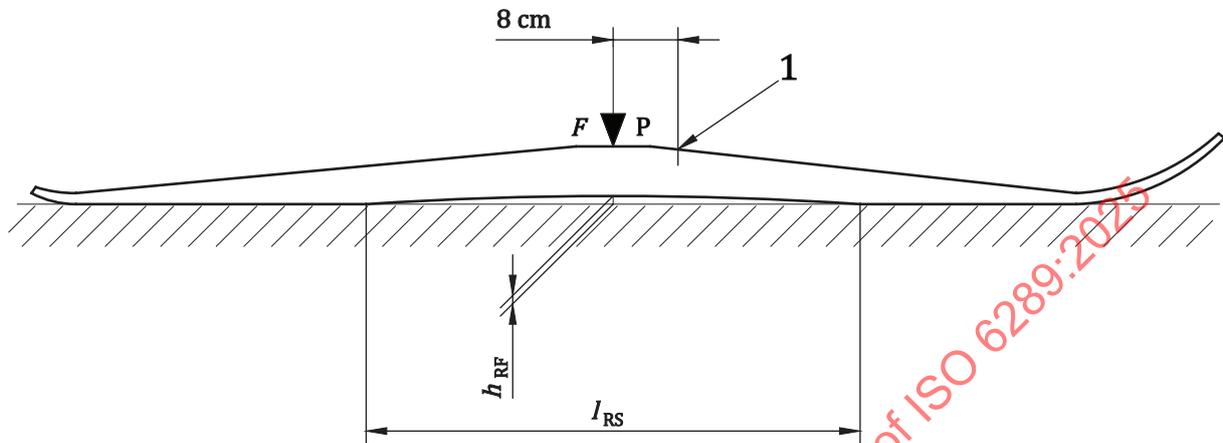
- $l_{R294}$  is the camber pocket length when the ski is loaded with 294 N;
- $l_{R0}$  is the camber pocket length when the ski is loaded with its own weight.

**5.5.4 standard residual camber length**

$l_{RS}$   
residual camber length (5.5.3) remaining after a standard load,  $F_S$ , has been applied

Note 1 to entry: The standard load,  $F_S$ , is according to ISO 7140.

Note 2 to entry: See Figure 9.



**Key**

- 1 binding-mounting point
- $h_{RF}$  standard residual camber height
- $l_{RS}$  standard residual camber length (5.5.4)
- P point of application of load  $F$

**Figure 9 — Residual camber**

**5.6 Terms related to length and position of kicking-aid area**

**5.6.1 length of the kicking aid**

$l_{ST}$   
area of waxed skis in which the stepping wax is applied

Note 1 to entry: This area is variable and can only be defined exactly if waxing marks are indicated.

Note 2 to entry: For non-waxed skis, the length of the *kicking aid* (4.4.11) is defined as the area of the *bottom surface* (4.4.1) in which the kicking aids are located.

Note 3 to entry: See Figure 10.

**5.6.2 positioning index of the kicking area**

$d_{ST}$   
distance between the centre of the *kicking aid* (4.4.11) and the binding-mounting point MP according to the equation

$$d_{ST} = x_{MP} - x_{STM}$$

where

- $x_{MP}$  is the position of the binding-mounting point MP;
- $x_{STM}$  is the position of the centre of the kicking aid.

Note 1 to entry: See [Figure 10](#).

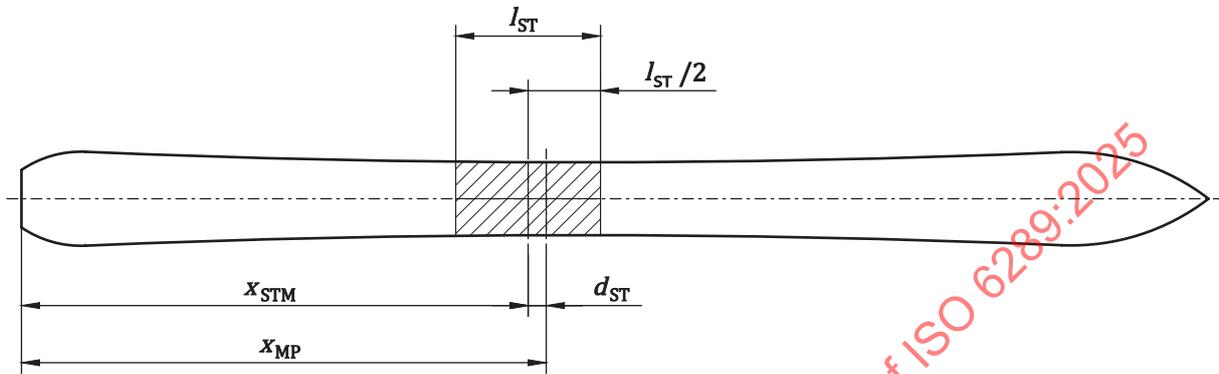
Note 2 to entry: If the centre of the kicking aid is in front of the binding-mounting point,  $d_{ST}$  is a negative number. If the centre of the kicking aid is behind the binding-mounting point,  $d_{ST}$  is a positive number.

