



SLOVENSKI STANDARD
SIST EN 569:2007

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Gorniška oprema – Klini – Varnostne zahteve in preskusne metode

Mountaineering equipment - Pitons - Safety requirements and test methods

Bergsteigerausrüstung - Felshaken - Sicherheitstechnische Anforderungen und Prüfverfahren

Équipement d'alpinisme et d'escalade (Pitons) - Exigences de sécurité et méthodes d'essai

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English Version

Mountaineering equipment - Pitons - Safety requirements and test methods

Équipement d'alpinisme et d'escalade - Pitons - Exigences de sécurité et méthodes d'essai

Bergsteigerausrüstung - Felshaken - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 13 January 2007.

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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 569:2007) has been prepared by the Technical Committee CEN/TC 136 "Sports, playground and other recreational 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of an identical text or by endorsement, at the latest by August 2007, and conflicting national standards shall be withdrawn at the latest by August 2007.

This document supersedes EN 569:1997.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to support Essential Requirements of EU Directive 89/686/EEC.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this European Standard.

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, 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.

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Introduction

The text of this European Standard is based on the former UIAA-Standard R (Union Internationale des Associations d'Alpinisme), which has been developed with international participation.

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

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1 Scope

This European Standard specifies safety requirements and test methods for pitons for use in mountaineering including climbing.

2 Terms and definitions

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

2.1

piton

device which, when inserted into a rock crack by means of a hammer or equivalent device, provides an anchor

NOTE Two parts can normally be identified in the piton: the head and the blade.

2.2

head

part of the piton which contains the attachment point eye (or eyes) used for connection to the rope (via a connector) and which is usually the part struck when inserting the piton

2.3

blade

part of the piton which is inserted into the rock crack

2.4

length of the piton

length of the blade measured in the direction of its insertion into the crack

2.5

pulling shackle

tool used to apply the force in the test

2.6

safety piton

piton which exhibits a high breaking force (see Table 1) and having a length of at least 90 mm

2.7

progression piton

piton with a lower breaking force than safety pitons (see Table 1)

3 Safety requirements

3.1 Design

3.1.1 The eye shall be at least 3 mm thick (see Figure 1).

3.1.2 The internal edges of the eye shall be rounded with a radius larger than 0,2 mm or larger than $0,2 \text{ mm} \times 45^\circ$. See a) in Figure 1.

Dimensions in millimetres

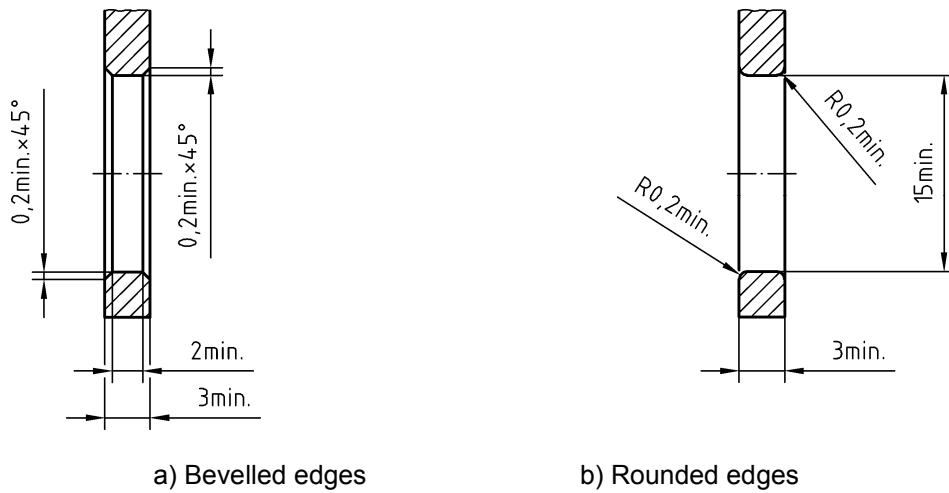


Figure 1 — Attachment point eye dimensions

3.1.3 When tested according to 4.1, the eye shall have an internal diameter of at least 15 mm. See b) in Figure 1.

3.1.4 If pitons are made from heat treated steel with a hardness greater than 38 HRC they have to appear dark. Pitons which are made from all other materials and a hardness less than 22 HRC have to appear light. The head and the eye shall be free from burrs and sharp edges.

