



**Mountaineering and
Climbing Equipment**

SNOW PICKETS

**UIAA
155**

Foreword

This UIAA Standard is only published in the English language version, which is the master text. For any validations in translation, the UIAA Safety Commission should be contacted via the UIAA Office in Bern, Switzerland.

UIAA Standards are the only 'globally recognized' standards for mountaineering equipment.

The UIAA Standards are reviewed at intervals to see whether they meet the latest technical requirements and revised if necessary.

The UIAA invites manufacturers of mountaineering and climbing equipment worldwide to become members of the UIAA Safety Commission as Safety Label Holders. Members can participate in discussions on standard requirements, test methods and revisions thereof (see the "General Regulations for the UIAA Safety Label").

A complete list of UIAA Standards for mountaineering and climbing equipment can be found on the UIAA website.

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www.theuiaa.org

UIAA, Monbijoustrasse 61, Postfach, CH - 3000 Bern 23, Switzerland
t: +41 31 370 18 28 e: office@theuiaa.org

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This document was first published in English. The English master text is decisive in any conflict of interpretation. For any validations in translation the UIAA should be contacted via the UIAA Office in Bern, Switzerland.

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The version number refers to the latest revision, e.g. UIAA 155-1 is the first published version, and UIAA 155-4 would be the fourth change to the document. The date is the publication of the this latest version.

1. Scope

This standard specifies safety requirements and test methods for snow pickets for use in mountaineering.

2. Definitions

For the purpose of this standard, the following definitions apply:

- 2.1. Snow picket: An anchoring stake that can be stuck, driven, inserted, or buried into snow, fitted with a means of attachment.
- 2.2. Means of attachment: Any system that allows the attachment of a connector (in accordance with standard UIAA 121).

3. Safety Requirements

3.1. Design

3.1.1. Snow pickets shall have a length of at least 450 mm and an apparent surface of at least 250 cm² (Figure 1).

3.1.2. All edges of the snow picket with which the user's hand can come into contact shall be free from burrs.

3.1.3. For each configuration of use as defined by the manufacturer in the instructions for use, there shall be a means of attachment large enough to accommodate a pin with a diameter of at least 15 mm.

3.2. Strength

3.2.1. When tested in accordance with 4.3 and 4.4, the permanent deformation at the point of application of the load shall be less than 5 mm.

3.2.2. When test in accordance with 4.5, neither the attachment nor the snow pickets shall break.

3.3. Resistance to hammering

3.3.1. When tested in accordance with 4.6, snow pickets shall not show any deformation likely to affect safety, for example, cracks or separation of components. The impact area of the head shall remain sufficiently intact so as to allow further hammering.

4. Test Methods

4.1. Conditioning

4.1.1. Carry out the tests at a temperature of (23 ± 5) °C.

4.2. Examination of design

4.2.1. Determine the dimension of the surface of the test sample by projecting onto a plane as shown in Figure 1 and by measuring.

