



SLOVENSKI STANDARD
SIST EN 13089:2011+A3:2023

01-julij-2023

Gorniška oprema - Orodje za led - Varnostne zahteve in preskusne metode (z dopolnili do vključno A3)

Mountaineering equipment - Ice-tools - Safety requirements and test methods

Bergsteigerausrüstung - Eisgeräte - Sicherheitstechnische Anforderungen und Prüfverfahren

Équipement d'alpinisme et d'escalade - Outils à glace - Exigences de sécurité et méthodes d'essai

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ICS:

97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment
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EUROPEAN STANDARD

EN 13089:2011+A3

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Mountaineering equipment - Ice-tools - Safety requirements and test methods

Équipement d'alpinisme et d'escalade - Outils à glace -
Exigences de sécurité et méthodes d'essai

Bergsteigerausrüstung - Eisgeräte -
Sicherheitstechnische Anforderungen und
Prüfverfahren

This European Standard was approved by CEN on 17 October 2021 and includes Amendment 3 approved by CEN on 21 December 2022.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 13089:2011+A3:2023) has been prepared by Technical Committee CEN/TC 136 “Sports, playground and other recreational facilities and equipment”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2023, and conflicting national standards shall be withdrawn at the latest by October 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes A3 EN 13089:2011+A2:2021 A3.

This document includes Amendment 1 approved by CEN on 19 March 2015, Amendment 2 approved by CEN on 17 October 2021 and Amendment 3 approved by CEN on 21 December 2022.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1, A2 A2 and A3 A3.

This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s). (standards.iteh.ai)

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document. SIST EN 13089:2011+A3:2023

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In comparison with the previous edition EN 13089:1999, the following significant changes have been made:

- a) an editorial revision has been carried on;
- b) the Scope is more specified to ice-tools as protection against falls;
- c) there is a new classification of ice-tools;
- d) Subclause 4.7 was deleted;
- e) the test method for shaft strength has been revised;
- f) Subclause 5.3.7 was deleted;
- g) there is an additional marking.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

EN 13089:2011+A3:2023 (E)

Introduction

This document is based on the former UIAA-Standard C (Union Internationale des  Associations  d'Alpinisme), which has been prepared with international participation.

This document is one of a package of standards for mountaineering equipment, see Annex A.

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1 Scope

This document specifies safety requirements and test methods for ice-tools for use in mountaineering including climbing, and as a buried anchor for protection against falls.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 565:2017, *Mountaineering equipment - Tape - Safety requirements and test methods*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

ice-tool

hand held tool intended for movement on snow and/or ice and/or rock which can also be used as an anchor point or as a brake in snow and comprises at least a shaft and a pick

Note 1 to entry: See Figure 1.

3.2

type 1 ice-tool

ice-tool with a shaft/pick connection intended for use in snow and/or ice

3.3

type 2 ice-tool

ice-tool with a shaft/pick connection intended for use on rock, and/or snow, and/or ice

3.4

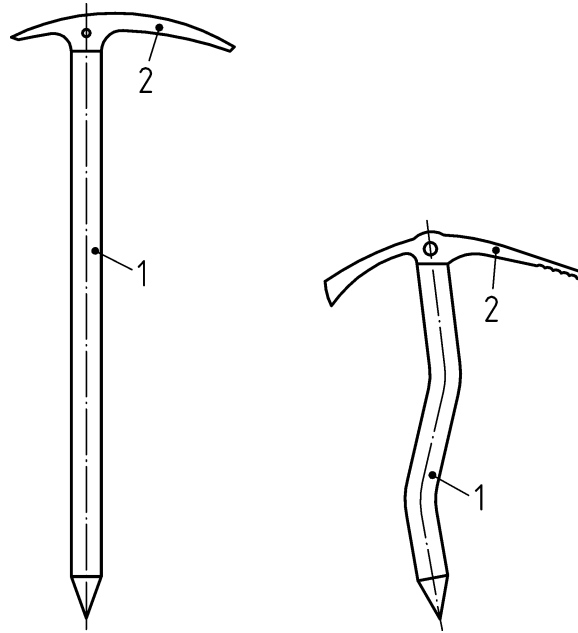
type 1 pick

pick intended for use in snow and/or ice

3.5

type 2 pick

pick intended for use on rock, and/or snow, and/or ice

**Key**

- 1 Shaft of the ice-tool
- 2 Pick of the ice-tool

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 Figure 1 — Main parts of an ice-tool
 (standards.iteh.ai)

4 Safety requirements

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4.1 Edges

All edges of the ice-tool with which the user's hands can come into contact shall be free from burrs. The shaft of the ice tool has to be free of sharp edges.

4.2 Shaft strength

When tested in accordance with 5.3.3, on removal of the load from the shaft the permanent deformation at the point of application of the load shall not exceed 3 mm or the calculated f_k value.

