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**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB/T 21284-2015**

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**Footwear -- Test methods for whole shoe -- Thermal insulation  
(English Translation)**

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### Foreword

This Standard is drafted according to the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 21284-2007 "Footwear - Test methods for whole shoe - Thermal insulation". Main differences between this Standard and GB/T 21284-2007 are as follows.

- MODIFY the scope;
- MODIFY the definition of heat insulation INTO the definition of thermal insulation;
- ADD the apparatus and test method of insulation against heat;
- ADD the informative Annex A "Determination of insulation against heat";
- ADD the informative Annex B "Assessment of footwear by the laboratory during testing of thermal behaviour";
- ADD the bibliography.

This Standard uses translation method to identically adopt the international standard ISO 20877.2011, Footwear - Test methods for whole shoe - Thermal insulation.

Corresponding Chinese documents of the international document in the normative reference of this Standard are as follows.

- GB/T 2703-2008 Footwear - Vocabulary (ISO 19952.2005, NEQ)
- GB/T 20991-2007 Personal protective equipment - Test methods for footwear (ISO 20344.2004, MOD)

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.

This Standard was proposed by China Light Industry Council.

This Standard shall be under the jurisdiction of National Technical Committee on Footwear (SAC/TC 305).

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Footwear - Test methods for whole shoe -  
Thermal insulation

## 1 Scope

This Standard specifies a method for measuring insulation of footwear against heat or cold, in order to provide information for assessing footwear comfort.

This Standard is applicable to all types of closed footwear or boots except for footwear used as personal protective equipment. It does not address safety aspects.

## 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 19952 Footwear - Vocabulary

ISO 20344.2011 Personal protective equipment - Test methods for footwear

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 19952 and the following apply.

#### 3.1

thermal insulation

Temperature difference on the inner surface of the vamp or insoles, or both, under specific test conditions.

#### 4.1 General

The following apparatus and material shall be used.

#### 4.2 Insulation against cold

Bibliography

[1] ISO 3290-1.2008 Rolling bearing - Balls - Dimensions and tolerances, corresponding to GB/T 308.1-2013 "Rolling bearings - Balls - Part 1.Steel balls" (ISO 3290-1.2008, NEQ)

[2] ISO 4649.2010 Rubber, vulcanized or thermoplastic - Determination of abrasion resistance using a rotating cylindrical drum device, corresponding to GB/T 9867-

#### 2008 "Rubber vulcanized or thermoplastic - Determination of abrasion resistance

using a rotating cylindrical drum device" (ISO 4649.2002, IDT)

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