4.2.2. Test the means of attachment with a pin of (15 ± 0.1) mm diameter.

4.2.3. Test by tactile examination that the test samples are free from burrs.

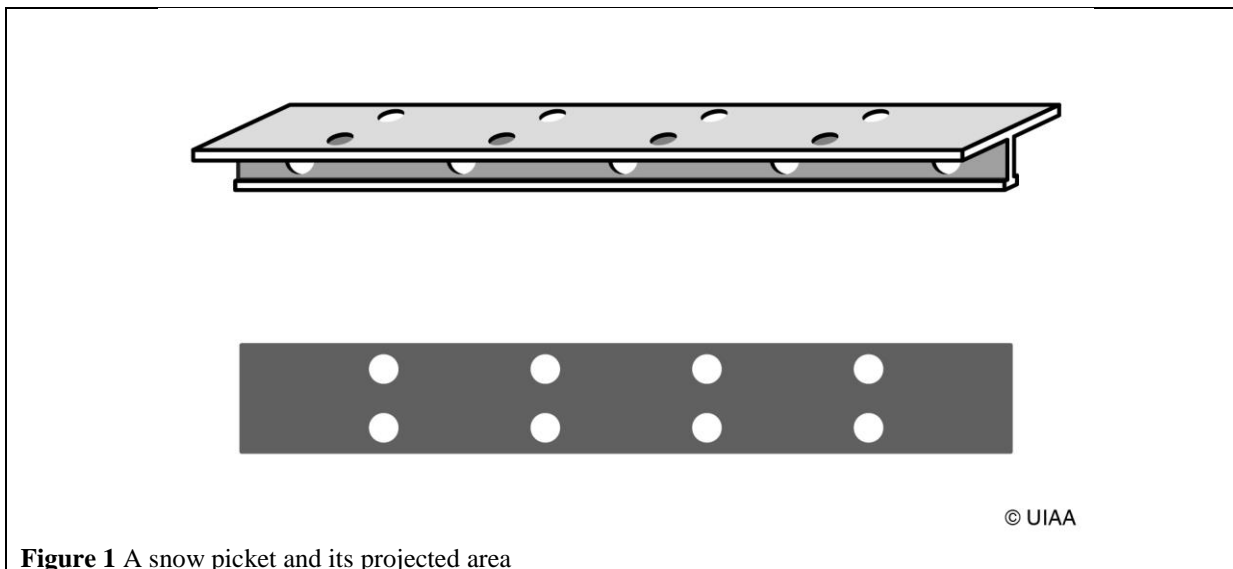
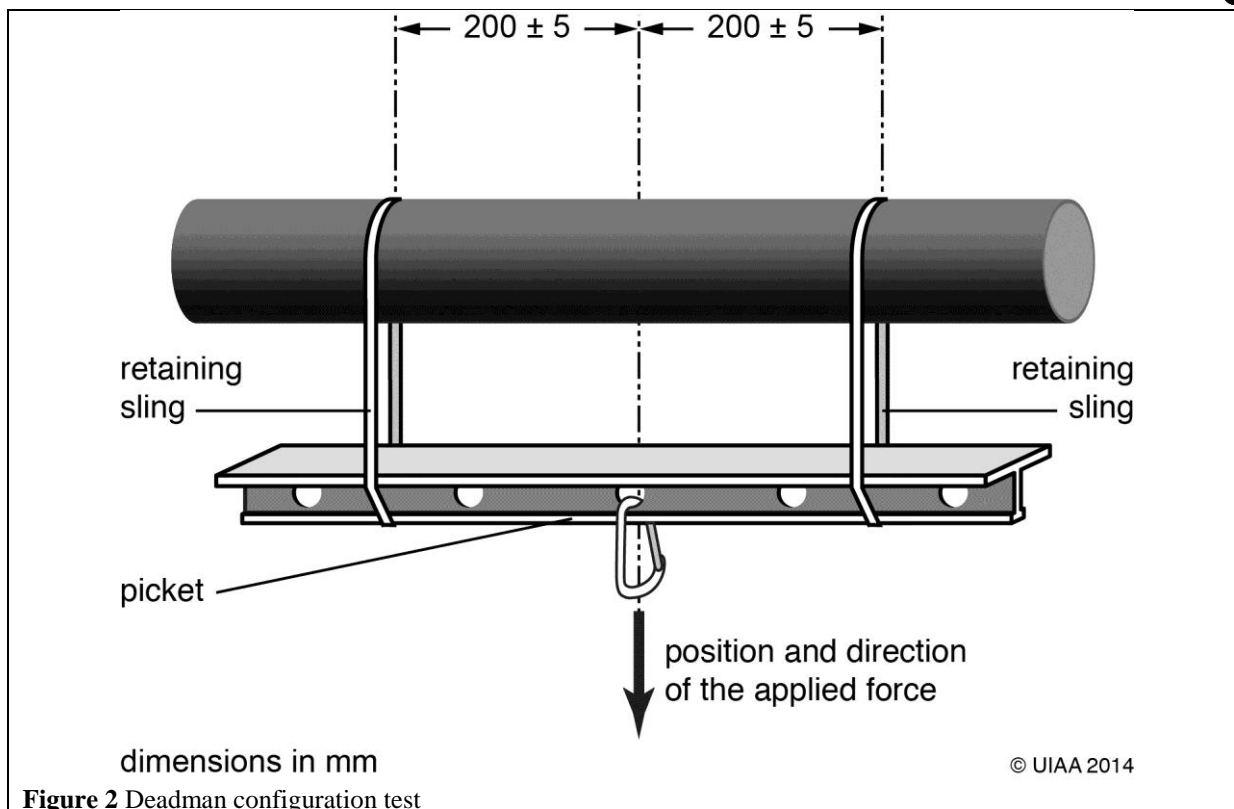


