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Vickers hardness test — Part 1: Test method

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry based on the provision of Article 14, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act in response to a proposal for revision of Japanese Industrial Standard with a draft being attached, submitted by The Japan Iron and Steel Federation (JISF), an accredited standards development organization. This edition replaces the previous edition (**JIS Z 2244-1** : 2020), which has been technically revised.

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JIS Z 2244 series consists of the following 2 parts under the general title *Vickers hardness test*:

Part 1: Test method Part 2: Tables of hardness values

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Vickers hardness test-Part 1: Test method

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 6507-1** : 2023, Edition 5, with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. 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, including hardmetals and other cemented carbides (see Table 1).

Ranges of test force, F N	Hardness symbol	Designation
$F \ge 49.03$	$\geq HV 5$	Vickers hardness test
$1.961 \le F \le 49.03$	HV 0.2 to $< HV 5$	Low-force Vickers hardness test
$0.009\ 807 \le F < 1.961$	HV 0.001 to $< HV 0.2$	Vickers microhardness test

Table 1Ranges of test force

The Vickers hardness test specified in this Standard is for lengths of indentation diagonals between 0.020 mm and 1.400 mm. <u>Upon the agreement between the parties</u> concerned, this Standard may apply to the Vickers hardness test for the lengths of indentation diagonals less than 0.020 mm and/or for the test force less than 0.009 807 N.

The Vickers hardness test specified in this Standard is also applicable for metallic and other inorganic coatings including electrodeposited coatings, autocatalytic coatings, sprayed coatings and anodic coatings on aluminium.

This Standard is applicable to measurements normal to the coated surface and to measurements on cross-sections, provided that the characteristics of the coating (smoothness, thickness, etc.) permit accurate readings of the diagonal of the indentation. This Standard is applicable for coatings with thickness not less than 0.030 mm when testing normal to the coating surface.

This Standard is applicable for <u>coatings with thickness not less than 0.100 mm</u> when testing a cross-section of the coating. **ISO 14577-1** can be used for the determination of hardness from smaller indentations.

A periodic verification method is specified for routine checking of the testing machine in service by the user.