*भारतीय मानक*

***Indian Standard***

**IS 15843 (Part 2) : 2023**

# स्नोबोर्डस — बाइंडिंग माउंटिंग क्षेत्र
## भाग 2 इन्सर्ट्स वाले स्नोबोर्डस के लिए आवश्यकताएँ एवं परीक्षण पद्धतियाँ
*( पहला पुनरीक्षण )*

# Snowboards — Binding Mounting Area
## Part 2 Requirements and Test Methods for Snowboards with Inserts
*( First Revision )*

ICS 11.040.10; 11.140



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**Price Group 4**

Mountaineering and Adventure Sports Sectional Committee, PGD 27

FOREWORD

This Indian Standard (Part 2) (First Revision) has been adopted by the Bureau of Indian Standards after the draft finalized by the Mountaineering and Adventure Sports Sectional Committee has been approved by the Production and General Engineering Division Council.

This standard was originally published in 2012 based on ISO 10958-2 : 2004 'Snowboards — Binding mounting area — Part 2: Requirements and test methods for snowboards with inserts'. The first revision of this standard has been undertaken to align it with the latest national and international manufacturing practices.

The major changes in this revision are as follows:

a) normative references (**2**) are updated;
b) new annotations for diagrams have been added; and
c) retention strength requirements have been changed.

Other parts in this series are:

Part 1 : Requirements and test methods for snowboards without inserts

While preparing this standard, considerable assistance has been derived from ISO 10958-2 : 2015 'Snowboards — Binding mounting area — Part 2: Requirements and test methods for snowboards with inserts'

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard*

# SNOWBOARDS — BINDING MOUNTING AREA

## PART 2 REQUIREMENTS AND TEST METHODS FOR SNOWBOARDS WITH INSERTS

*( First Revision )*

### 1 SCOPE

This part of IS 15843 specifies requirements and test methods for snowboards on which bindings are attached by means of screws and inserts that are not removable. It does not apply to snowboards for children with a mass less than 25 kg.

It contains data for the manufacturer of snowboards, bindings and retention devices concerning dimensions, tests and other specifications for the binding mounting area.

For dimensions with no tolerance indicated, a tolerance of ± 1 mm is valid.

### 2 REFERENCES

The standards listed below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards:

| *IS No.* | *Title* |
|---|---|
| IS 4218 (Part 1) : 2001 | ISO General purpose metric screw threads — Part 1 Basic profile (*second revision*) |

### 3 TERMS AND DEFINITIONS

For the purposes of this document, the terms and definitions given in IS 4218 (Part 1) and the following apply.

**3.1 Insert —** Reusable commonly threaded attachment point permanently fixed in the snowboard at the time of manufacture, used to mount the bindings to the snowboard and typically arranged in a pattern corresponding to a particular binding manufacturer's pattern.

**3.2 Retention Strength —** Axial pull-out force of an insert in a snowboard tested in accordance with **6.1** and **7.1**.

**3.3 Spin Resistance —** Moment required to rotate an insert tested in accordance with **6.2** and **7.2**.

**3.4 Screw Thread Engagement, *e*** — Number of threads engaged by a standard screw in an insert (*see* Fig. 1).

**3.5 Insert Well Depth, *i* —** Distance within the insert well from the snowboard top surface to the unobstructed bottom clearance of the binding-insert (*see* Fig. 1).

**3.6 Countersink Depth, *c* —** Distance from the snowboard top surface to the first thread of the insert (*see* Fig. 1).

### 4 SPECIFICATIONS FOR DESIGN OF SNOWBOARD INSERT

**4.1** Inserts shall have an M 6 x 1, 6 H class internal thread with standard tolerances in accordance with IS 4218 (Part 1).

**4.2** Insert screws shall have an M 6 x 1, 6 g class external thread with standard tolerances in accordance with IS 4218 (Part 1).

**4.3** The snowboard design shall provide, for a minimum insert well depth (*i*) of 5.5 mm, a minimum screw engagement *E* of 2.0 threads. The length of the screw shall allow a gap between the end of the screw and the bottom of the insert. The effective threaded depth of the insert shall be at least 5.5 mm.

The value of 2 threads has been verified by extensive tests carried out by snowboard manufacturers. It is recommended that self-locking screws are used.