Figure 1 A snow picket and its projected area

4.3. Strength Test, Dead Man Configuration

4.3.1. Apparatus—place the snow picket on two supports separated by a distance of (400 ± 10) mm as specified in Figure 2.

4.3.2. Procedure—a force of (250 ± 10) daN is applied for a duration $(60 \pm 1)_0$ s to the means of attachment (in accordance with the information supplied by the manufacturer) placed at the middle between the two supports as shown in Figure 2. After release of the load, measure the permanent deformation at the point of application of the load.



4.4. Strength Test, Vertically Inserted Configuration

4.4.1. Apparatus—place the snow picket on the supports as specified in Figure 3.

4.4.2. Procedure—a force of (250 ± 10) daN is applied for a duration of (60^{+1}_0) s to the means of attachment situated near the extremity as specified in the information supplied by the manufacturer and as shown in Figure 3. After releasing the load, measure the permanent deformation at the point of load of application.

4.5. Strength of the Attachment Point

4.5.1 Apparatus—place the snow picket between two supports, each one distant of 50 mm apart from the attachment point as shown in Figure 4.

4.5.2. Procedure—a force of (800 ± 10) daN is applied for a duration of (60^{+1}_0) s to each of the means of attachment as specified in the information supplied by the manufacturer and as shown in Figure 4.

4.6. Resistance to hammering

4.6.1. Place the snow picket in a tube full of sand of granulometry 1 mm and with a diameter 5 mm more than the circumscribed circle of the snow picket. Drive the snow picket by using a falling steel body of (10 ± 0.1) kg. For the first impact, fix the drop height at (375 ± 5) mm above the top surface of the snow picket. For each successive impact increase the drop height by the amount the

piton has penetrated the sand. Hammered until it has completely penetrated the tube. Repeat 10 times. Check that the requirements of 3.3 are met.