3.2 Breaking force

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When tested in accordance with 4.2, the breaking force shall be not less than the appropriate value given in Table 1.

Table 1 — Minimum values of breaking force

Type	Breaking force		
	F_1	F_2	F_3
	kN	kN	kN
Safety pitons	25	10	15
Progression pitons	12,5	5	7,5

F_1 is the normal direction specified by the manufacturer;
 F_2 is the reverse direction;
 F_3 is the sideways direction
 (see Figures 2 and 3).

4 Test method

4.1 Examination of design

The requirements according to 3.1 shall be tested by measurement or tactile examination on one test sample.

4.2 Determination of breaking force

4.2.1 Test samples

If a piton model is produced in different lengths, test only the shortest length in accordance with 4.2.5. For each test direction a new test sample is to be used.

4.2.2 Test conditions

Carry out the test at a temperature of $(23 \pm 5) ^\circ\text{C}$.

4.2.3 Apparatus

The apparatus shall consist of

- a vice for holding the piton at a pressure that does not lead to visible deformation of the test sample and with edges of the two jaws holding the piton rounded to a radius of $(5 \pm 0,5)$ mm (see Figure 2). At least one of the jaws rotates in order to accommodate any tapered shape in the piton;
- a means of preventing extraction and rotation of the piton, e.g. one or two pins. Ensure that the outer hole drilled in the piton blade respectively the fixing system remains at least 20 mm from the outer surface of the jaw (see Figure 2);
- a pulling shackle, made of steel, with a diameter of $(10 \pm 0,1)$ mm to apply a force on the piton, the part of this device which is nearest to the piton being as indicated in Figures 2 and 3. The shackle rotates freely around axes X and Y (see Figure 3), to allow free deformation of the piton.

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Dimensions in millimetres

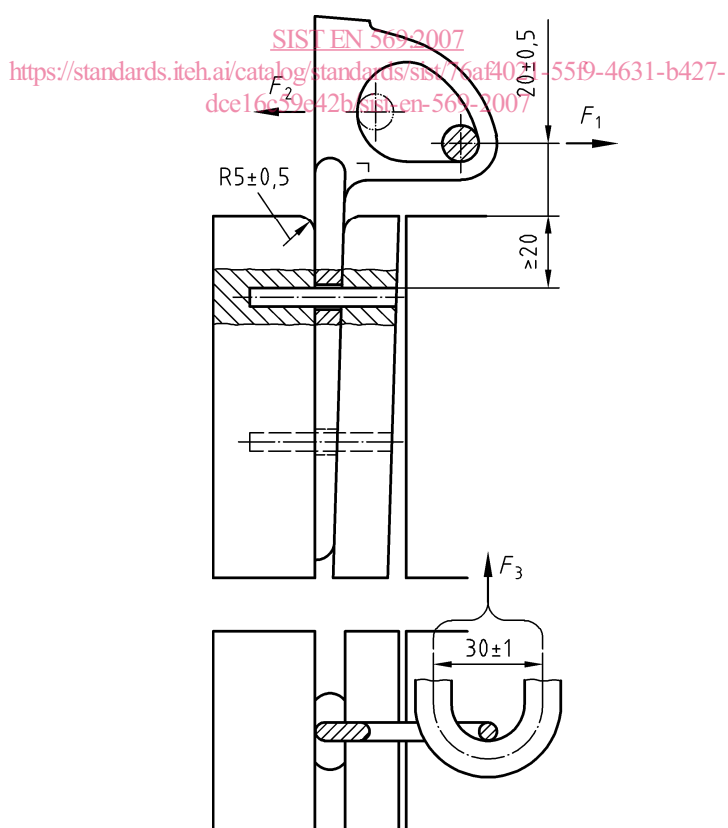


Figure 2 — Part of the test device (Example 1)