**4.4** The maximum countersink depth (*c*) shall be 2.5 mm.

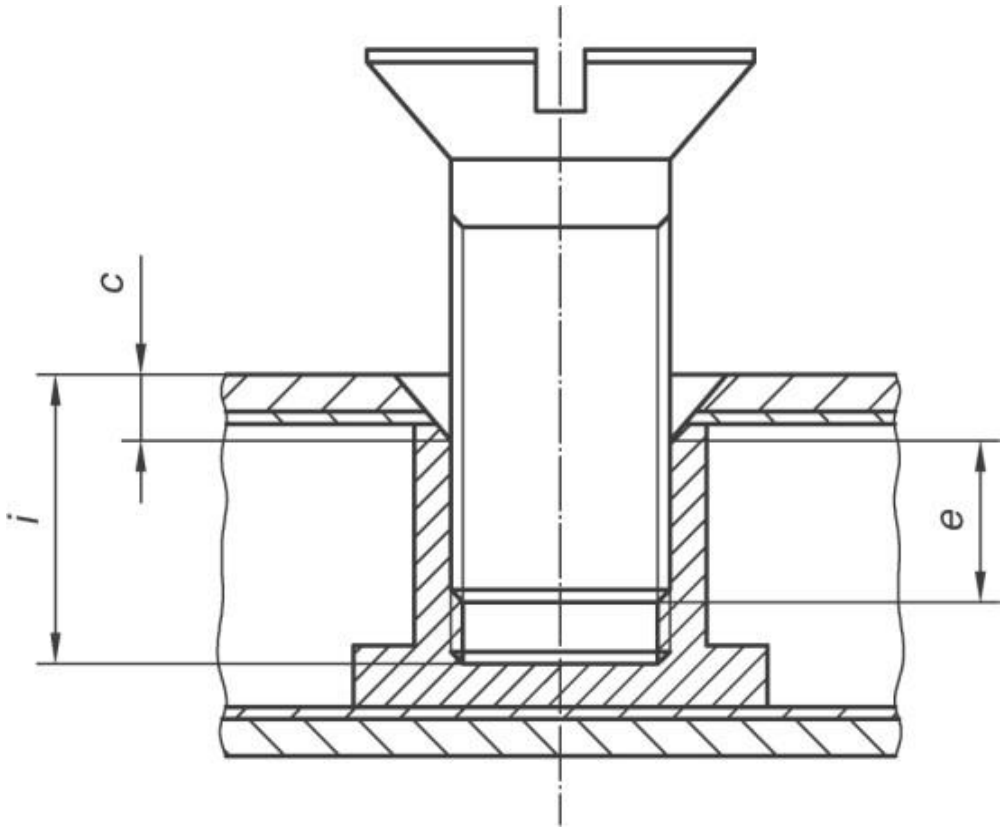


FIG. 1 ILLUSTRATION OF SCREW THREAD ENGAGEMENT, INSERT WELL DEPTH AND COUNTERSINK DEPTH

## 5 STRENGTH REQUIREMENTS

### 5.1 Retention Strength

When tested in accordance with **7.1**, inserts in a snowboard shall have a minimum retention strength of 4 500 N for those snowboards with a suggested rider mass of 45 kg or more; and a minimum retention strength of 3 500 N for those snowboards with a suggested rider mass less than 45 kg.

### 5.2 Spin Resistance

When tested in accordance with **7.2**, inserts in a snowboard shall have a minimum spin resistance of 20 N.m.

## 6 TEST APPARATUS

### 6.1 Retention-Strength Test Apparatus

**6.1.1** Universal Test Machine (UTM), with a pull-out device according to Fig. 2, having a minimum load range of 10 000 N.

**6.1.2** The pull-out device (*see* Fig. 2) shall consist of:

a) a rigid steel attachment plate (A) with one hole of diameter 6.5 mm;

b) a universal joint (B) which is connected to the attachment plate and to the clamping device of the test machine; and

c) a snowboard support (C) with two support rollers with a distance (x) of 200 mm between them for snowboards with suggested rider mass of 25 kg or more and a distance (x) of 100 mm between them for snowboards with suggested rider mass of less than 25 kg; and

d) a support roller (D) with a diameter (d) of 30 mm.