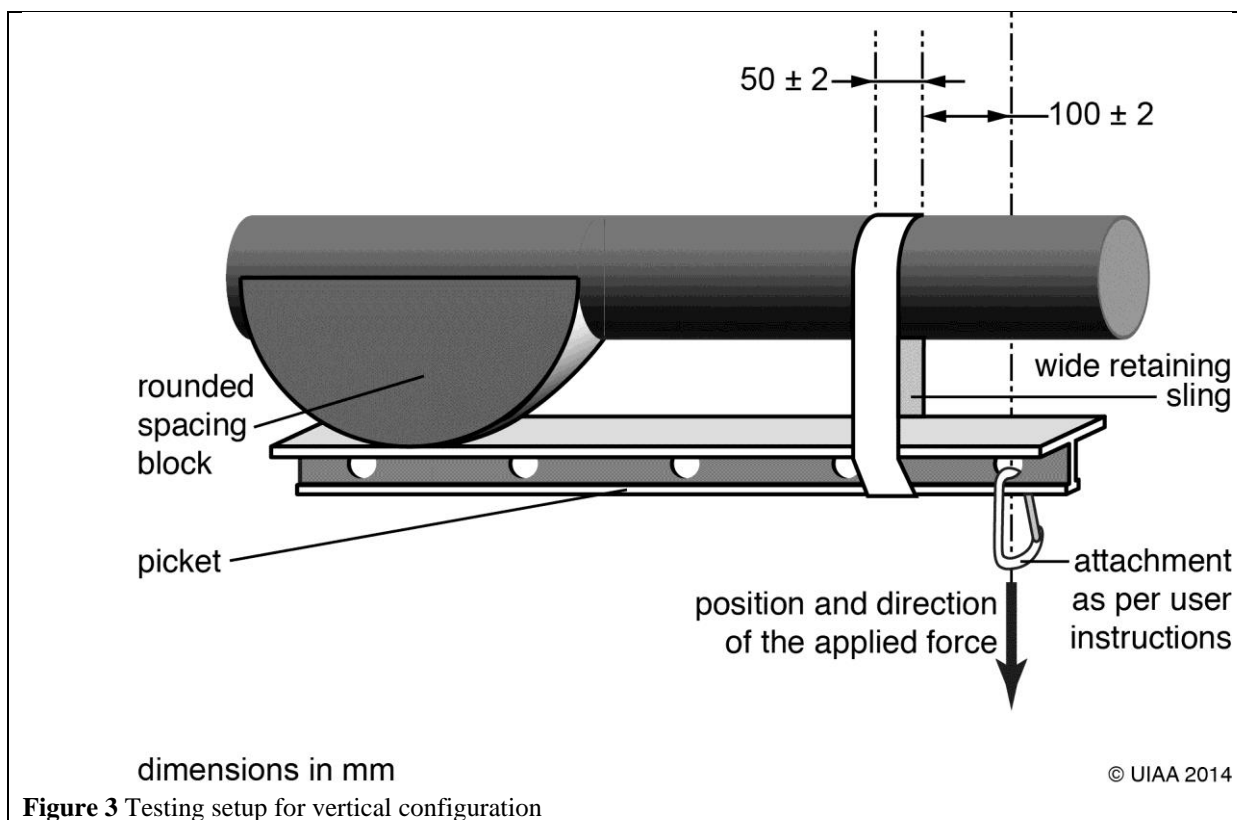


Figure 3 Testing setup for vertical configuration

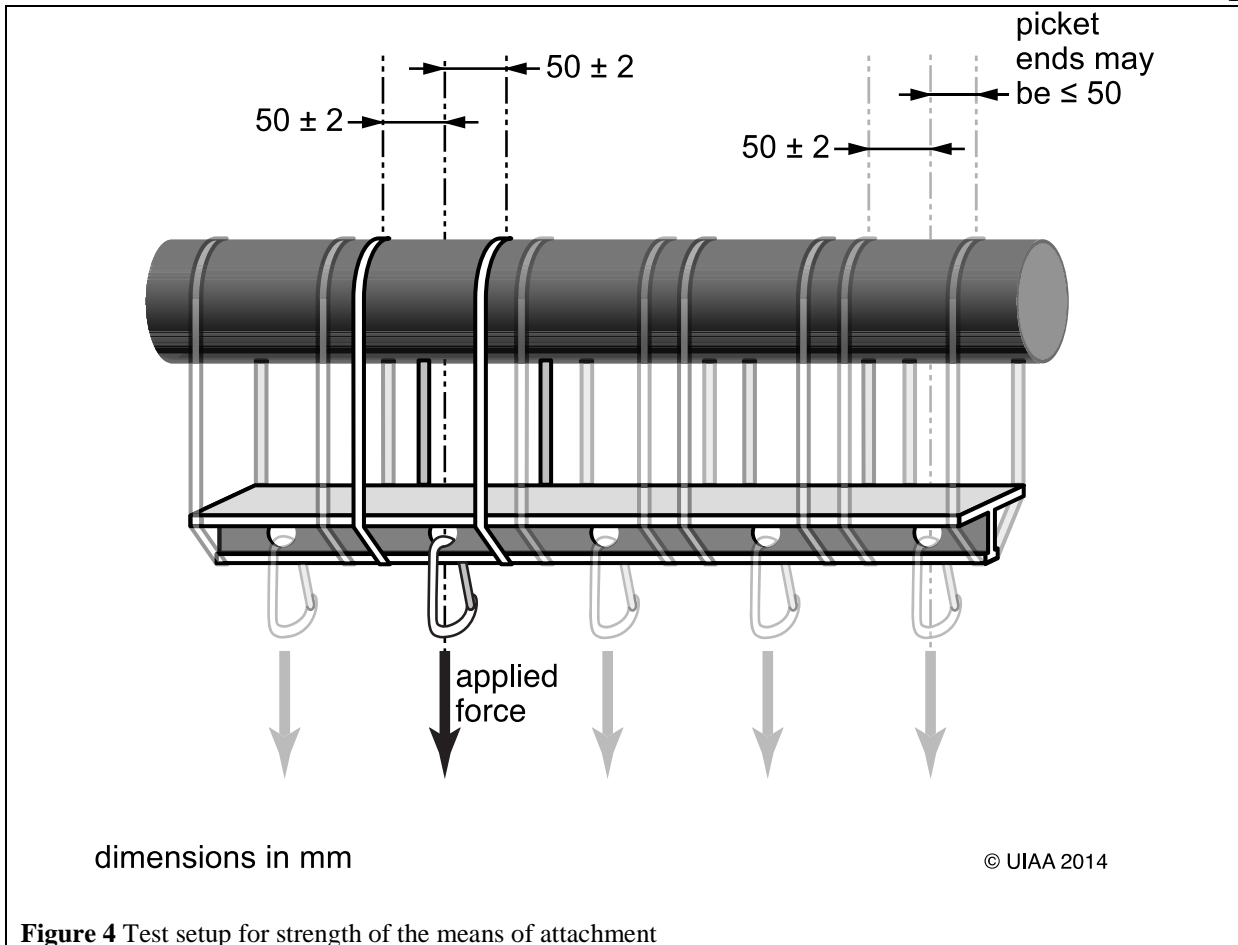


Figure 4 Test setup for strength of the means of attachment

5. Information to Be Supplied

- The name or trademark of the manufacturer, importer, or supplier;
- The meaning of any marking on the product;
- How the snow picket shall be placed in the snow, how to attach to the snow picket to the belay chain/anchor, and how the snow picket shall be loaded;
- A warning that the correct placement in the snow is very important to withstand a load reliably;
- A warning that there is no guarantee that the snow picket will withstand a high load, even when placed correctly into the snow;
- How to choose other components for use with the product;
- How to maintain and service the product;
- The lifespan of the product;
- The effects of chemical reagents and temperature on the product.

This information shall be given at least in the five official UIAA languages (English, French, German, Italian, Spanish) or alternatively in the language of the country in which the product is sold.

6. Marking

Snow pickets shall be marked with at least the following information:

- a) name or trademark of the manufacturer, importer or supplier
- b) a pictogram showing the method of use

7. Demonstrating that the Requirements are met

