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and calibration of testing machines**

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In the event of any doubts arising as to the contents,  
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## Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by The Japan Testing Machine Association (JTM)/Japanese Standards Association (JSA) with a draft being attached, based on the provision of Article 12, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act. This edition replaces the previous edition (**JIS B 7734**:1997), which has been technically revised.

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# Knoop hardness test—Verification and calibration of testing machines

## Introduction

This Japanese Industrial Standard has been prepared based on **ISO 4545-2:2017**, Edition 3, with some modifications of the technical contents.

The dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JC. Annex JA and Annex JB are unique to **JIS** and not given in the corresponding International Standard.

## 1 Scope

This Standard specifies a method of verification and calibration of testing machines for determining Knoop hardness in accordance with **JIS Z 2251-1**.

A direct method of verification and calibration is specified for the testing machine, indenter and the diagonal length measuring system. An indirect verification method using reference blocks is specified for the overall checking of the machine.

If a testing machine is also to be used for other methods of hardness testing, it shall be verified independently for each method.

It should be noted that using the method specified in this Standard for determination from indentations < 20 µm in diagonal length may cause large uncertainties in the results.

**NOTE** The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 4545-2:2017 *Metallic materials—Knoop hardness test—Part 2: Verification and calibration of testing machines* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21-1**.

**WARNING** Persons carrying out tests based on this Standard should be familiar with normal laboratory practice. This Standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user of this Standard to establish appropriate safety and health practices.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS B 0601 *Geometrical Product Specifications (GPS)—Surface texture: Profile method—Terms, definitions and surface texture parameters*