SLOVENSKI STANDARD
SIST EN 893:2011

01-januar-2011

Nadomešča:
SIST EN 893:2000

Gorniška oprema - Dereze - Varnostne zahteve in preskusne metode

Mountaineering equipment - Crampons - Safety requirements and test methods

Bergsteigerausrüstung - Steigeisen - Sicherheitstechnische Anforderungen und Prüfverfahren

Equipement d'alpinisme et d'escalade - Crampons - Exigences de sécurité et méthodes d'essai

Ta slovenski standard je istoveten z: EN 893:2010

ICS:

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

SIST EN 893:2011 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 893

November 2010

ICS 97.220.40

Supersedes EN 893:1999

English Version

Mountaineering equipment - Crampons - Safety requirements and test methods

Equipement d'alpinisme et d'escalade - Crampons - Exigences de sécurité et méthodes d'essai

Bergsteigerausrüstung - Steigeisen - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 9 October 2010.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 893:2010: E

Contents

Page

Foreword

This document (EN 893:2010) 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 May 2011, and conflicting national standards shall be withdrawn at the latest by May 2011.

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

This document supersedes EN 893:1999.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 89/686/EEC.

For relationship with EU Directive 89/686/EEC, see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

The text of this European Standard is based on the former UIAA-Standard S (Union Internationale des Associations d'Alpinisme / International mountaineering and climbing federation), which has been developed with international participation.

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

1 Scope

This European Standard specifies safety requirements and test methods for crampons preventing the user from slipping when used in mountaineering on snow and ice including climbing mixed terrain.

2 Normative references

The following referenced documents are indispensable for the application 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, *Mountaineering equipment — Tape — Safety requirements and test methods*

EN ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T) (ISO 6508-1:2005)*

ISO 9523, *Touring ski-boots for adults — Interface with touring ski-binding — Requirements and test methods*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply (see also Figure 1).

3.1
crampon
device fitted with spikes, which is intended to cover the sole of a boot, from toe to heel and from one side to the other, so as to provide grip on snow, ice and mixed terrain and which has a system of attachment to the boot

3.2
frame
part or parts of the crampon which bears the spikes

3.3
front spike
forward pointing spike intended for use when climbing steep terrain

3.4
downward spike
spike usually, but not necessarily, pointing vertically downward

3.5
binding
system of attachment to the boot

3.6
clip-on binding
particular binding which uses a lever mechanism for rapid attachment of a crampon to a boot

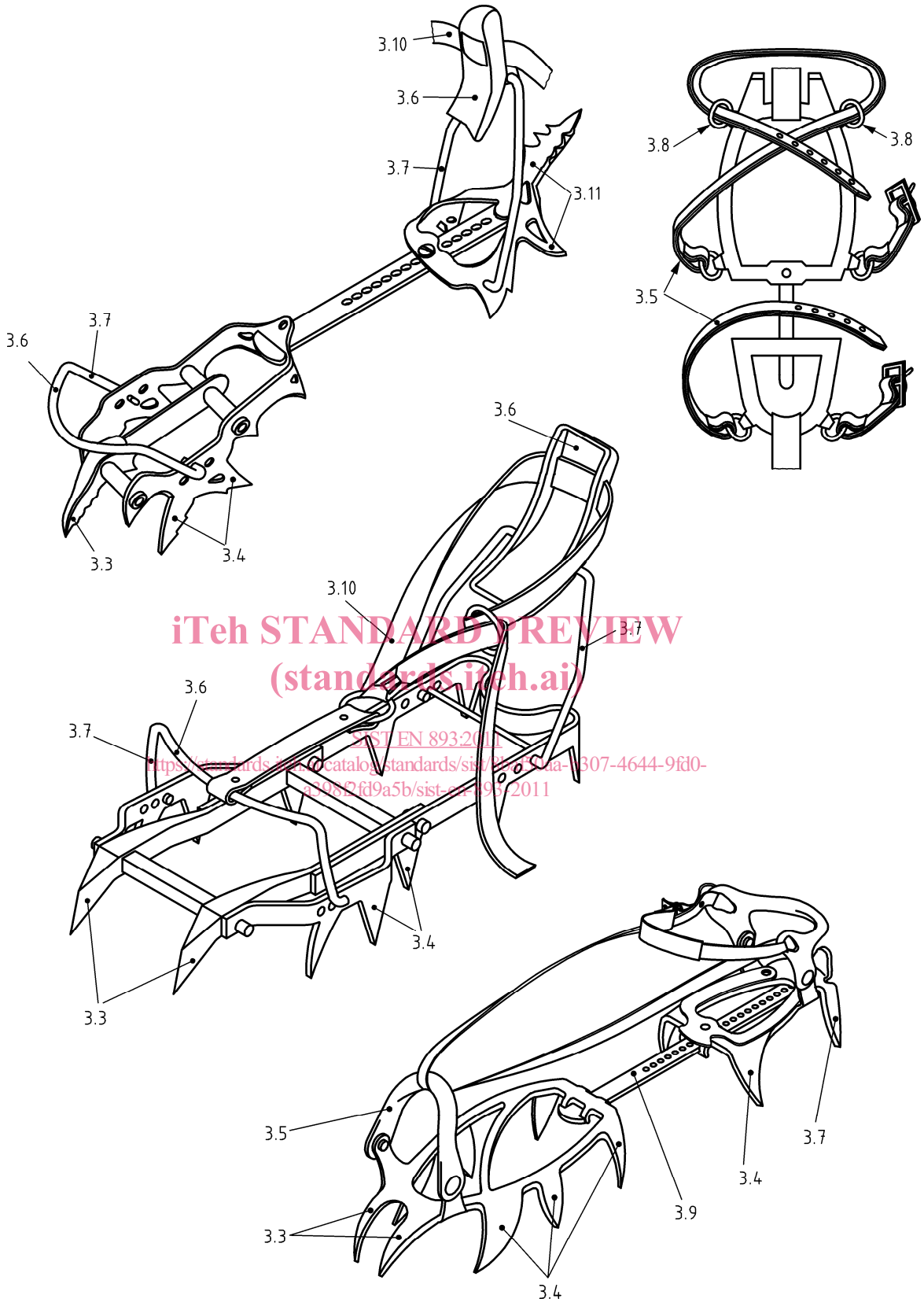
3.7
bail
stirrup-shaped part or parts of a binding used to connect the crampon to the toe and/or to the heel of the boot