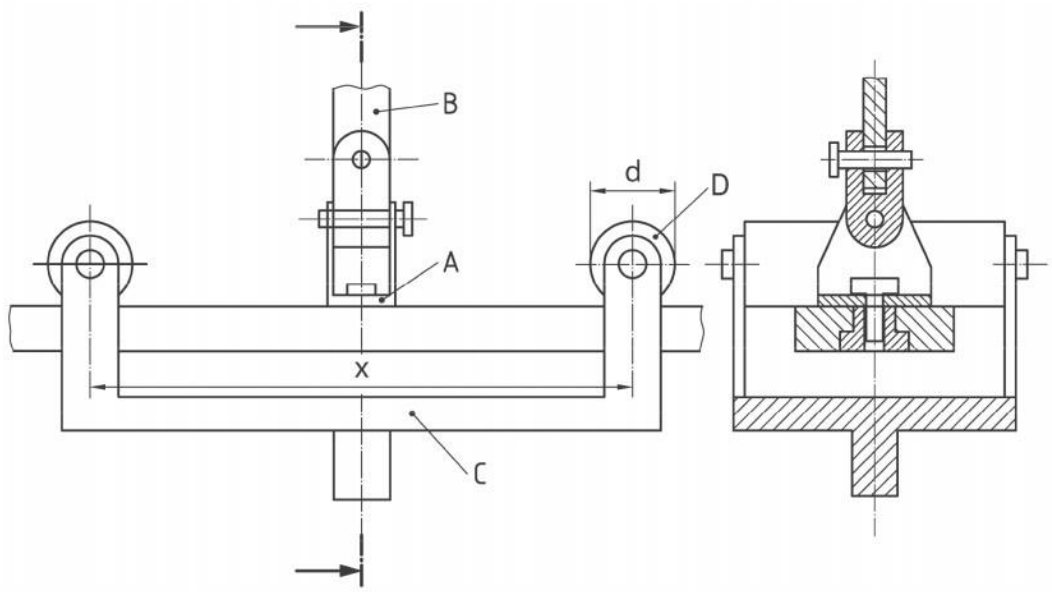


FIG. 2 UNIVERSAL TEST MACHINE WITH PULL-OUT DEVICE

**6.2 Spin Resistance Test Apparatus**

**6.2.1** Device, capable of applying a torque directly to the insert (for example long screw with counter-nut).

**6.2.2** Handheld torque gauge, able to read to ± 2.5 N.m.

**6.2.3** C-Clamps, able to hold the snowboard stationary on a flat surface.

**7 TEST PROCEDURES**

**7.1 Retention-Strength Test Procedure**

**7.1.1** Test the snowboards at room temperature, (23 ± 5) °C.

**7.1.2** Cycle the UTM at a crosshead rate of 20 mm/min ± 20 percent.

**7.1.3** Stop the test at a load of 4 500 N, respectively 3 500 N as appropriate.

**7.2 Spin-Resistance Test Procedure**

**7.2.1** Test the inserts at room temperature, (23 ± 5) °C.

**7.2.2** Clamp the snowboard to a flat surface.

**7.2.3** Insert the test screw into the insert, engaging to the full depth of the insert.

**7.2.4** Torque the insert up to the required torque of 20 N·m.

**8 MARKING**

**8.1** Snowboards with a suggested rider mass between 25 kg and 45 kg shall be marked with a clearly visible, permanent sign of minimum size 10 mm, placed outside the binding mounting area. The sign shall be as follows:

**8.2** Snowboards with a suggested rider mass less than 25 kg shall be marked with a clearly visible, permanent sign of minimum size 10 mm, placed outside the binding mounting area. The sign shall be as follows:


## 9 BIS CERTIFICATION MARKING

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

## 10 TEST REPORT

The test report shall include the following information:

a) A reference to this part of IS 15843;
b) Snowboard/binding insert manufacturer, model/style and length;
c) Snowboard serial number;
d) Compliance with the requirements according to clause **5**; and
e) Any deviations from this part of IS 15843.
f) Date of tests.

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**Review of Indian Standards**

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.

This Indian Standard has been developed from Doc No.: PGD 27 (17517).

## Amendments Issued Since Publication

| Amend No. | Date of Issue | Text Affected |
|---|---|---|
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