4.3 Strength in the load direction YY

When tested in the load direction YY (see Figure 2) in accordance with 5.3.4,

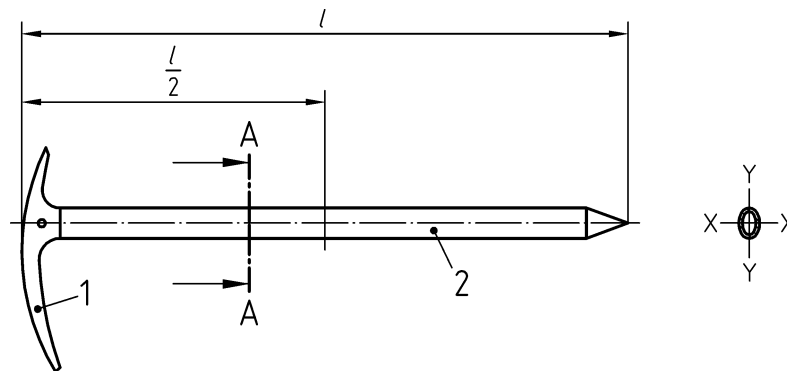
- a) the test sample shall not break;
- b) no component part of the test sample shall work loose.

4.4 Strength in the load direction XX

When tested in the load direction XX (see Figure 2) in accordance with 5.3.5,

- a) the shaft shall not break;
- b) no component part of the test sample shall work loose;

- c) the permanent deformation at the point of application of the load shall not exceed 10 mm after removal of the load.



Key

- 1 Pick
2 Shaft
XX/YY Load directions

Figure 2 — Load directions XX and YY

4.5 Pick strength

When tested in accordance with 5.3.6,

- a) the test sample shall not break;
b) no component part of the test sample shall work loose;
c) the permanent deformation at the point of application of the force shall not exceed 70 mm or the calculated f_k value after removal of the force.

5 Test methods

5.1 Preparation of test samples

For the strength tests 5.3.3 to 5.3.6 the test samples shall be conditioned for at least 1 h at $(-30 \pm 5)^\circ\text{C}$. The tests shall be carried out at $(23 \pm 5)^\circ\text{C}$. Each test shall begin within 3 min from removal from conditioning.

5.2 Apparatus

For the tests 5.3.3 to 5.3.6 use a tape in accordance with EN 565:2017 with a width of (15 ± 2) mm.

5.3 Procedure

5.3.1 Test sample

Carry out each test on a test sample not previously subjected to any load.

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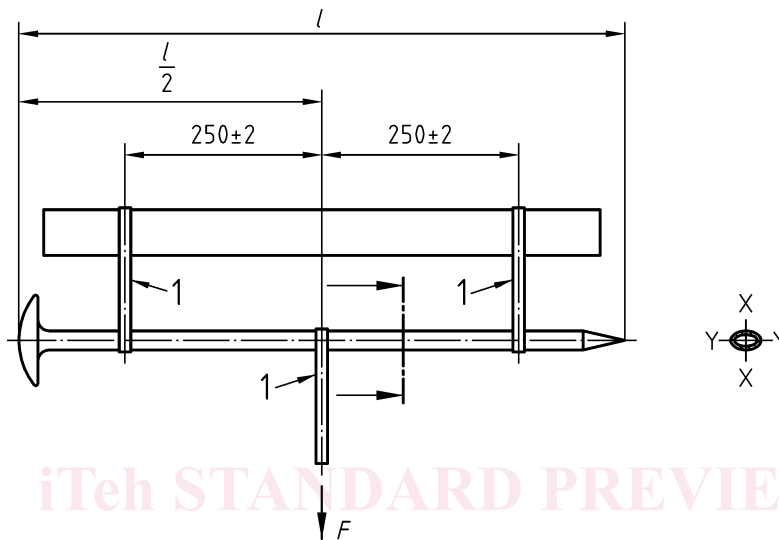
5.3.2 Edges

Check by visual and tactile examination that the requirements of 4.1 are met.

5.3.3 Shaft strength

Support the shaft horizontally and load it in the direction XX as shown in Figure 3.

Dimensions in millimetres



Key

1 Tape

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<https://standards.iteh.ai/standards.iteh.ai> **Figure 3 — Testing of shaft strength** 4ff2-820f-49a2a1cb64cb/sist-en-13089-2011a3-2023

If the ice-tool is long enough, arrange the tapes as shown in Figure 3 with the load applied at the mid length of the ice-tool.

Apply a force of $F = (2\,500 \text{ }^{+125}_0)$ N without shock and maintain for (60 ± 5) s.

If the ice tool is not long enough, reduce the 250 mm to " l_k ". l_k shall be as long as possible in reducing steps of 10 mm. Then calculate the force F_k to be applied as follows:

$$F_k = F \times 250/l_k \quad (1)$$

Calculate the maximum permissible permanent deformation f_k in mm as follows:

$$f_k = 3 \times (l_k/250)^2 \quad (2)$$

where

l_k is the distance in mm from the middle of the shaft to the middle of the outer tapes, being positioned at the ends of the shaft.

During the test, according to the shape of the shaft, the ice-tool may turn. If so, carry out the test in the stable position attained after rotation. For a straight shaft, rotation shall be prevented.

If the ice-tool is fitted with a telescopic shaft, carry out the test at the length stated in the manufacturer's instructions for use as an anchor point for belaying in snow.

Measure the permanent deformation at the point of application of the force.