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Vickers hardness test — Test method

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In the event of any doubts arising as to the contents,
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Foreord

This translation has been made based on the original Japanese Industrial Standard 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 Iron and Steel Federation (JISF) 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 Z 2244** : 2003 is replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

Vickers hardness test — Test method

Introduction

This Japanese Industrial Standard has been prepared based on the third edition of ISO 6507-1 and the first edition of ISO 6507-4 published in 2005 with some modifications of the technical contents.

The portions given dotted underlines are the matters in which the contents of the corresponding International Standards have been modified. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies the Vickers hardness test method, for the three different ranges of test force for metallic materials (see table 1).

Table 1 Ranges of test force

Ranges of test force, F N	Hardness symbol	Designation
$F \geq 49.03$	≥ HV 5	Vickers hardness test
$1.961 \leq F < 49.03$	HV 0.2 to < HV 5	Low-force Vickers hardness test
$0.098\ 07 \leq F < 1.961$	HV 0.01 to < HV 0.2	Vickers microhardness test

The Vickers hardness test is specified in this Standard for lengths of indentation diagonals between 0.020 mm and 1.400 mm. The Vickers hardness test for lengths of indentation diagonals less than 0.020 mm and the test force of less than 98.07 mN , however, may be in accordance with this Standard upon the agreement between the purchaser and the supplier.

For specific materials and/or products, particular Japanese Industrial Standards exist.

NOTE 1 : For indentation diagonals less than 0.020 mm, the increase of the uncertainty has to be considered.

2 : In general, decreasing the test force increases the scatter of results of the measurements. This is particularly true for low-force Vickers hardness tests and Vickers microhardness tests, where the principal limitation will arise in the measurement of the diagonals of the indentation. For Vickers microhardness, the accuracy of determination of the mean diagonal length is unlikely to be better than ± 0.001 mm.