### 5.6.3

#### kicking area

section of the *running surface* ([4.1.1](#)) which provides increased friction for propulsion

Note 1 to entry: See [Figure 10](#).



#### Key

- $l_{ST}$  length of the kicking aid ([5.6.1](#))
- $x_{STM}$  position of the centre of the kicking aid
- $x_{MP}$  position of the binding-mounting point
- $d_{ST}$  positioning index of the kicking area ([5.6.2](#))

Figure 10 — Kicking area

## 6 Terms related to physical properties

### 6.1 Terms related to general properties

#### 6.1.1

##### mass

$m$

mass of a finished manufactured *ski* ([3.1.1](#)) without any mounted binding parts

Note 1 to entry: The mass is expressed in kilograms.

#### 6.1.2

##### breaking load

$F_B$

maximum load which causes failure of the *ski* ([3.1.1](#)) (breaking or delamination) under the respective test conditions

#### 6.1.3

##### fatigue characteristic

change of essential properties due to long-term cyclical loading

## 6.2 Terms related to alpine properties

### 6.2.1

#### polar moment of inertia

$I$

mass moment of inertia (yaw, roll pitch) of the ski about its centre of gravity

Note 1 to entry: The mass moment is expressed in kilograms metres squared.

### 6.2.2

#### spring constant

$c$

<alpine ski> ratio of the force  $F$  applied to the ski to the corresponding deflection  $f$  under the respective test conditions

Note 1 to entry: See [Figure 2](#).

Note 2 to entry: The spring constants of certain sections of the ski are designated by the following subscripts:

- M: centre;
- S: shovel;
- R: rear;
- A: afterbody;
- B: forebody.

### 6.2.3

#### spring-constant balance

$B$

<alpine ski> ratio of the afterbody *spring constant* (6.2.2)  $c_A$  to the forebody spring constant  $c_B$

$$B = \frac{c_A}{c_B}$$

### 6.2.4

#### torsional spring constant

$c_T$

<alpine ski> ratio of the torque applied to the ski  $M_T$  to the corresponding torsion angle  $\alpha$

$$c_T = \frac{M_T}{\alpha}$$

Note 1 to entry: The forebody torsional spring constant is  $c_{TB}$  and the afterbody torsional spring constant is  $c_{TA}$ .

### 6.2.5

#### deformation load

$F_D$

<alpine ski> load which causes a plastic deformation of the ski under the applied test conditions

### 6.2.6

#### bending vibrational characteristics

<alpine ski> characteristics indicated by *natural frequency* (6.2.7) and half-life

### 6.2.7

#### natural frequency

$f$

<alpine ski> number of vibrations per unit time which a system tends to oscillate without a driving force

## 6.3 Terms related to XC properties

### 6.3.1

#### balance point

<XC-ski> line perpendicular to the centre-line of the *running surface* (4.1.1) at which the XC-ski is in equilibrium (balance) when placed on fulcrum

## 7 Terms related to the binding-mounting

### 7.1 Terms related to the area

#### 7.1.1

##### binding-mounting area

area on top of the *ski* (3.1.1) within which the binding-mounting screws are located

#### 7.1.2

##### mounting point

location on the *ski* (3.1.1) that indicates the position of the boot along the length of the ski for the purpose of mounting the binding, and that corresponds to the boot sole mark

Note 1 to entry: The requirements for boot sole mark are defined in ISO 5355, ISO 9523 and ISO 23223.

#### 7.1.3

##### four-times-four pattern

##### 4 × 4 pattern

square pattern of *inserts* (4.4.4) to mount the bindings on the *snowboard* (3.4.1)

### 7.2 Terms related to the screw

#### 7.2.1

##### ski-binding screw

##### SBS

fastener which connects and holds binding or plates and *ski* (3.1.1)

Note 1 to entry: SBS should be according to ISO 6004 for alpine skis, and XC-SBS should be according to ISO 7794 for XC-ski.

#### 7.2.2

##### penetration depth

##### *d*

distance from the *top surface* (4.1.2) of the *ski* (3.1.1) to the tip of the *ski-binding screw* (7.2.1)

#### 7.2.3

##### driving torque

maximum value of the moment required to drive the binding screw into the drill hole of the *ski* (3.1.1) or test specimen

#### 7.2.4

##### tightening torque

moment, specified in the mounting instructions or in the test procedure, which is used to tighten the *ski-binding screw* (7.2.1) to ensure sufficient fastening

#### 7.2.5

##### stripping torque

##### $T_S$

maximum measurable moment which causes damage to the internal thread in the *ski* (3.1.1) or the thread of the screw if the already tightened screw is further loaded by a driving moment

#### 7.2.6

##### static screw-retention strength

resistance of the *ski* (3.1.1) or test specimen to a pull-out force applied quasistatically in the axial direction

## 7.3 Terms related to the accessories

### 7.3.1

#### **leash**

cord-like device wherein one end is attached to the top surface of the *ski* (3.1.1) or *snowboard* (3.4.1) or the binding and the other end provides an attachment to one of the skier's or snowboarder's legs

