



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 19957:2021

# Footwear - Test methods for heels - Heel pin holding strength (ISO 19957:2021)

**I.S. EN ISO 19957:2021**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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*This document is based on:*

EN ISO 19957:2021

*Published:*

2021-09-29

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2021-10-18

ICS number:

61.060

NOTE: If blank see CEN/CENELEC cover page

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## National Foreword

I.S. EN ISO 19957:2021 is the adopted Irish version of the European Document EN ISO 19957:2021, Footwear - Test methods for heels - Heel pin holding strength (ISO 19957:2021)

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EUROPEAN STANDARD

EN ISO 19957

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2021

ICS 61.060

Supersedes EN ISO 19957:2004, EN ISO  
19957:2004/AC:2006

English Version

## Footwear - Test methods for heels - Heel pin holding strength (ISO 19957:2021)

Chaussures - Méthodes d'essai relatives aux talons -  
Résistance à l'arrachement de pointe à talon (ISO  
19957:2021)

Schuhe - Prüfverfahren für Absätze - Absatznagel-  
Haltefestigkeit (ISO 19957:2021)

This European Standard was approved by CEN on 27 August 2021.

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**EN ISO 19957:2021 (E)**

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## **European foreword**

This document (EN ISO 19957:2021) has been prepared by Technical Committee ISO/TC 216 "Footwear" in collaboration with Technical Committee CEN/TC 309 "Footwear" the secretariat of which is held by UNE.

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of an identical text or by endorsement, at the latest by March 2022, and conflicting national standards shall be withdrawn at the latest by March 2022.

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 EN ISO 19957:2004.

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

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 19957:2021 has been approved by CEN as EN ISO 19957:2021 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
19957**

Second edition  
2021-09

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## **Footwear — Test methods for heels — Heel pin holding strength**

*Chaussures — Méthodes d'essai relatives aux talons — Résistance à  
l'arrachement de pointe à talon*



Reference number  
ISO 19957:2021(E)

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Published in Switzerland

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## ISO 19957:2021(E)

### Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 216, *Footwear*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 309, *Footwear*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 19957:2004), which has been technically revised. It also incorporates the Technical Corrigendum ISO 19957:2004/Cor 1:2005.

The main changes compared to the previous edition are as follows:

- small correction in the formula of the calculation of heel pin holding strength, given in [7.1](#);
- the title of [Clause 5](#) has been changed from “Sampling and conditioning” to “Sampling and preparation”;
- two figures have been added to illustrate how the sample is clamped between the two jaws of the tensile testing machine;
- some editorial changes and wording revision to clarify the text.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

# Footwear — Test methods for heels — Heel pin holding strength

## 1 Scope

This document specifies a test method for measuring the force required to pull a single heel pin out of a heel. This test method is used both to measure the heel pin holding strength of heel materials by using a standard heel pin and a method of insertion, and to assess the heel nailing of commercial production.

This test method is applicable to testing plastics and wooden heels for women's footwear. Heels composed of layers of fibreboard or leather and low plastics heels for men's footwear cannot be tested by this method.

## 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.

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### heel pin holding strength

force required to pull a standard pin out of the heel material divided by the effective length of pin buttressing in the material, expressed as N/mm

## 4 Apparatus and material

The following apparatus and material shall be used:

**4.1 Tensile testing machine**, in accordance with ISO 7500-1, class 2, with a range of approximately 0 N to 2 000 N and a constant rate of traverse of 40 mm/min  $\pm$  10 mm/min.

**4.2 Small clamp or slotted hook**, which can be attached to one jaw of the tensile testing machine via a flexible coupling.

**4.3 Commercial heel nailing machine.**

**4.4 Standard heel pin** (see [Figure 1](#)), with the following dimensions:

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