3.8
attachment rings or eyes
rings or eyes which are threaded by a part of the binding when fitted in accordance with the manufacturer's instruction

3.9
adjustment system
system for adjusting the crampon to fit the boot

3.10
retaining system
system which prevents the climber from losing the crampon if the binding fails

3.11
spur
other spike than front spikes and downward spikes



NOTE The numbers in this figure refer to the corresponding terms defined in Clause 3.

Figure 1 — Parts of a crampon

4 Safety requirements

4.1 Shape and design

4.1.1 Each crampon shall have a system of attachment to the boot.

4.1.2 Each crampon shall have at least eight spikes, not including spurs.

4.1.3 Each crampon shall have at least six downward spikes, which:

a) shall be at least 20 mm long (see Figure 2) and not necessarily all the same length;

b) when walking normally on flat and smooth ice, shall contact the surface of the ice, but not necessarily at the same time; and

c) shall be shaped such that when loaded with one person's weight whilst walking on smooth ice, the downward spikes will "bite" into the ice such as to prevent slipping.

Dimensions in millimetres

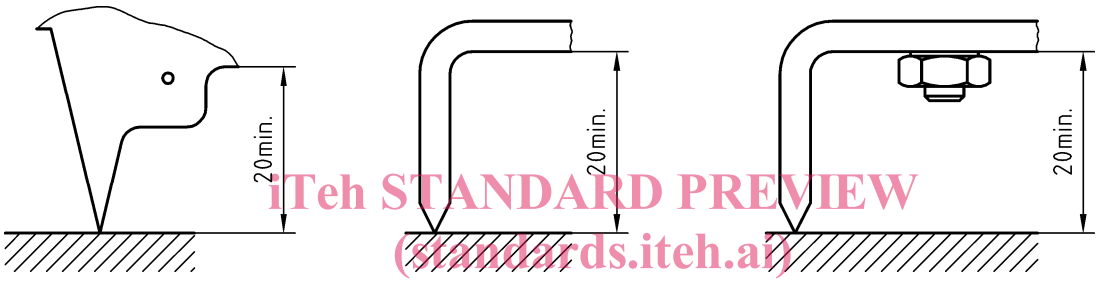


Figure 2 — Length of spikes

4.1.4 All edges with which the user's hands can come into contact shall be free from burrs.

4.1.5 If the crampon has a clip-on binding it shall be fitted with a retaining system.

4.2 Prevention against slippage

When tested according to 5.4.2, the crampons shall not slip on the ice more than 10 mm in each direction.

4.3 Strength

4.3.1 Hardness

Each part of the crampon, which contains a spike or spikes, shall have a hardness of at least 70 HRB.

Testing according to 5.4.1.3.

4.3.2 Bending and breaking strength of spikes

When tested according to 5.4.3, the maximum deformation under load and the permanent deformation after removing the load, measured at the point of application, shall not be more than shown in Table 1. The breaking strength shall be at least as shown in Table 1.

Spurs shall be tested with a load applied in each intended direction.

Table 1 — Strength of spikes

Types of spikes	Applied force N	Deformation under load mm	Permanent deformation mm	Minimum breaking strength N
Downward spikes	900 ± 20	15	7	1 200
Front spikes (if more than one) and spur	1 200 ± 30	15	7	1 500
Single front spike (mono-spike)	1 600 ± 40	15	7	2 000

4.3.3 Transverse strength of bails of clip-on bindings

When tested in the operating position and according to 5.4.4, the bails of clip-on bindings shall not break and shall not come out of the frame of the crampon. Permanent deformation is acceptable.

If the crampon is directly attached or integrated into a boot the transverse strength requirements are not applicable.

4.3.4 Strength of binding parts other than bails

When tested according to 5.4.5, each part shall not break.

4.3.5 Strength of attachment rings and eyes and of the appropriate part of the binding

When tested according to 5.4.7, attachment rings and eyes and the appropriate part of the binding shall not break.

If the crampon is directly attached or integrated into a boot the strength requirements are not applicable.

4.3.6 Longitudinal strength of the frame

When tested according to 5.4.8, the frame including the longitudinal adjustment system shall not break.

5 Test methods

5.1 Test samples

The tests shall be carried out on the following number of test samples:

a) if the left and the right crampon are of identical shape: two test samples (one test sample for the tests in 5.4.3 and one test sample for the tests in 5.4.1 and 5.4.4 to 5.4.8);

b) if the left and the right crampon are of different shapes: two pairs (one pair for the tests in 5.4.3 and one pair for the tests in 5.4.1 and 5.4.4 to 5.4.8).

5.2 Test conditions

5.2.1 All tests shall be carried out at a room temperature of (23 ± 5) °C.