INTERNATIONAL STANDARD

ISO 20870

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Footwear — Ageing conditioning

Chaussures — Conditionnement en vue du vieillissement

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 20870 was prepared by the European Committee for Standardization (as EN 12749:1999) and was adopted, under a special “fast-track procedure”, by Technical Committee ISO/TC 216, *Footwear* in parallel with its approval by the ISO member bodies.

Annex A of this International Standard is given for information only.

Contents

Page

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 309 "Footwear", the secretariat of which is held by AENOR.

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of an identical text or by endorsement, at the latest by March 2000, and conflicting national standards shall be withdrawn at the latest by March 2000.

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

1 Scope

This draft standard specifies laboratory procedures which are intended to imitate the effects of naturally occurring reactions. The physical properties of interest are measured before and after the application of the specified treatments. The effect of the ageing procedures on any of the physical properties of the material may be examined.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 12222	Footwear - Standard atmospheres for conditioning and testing of footwear and components for footwear.
prEN 13400:1998	Footwear - Sampling location of components for footwear.

3 Definitions

For the purpose of this standard the definitions given in the relevant European Standard for the specific test methods apply.

4 Apparatus and material

The following apparatus and material shall be used:

4.1 For heat ageing

Oven, with forced circulation, capable of maintaining the temperature of 70 ºC $\pm$ 2 ºC.

4.2 For humidity ageing

4.2.1 The ageing apparatus shall be of such a size that the total volume of test pieces does not exceed 10% of the free air space, and such that the test pieces are free of strain, freely exposed to the ageing atmosphere on all sides and not exposed to light.

4.2.2 Glass vessel

A glass vessel with a suitable closure for maintaining the test pieces at a relative humidity of 100%, and a water-bath or drying oven for heating the vessel, capable of maintaining the temperature of 70 ºC ± 2 ºC.

5 Sampling and conditioning

The number, size and shape of the test pieces shall be appropriate to the property being examined, and sampling shall be done according to prEN 13400:1998 before ageing, with the dimensions defined in the particular test.

6 Procedure

After conditioning, the test of the required physical property shall be performed and the test pieces shall be brought rapidly to the ageing condition. The duration of heat ageing and of humidity ageing is 168 h ± 2 h.

At the end of the ageing treatment, condition the test pieces for 24 h according to EN 12222 before testing.

7 Expression of results

The percentage change in the property being examined is given by the formula

$$\frac{\bar{x}_a - \bar{x}_o}{\bar{x}_o} \times 100$$

where

$\bar{x}_o$ is the average value of the property before ageing

$\bar{x}_a$ is the average value of the property after ageing

8 Test Report

The test report shall include the following information:

a) results, expressed in accordance with clause 7;

b) full identification of the sample;

c) reference to this method of test;

d) indicate whether the test is heat ageing or humidity ageing;

e) the properties determined, with their individual values before and after ageing and, if appropriate, the percentage change;

f) date of testing.