7.1. The safety requirements shall be satisfied by a test report from a UIAA-approved test laboratory.

7.2. In sections 3.1. (a), if the product is not manufactured under a quality control program—ISO 9000 or Article 11A or Article 11B of European directive 89/686/CEE for Personal Protective Equipment—the number of samples for every test shall be three time more than the number specified in the standard, and every sample shall pass the tests

8. Attachment of the UIAA Label

8.1. For any model of mountaineering equipment, which has been awarded the UIAA Label, the UIAA recommends that the UIAA Trademark (see below) or the four letters "UIAA" be marked clearly, indelibly and permanently on each item sold.



8.2. In addition, the UIAA Trademark or the four letters "UIAA" may be included in the instructions for use and/or on a swing ticket as well as in catalogues and other publications of the manufacturer. In the last case, the illustration and/or the text must clearly apply only to the equipment which has been awarded the UIAA Label.

UIAA 155 Snow Pickets revision history		
Version	Date	Comments
UIAA 155-1	June 2015	Accepted, Chamonix, June 2015
UIAA 155-2	November 2015	Accepted, corresponding vote, Oct 2015; reduced permitted length to account for even meter lengths of picket stock
UIAA 155-3	???	Further clarifications for measuring strength and deformation for pickets shorter than 500 cm; initiated October 2015; vote expected Jan 2016.