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JIS B 7731 : 2000
(JTM/JSA)

Shore hardness test—Calibration of reference blocks

ICS 77.040.10

Descriptors : scleroscope hardness measurement, control samples, hardness testing

Reference number : JIS B 7731 : 2000 (E)

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee, as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Testing Machinery Association (JTM)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14. Consequently **JIS B 7731 : 1993** is replaced with this Standard.

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Shore hardness test— Calibration of reference blocks

1 Scope This Japanese Industrial Standard specifies the calibration method of the reference blocks of Shore hardness used for the indirect verification of the Shore hardness testing machine specified in **JIS B 7727** (hereafter referred to as “reference blocks”).

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

JIS B 0601 *Surface roughness—Definitions and designation*

JIS B 7727 *Shore hardness testing machines*

JIS B 7735 *Vickers hardness test—Calibration of the reference blocks*

JIS G 4051 *Carbon steels for machine structural use*

JIS G 4401 *Carbon tool steels*

JIS H 3100 *Copper and copper alloy sheets, plates and strips*

JIS Z 2244 *Vickers hardness test—Test method*

JIS Z 2246 *Method of Shore hardness test*

3 Definitions For the purposes of this Standard, the definitions given in **JIS Z 2246** and the following definitions apply:

Converted Shore hardness: The hardness calculated by the following formula from the Vickers hardness.

$$VHS = (1.743\ 5a - 1.150\ 5a^2 + 0.581\ 8a^3 - 0.160\ 9a^4) \times 100$$

where, *VHS* : converted Shore hardness

$$a = \frac{\text{Vickers hardness (HV)}}{1\ 000}$$

Information : The values calculated by this formula are given in Informative Attached Table 1.

4 Materials for reference blocks The materials for reference blocks shall be as specified in Table 1.