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Snowboard plate-bindings without a release mechanism — Safety requirements and test methods

Fixations de surf des neiges de type à plaque sans mécanisme de déclenchement — Exigences de sécurité et méthodes d'essai

Reference number
ISO 14790:1997(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 14790 was prepared by Technical Committee ISO/TC 83, *Sports and recreational equipment*, Subcommittee SC 3, *Ski bindings*.

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Snowboard plate-bindings without a release mechanism — Safety requirements and test methods

1 Scope

This International Standard specifies the essential safety requirements (including certain quality aspects) of snowboard plate-bindings without a release mechanism.

It is applicable to non-releasable snowboard plate-bindings for adults and children.

It does not apply to snowboard plate-bindings with a release mechanism or to snowboard soft bindings.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6004 : 1991, *Alpine skis — Ski binding screws — Requirements*

ISO 9462 : 1993, *Alpine ski-bindings — Safety requirements and test methods*

ISO 9838 : 1991, *Alpine ski-bindings — Test soles for ski-binding tests*

ISO 11634 :1996, *Snowboard boots — Interface with ski-binding*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 snowboard plate-binding: Connecting element between a snowboard boot (boot with a hard sole in accordance with ISO 11634) and a snowboard.

NOTE: An antiskid pad is not a component part of a plate-binding.

3.2 snowboard binding type C: Binding suitable exclusively for a body mass of up to 45 kg (children).

3.3 snowboard binding type A: Binding suitable for a body mass of over 45 kg (adults).

4 Safety requirements

4.1 Function

The snowboard binding shall be such that in practical use the boot remains connected to the snowboard under all loads occurring in winter terrain. This requirement is met if after testing:

a) there are no fractures in the binding;

b) the binding can attach the boot in the normal manner;

c) when attached the boot is not loose in the binding;

d) the boot can be released from the binding in a normal manner.

4.2 Mounting point for the retaining leash

The mounting points for the retaining leash shall be indicated by the manufacturer.

The minimum breaking force of the mounting point and of the leash shall be at least 1 000 N.

4.3 Snow pack

Each snowboard binding shall close for all settings (e.g. canting) with a snow pack between the boot sole and the binding of 2 mm.

4.4 Screws

The snowboard binding shall be supplied with all parts necessary for mounting.

Metric screws shall be used, preferably M6 class g, or ski-binding screws in accordance with ISO 6004 (cross-recess type Z No. 3).

5 Test methods

5.1 General

Testing shall be carried out in accordance with ISO 9462.

5.2 Parameters

All possible strains on the boot can be attributed to one torque M and one force F each on every axis x, y, z of a system of coordinates. The point of origin of the coordinates is to be agreed and may be, for example, in the centre of the ankle joint (defined by s_1 and s_2 in figure 1).

The torques and forces illustrated in figure 1 are positive. The corresponding parameters acting in the opposite direction are given negative signs. The arrow heads indicate the sense of rotation of the ski-boot movement.

s_1	80 mm
s_2	100 mm

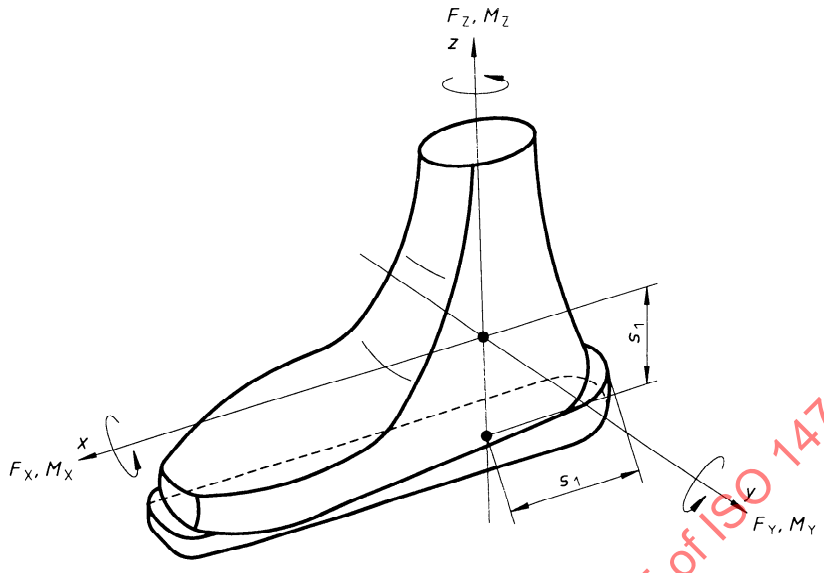


Figure 1: Torques and forces

5.3 Test sample

Three pairs of snowboard bindings are needed.

All tests have to be passed.

5.4 Fatigue test

Test one snowboard binding with 50 000 sinusoidal load cycles with a frequency of 1 Hz (maximum) in the $\pm M_y$ direction, see figure 2.

The test torque is ±100 N·m for adults and ±66 N·m ± 5 % for children.

Mount the binding on a steel plate of at least 10 mm thickness. Apply the torque through a test sole which is in accordance with ISO 9838.

5.5 Testing of mechanical strength

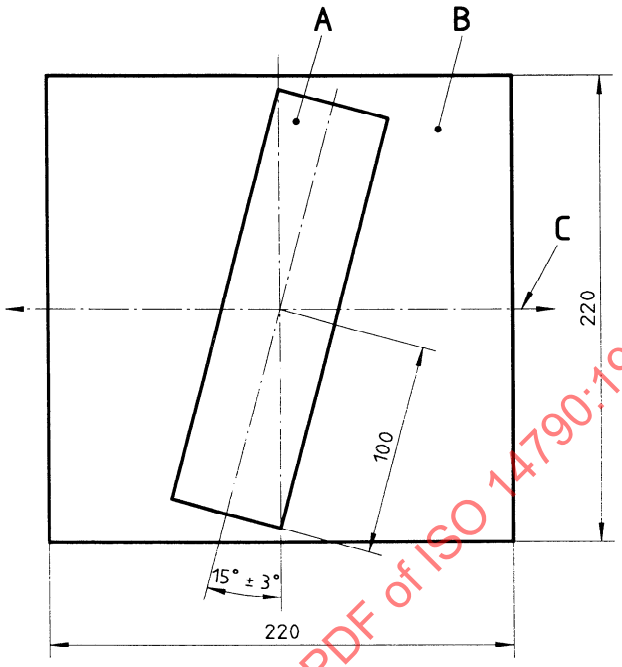
The test shall be carried out with the same snowboard binding that had been used for the fatigue test (5.4).

Mount the snowboard binding on a steel plate of 10 mm thickness.

After the binding and mounting plate have been preconditioned (0,5 h) at -20 °C, apply a torque in accordance with table 1 in both directions with a cold test sole at -20 °C.

After the test the binding shall meet the criteria given in 4.1.

Dimensions in millimetres



A Test sample (binding)

B Steelplate, 10 mm min.

C Test torque ±

Figure 2: Fatique test

Table 1: Direction and torque

Direction	Type A	Type C
$\pm M_x$	300 N m	150 N·m
$\pm M_y$	550 N·m	300 N·m
$\pm M_z$	150 N·m	80 N·m

5.6 Testing of the function with snow pack

This test is carried out within the framework of functional tests by placing a PTFE plate of 2 mm thickness under the sole.

5.7 Testing of fitness for use

The binding shalll meet the requirements given in 4.1, as determined independently by two persons.

6 Marking

Snowboard bindings in accordance with this International Standard shall be marked with the following data:

a) maximum mass of user (45 kg) for bindings for children (visible after mounting);

b) name and/or trademark of the manufacturer or importer.