## 8 Terms related to ski performance

### 8.1 Alpine skis

#### 8.1.1 Terms related to straight running performance without edging

##### 8.1.1.1

#### **lateral tracking stability**

<alpine ski> capacity of the *ski* (3.1.1) to maintain the track line direction

##### 8.1.1.2

#### **vertical tracking stability**

*ski* (3.1.1) characteristic at a given speed with respect to disturbing vibrations in the terrain

##### 8.1.1.3

#### **shock absorption**

*ski* (3.1.1) characteristic pertaining to bump and dip conformity at a given speed with respect to shock transfer to the skier

#### 8.1.2 Terms describing traversing performance

##### 8.1.2.1

#### **traversing stability**

capacity of the *ski* (3.1.1) to maintain a straight traverse track, where the skier is in a normal traversing body position and edging is sufficient, without the skis rotating up or down the slope, to avoid side-slipping

##### 8.1.2.2

#### **traversing edge response**

capacity of the *ski* (3.1.1) to change smoothly from *carving* (8.3.1) to *skidding* (8.3.2) and vice versa without the skis rotating up or down the slope when the edge setting is decreased or increased

#### 8.1.3 Terms describing turning performance

##### 8.1.3.1

#### **turn-initiation response**

*ski* (3.1.1) reaction to common turning-initiation techniques with respect to over-turning or excessive turning resistance

##### 8.1.3.2

#### **turn-execution response**

capacity of the *ski* (3.1.1) to maintain a stable turn, after initiation, without corrective actions by the skier

Note 1 to entry: Over-turning, *railing* (8.1.4.6), *chattering* (8.1.4.5) and excessive turning resistance are examples of negative response.

##### 8.1.3.3

#### **turn-completion response**

ease with which a turn can be completed

**8.1.3.4**

**turning quickness**

reproducibility of ski reaction in a sequence of short turns with respect to overturning or excessive turning resistance

**8.1.3.5**

**carving response**

capacity of the *ski* (3.1.1) to execute a carved turn of a given radius on hard snow with minimal *skidding* (8.3.2) or *chattering* (8.1.4.5)

**8.1.3.6**

**skidding response**

*ski* (3.1.1) characteristic pertaining to the smoothness and stability of a skidded turn during the execution of a turn, traversing or stopping

**8.1.4 Terms related to general performance**

**8.1.4.1**

**edge grip**

<alpine skis> capacity of the *ski* (3.1.1) to prevent undesired side-slipping on hard snow at a given slope steepness and a given edging angle

**8.1.4.2**

**steering sensitivity**

ease of execution and completion of a turn to change direction

**8.1.4.3**

**forgiveness**

*ski* (3.1.1) characteristic pertaining to the reduction of the effect of slope disturbances or exaggerated control actions of the skier

**8.1.4.4**

**edge-grip balance**

edge-grip distribution fore and aft of the ski, in order to allow a normal skier body position in a given skiing situation

**8.1.4.5**

**chattering**

*ski* (3.1.1) characteristic pertaining to intermittent edge-grip tendency

**8.1.4.6**

**railing**

tendency to maintain direction despite applied control actions

**8.1.4.7**

**liveliness**

quick ski reaction to terrain changes and skier actions

**8.1.4.8**

**quietness**

dampening behaviour, anti-shock, and the ability to absorb shocks

**8.2 Cross-country skis**

**8.2.1 Terms related to straight running performance without edging**

**8.2.1.1**

**gliding**

characteristic of the *ski* (3.1.1) which relates to the smoothness and the speed of the gliding phase

**8.2.1.2**

**retention property**

**retention**

capacity of the *ski* (3.1.1) not to glide backwards during kicking phase

**8.2.1.3**

**lateral tracking stability**

<cross-country ski> capacity of the *ski* (3.1.1) to maintain the track line direction

**8.2.1.4**

**springiness**

elastic response of the *ski* (3.1.1) to the impulse of the skier

**8.2.2 Terms describing turning performance**

**8.2.2.1**

**turn-executing response**

capacity of the *ski* (3.1.1) to maintain a stable turn

**8.2.3 Terms related to general performance**

**8.2.3.1**

**edge grip**

<cross-country skis> *ski* (3.1.1) characteristic relevant to *skidding* (8.3.2), snow plough and fish-bone climbing, which generally pertains to the prevention of side-slipping

**8.2.3.2**

**frictional noise**

sound produced by friction between snow and *ski* (3.1.1)

**8.2.3.3**

**icing**

phenomenon of ice deposition on the *running surface* (4.1.1) of the *ski* (3.1.1) depending on the snow conditions and the properties of the gliding surface

**8.2.3.4**

**waxability**

characteristic of the *ski* (3.1.1) to be easily waxed and to maintain the waxed condition

**8.3 Snowboards**

**8.3.1**

**carving**

extreme turning along the edge

**8.3.2**

**skidding**

sliding without using the edge

**8.3.3**

**riding fakie**

*snowboard* (3.4.1) riding in the opposite way, i.e. using the tail of the board as the front end

**8.3.4**

**backside**

rides and jumps during which pressure is put on the heel of the foot

**8.3.5**

**frontside turn**

turn performed with pressure on the toe of the foot