
**Footwear — Standard atmospheres for
conditioning and testing of footwear
and components for footwear**

*Chaussures — Atmosphères normales de conditionnement et d'essai
des chaussures et de leurs éléments constitutifs*

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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.

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).

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).

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

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 216, *Footwear*.

This second edition cancels and replaces the first edition (ISO 18454:2001), which has been technically revised.

Introduction

This document was prepared based on the following ISO standards, which relate to atmospheres for conditioning and testing:

- ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*;
- ISO 558, *Conditioning and testing — Standard atmospheres — Definitions*.

The aim of this document is to harmonize the specifications for the ambient conditions in which test methods for footwear and components for footwear will be carried out.

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Footwear — Standard atmospheres for conditioning and testing of footwear and components for footwear

1 Scope

This document specifies the general conditioning and testing atmospheres for the evaluation of footwear and footwear component properties.

This document defines two standard atmospheres for conditioning and testing of footwear and footwear components.

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 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2419, and the following, 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

atmosphere

ambient conditions defined by the parameters of temperature and relative humidity

3.2

standard atmosphere

atmosphere maintained within prescribed tolerances, in which a sample is kept for a given period of time before being subjected to testing

3.3

conditioning

operation designed to bring a sample into a specified condition in relation to temperature and relative humidity by keeping it for a given period of time in the standard atmosphere with free access of moving air to all surfaces

4 General requirements

The standard atmospheres and tolerances for conditioning and testing of footwear and footwear component properties are given in [Clause 5](#).

When the conditioning is carried out at 23 °C and 50 % RH it is not necessary to indicate this in the test report. In any other case, the ambient conditions shall be explicitly stated in the test report.

5 Standard atmospheres

5.1 Reference standard atmosphere

The reference standard atmosphere shall have a temperature of 23,0 °C and a relative humidity of 50,0 %.

5.2 Alternative standard atmospheres

5.2.1 General

Alternative, but not equivalent, atmospheres may be used only if the parties involved agree on their use. In case of dispute, the reference standard atmosphere shall be used.

5.2.2 Specific standard atmosphere

The alternative specific standard atmosphere shall have a temperature of 20,0 °C and a relative humidity of 65,0 %.

5.2.3 Tropical standard atmosphere

The alternative tropical standard atmosphere shall have a temperature of 27,0 °C and a relative humidity of 65,0 %.

5.3 Tolerance zone for standard atmospheres

The tolerance for temperature is $\pm 2,0$ °C. The tolerance for relative humidity is $\pm 5,0$ %.

6 Conditioning

The conditioning atmospheres shall be in accordance with the standard atmospheres (see [Clause 5](#)).

The period of conditioning shall be stated in the relevant specifications for the component.

7 Testing

Unless otherwise specified in the relevant International Standard, the test specimens shall be tested in the same atmosphere as that in which they have been conditioned.

In all cases, the test shall be carried out immediately after removal of the test specimen from the conditioning chamber.