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

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



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Foreword

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ISO 19957 was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 216, *Footwear*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this document, read “...this European Standard...” to mean “...this International Standard...”.

Contents

page

Foreword.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Apparatus and material	1
5 Sampling and conditioning	2
6 Test method.....	3
7 Expression of results	4
8 Test report	5

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Foreword

This document (EN ISO 19957:2004) has been prepared by Technical Committee CEN /TC 309 "Footwear", the secretariat of which is held by AENOR, in collaboration with Technical Committee ISO/TC 216 "Footwear".

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of an identical text or by endorsement, at the latest by March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

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

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1 Scope

This European Standard specifies a test method for measuring the force required to pull a single heel pin out of a heel. This test method can be used to measure the heel pin holding strength of heel materials by using a standard heel pin and a method of insertion, or it can be used 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 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 ISO 7500-1, *Metallic materials - Verification of static uniaxial testing machines - Part 1: Tension/compression testing machines (ISO 7500-1:1999)*.

3 Terms and definitions

For the purposes of this European Standard, the following term and definition apply.

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

4.1 The following apparatus and material shall be used:

4.2 **Tensile testing machine** complying with the requirements of EN ISO 7500-1 class 2, with a range of approximately 0 N to 2000 N and a constant rate of speed of $40 \text{ mm/min} \pm 10 \text{ mm/min}$.

NOTE A constant rate of traverse tester can be used if this is of a type where increase of load produces an appreciable movement of the load jaw (e.g. a pendulum tester). Its rate of traverse should be set to give on average the specified rate of loading over the whole range for zero jaw separation. This approximation to constant rate of loading is acceptable because the amount of jaw separation in the test is small before the maximum load is reached.

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

4.4 **Commercial heel nailing machine**.

4.5 **Standard heel pin** (see Figure 1), with the following dimensions:

- | | |
|--|---------------------|
| a) length: | 18 mm \pm 0,5 mm; |
| b) diameter over the buttress ridges: | 1,9 mm, minimum; |
| c) number of complete formed buttress pressure flanks (the side of the buttress which is nearly at right angles to the pin shaft): | 13 minimum; |
| d) distance from point to the base of the first fully formed buttress groove at the head end: | 12 mm, minimum. |