
**Personal protective equipment — Test
methods for footwear**

*Équipement de protection individuelle — Méthodes d'essais pour les
chaussures*



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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.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 20344 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 161, *Foot and leg protectors*, in collaboration with ISO Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 3, *Foot protection*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 20344:2004), which has been technically revised. It also incorporates the Technical Corrigendum ISO 20344:2004/Cor.1:2005 and the Amendment ISO 20344:2004/Amd.1:2007.

The main differences between this edition and the 2004 edition are:

- Annex A, inclusion of a new procedure for plasticine calibration;
- Annex C, inclusion of a new table for footwear sizing;
- 4.1, Table 1, clarification of the method for sampling;
- 5.1, clarification on testing of ergonomic features;
- 5.4 and 5.5, inclusion of a reference to EN 12568:2010;
- 5.8.3, different test methods for anti-penetration insoles;
- 5.15.2, inclusion of a new test method for water resistance;
- 6.4.2 and 6.5.2, inclusion of test methods (due to the withdrawal of ISO 2023);
- 6.11, replacement of the method for determination of chromium VI by a reference to ISO 17075;
- withdrawal of 5.11, "Determination of the electrical insulation".

Personal protective equipment — Test methods for footwear

1 Scope

This International Standard specifies methods for testing footwear designed as personal protective equipment.

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.

ISO 34-1:2010, *Rubber, vulcanised or thermoplastic — Determination of tear strength — Part 1: Trouser, angle and crescent test pieces*

ISO 868, *Plastics and ebonite — Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868:2003)*

ISO 1817:2011, *Rubber, vulcanised — Determination of the effect of liquids*

ISO 3290-1, *Rolling bearings — Balls — Dimensions and tolerances*

ISO 3376, *Leather — Physical and mechanical tests — Determination of tensile strength and percentage extension*

ISO 3377-2, *Leather — Physical and mechanical tests — Determination of tear load — Part 2: Double edge tear*

ISO 4045, *Leather — Determination of pH*

ISO 4643:1992, *Moulded plastic footwear — Lined or unlined poly (vinyl chloride) boots for general industrial use — Specification*

ISO 4649:2010, *Rubber, vulcanized or thermoplastic — Determination of abrasion resistance using a rotating cylindrical drum device*

ISO 4674-1:2003, *Rubber- or plastics-coated fabrics — Determination of tear resistance — Part 1: Constant rate of tear methods*

ISO 5423:1992, *Moulded plastic footwear — Lined or unlined polyurethane boots for general industrial use — Specification*

ISO 13287, *Personal protective equipment — Footwear — Test method for slip resistance*

ISO 17075, *Leather — Chemical analysis — Determination of chromium VI*

ISO 20345:2011, *Personal protective equipment — Safety footwear*

ISO 20347, *Personal protective equipment — Occupational footwear*

ISO 23529:2010, *Rubber — General procedures for preparing and conditioning test pieces for physical test methods*

EN 388:2003, *Protective gloves against mechanical risks*

EN 12568:2010, *Foot and leg protectors — Requirements and test methods for toecaps and penetration-resistant inserts*