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(JFRI/JSA)

**Prevailing torque type nuts—
Part 1 : Hexagon nuts with
non-metallic insert**

ICS 21.060.20

Descriptors : hexagonal nuts

Reference number : JIS B 1199-1 : 2001 (E)

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from The Japan Research Institute for Screw Threads and Fasteners (JFRI)/the Japanese Standards Association (JSA), with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This Standard employs **ISO 7040 : 1997** *Prevailing torque type hexagon nuts (with non-metallic insert), style 1—Property classes 5, 8 and 10*, **ISO 7041 : 1997** *Prevailing torque type hexagon nuts (with non-metallic insert), style 2—Property classes 9 and 12*, **ISO 10511 : 1997** *Prevailing torque type hexagon thin nuts (with non-metallic insert)* and **ISO 10512 : 1997** *Prevailing torque type hexagon nuts (with non-metallic insert), style 1, with metric fine pitch thread—Property classes 6, 8 and 10* as a basis for the purpose of conforming Japanese Industrial Standard to International Standards.

This Standard group consists of the following four parts with a title of *Prevailing torque type nuts*.

Part 1 : Hexagon nuts with non-metallic insert

Part 2 : All-metal hexagon nuts

Part 3 : Hexagon nuts with flange with non-metallic insert

Part 4 : All-metal hexagon nuts with flange

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the original JIS is to be the final authority.

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Prevailing torque type nuts— Part 1 : Hexagon nuts with non-metallic insert

Introduction This Japanese Industrial Standard has been prepared based on **ISO 7040** *Prevailing torque type hexagon nuts (with non-metallic insert), style 1—Property classes 5, 8 and 10* and **ISO 7041** *Prevailing torque type hexagon nuts (with non-metallic insert), style 2—Property classes 9 and 12* published in 1997 as the second editions, and **ISO 10511** *Prevailing torque type hexagon thin nuts (with non-metallic insert)* and **ISO 10512** *Prevailing torque type hexagon nuts (with non-metallic insert), style 1, with metric fine pitch thread—Property classes 6, 8 and 10* published in 1997 as the first editions, without modifying the corresponding parts (shape, dimensions, and specification and designation of products) being compiled and integrated.

In addition, **JIS B 1199** specifying prevailing torque type nut products consists of four parts. The relation between each part and the International Standards corresponding thereto is shown in Annex 1 (informative).

1 Scope This Standard specifies the characteristics of prevailing torque type hexagon nuts (with non-metallic insert) for general use.

If other specifications are required, they should be selected from existing standards, for example **JIS B 0205**, **JIS B 0207**, **JIS B 0209**, **JIS B 0211** and **JIS B 1056**.

Remarks : The International Standards corresponding to this Standard are as follows.

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**.

ISO 7040 : 1997 *Prevailing torque type hexagon nuts (with non-metallic insert), style 1—Property classes 5, 8 and 10* (MOD)

ISO 7041 : 1997 *Prevailing torque type hexagon nuts (with non-metallic insert), style 2—Property classes 9 and 12* (MOD)

ISO 10511 : 1997 *Prevailing torque type hexagon thin nuts (with non-metallic insert)* (MOD)

ISO 10512 : 1997 *Prevailing torque type hexagon nuts (with non-metallic insert), style 1, with metric fine pitch thread—Property classes 6, 8 and 10* (MOD)

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. If the indication of the year of coming into effect is given to these referred standards, only the edition of indicated year constitutes the provision of this Standard but the revision and amendment made thereafter are not applied. The normative references without the indication of the year of coming into effect apply limiting only to the most recent edition (including amendments).

JIS B 0143 *Symbols and designations of dimensions for threaded fasteners*

Remarks : The items cited from **ISO 225** : 1983 *Fasteners—Bolts, screws, studs and nuts—Symbols and designations of dimensions* are equivalent to the matters corresponding to the said standard.

JIS B 0205 : 1997 *Metric coarse screw threads*

Remarks : The items cited from **ISO 68** : 1973 *ISO general purpose screw threads—Basic profile* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 261** : 1973 *ISO general-purpose metric screw threads—General plan* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 724** : 1993 *ISO general-purpose metric screw threads—Basic dimensions* are equivalent to the matters corresponding to the said standard.

JIS B 0207 : 1982 *Metric fine screw threads*

Remarks : The items cited from **ISO 68** : 1973 *ISO general purpose screw threads—Basic profile* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 261** : 1973 *ISO general-purpose metric screw threads—General plan* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 262** : 1973 *ISO general-purpose metric screw threads—Selected sizes for screws, bolts and nuts* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 724** : 1993 *ISO general-purpose metric screw threads—Basic dimensions* are equivalent to the matters corresponding to the said standard.

JIS B 0209 : 1997 *Limits of sizes and tolerances for metric coarse screw threads*

Remarks : The items cited from **ISO 965-1** : 1980 *ISO general-purpose metric screw threads—Tolerances—Part 1 : Principles and basic data* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 965-2** : 1980 *ISO general-purpose metric screw threads—Tolerances—Part 2 : Limits of sizes for general purpose external and internal screw threads* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 965-3** : 1980 *ISO general-purpose metric screw threads—Tolerances—Part 3 : Deviations for constructional screw threads* are equivalent to the matters corresponding to the said standard.

JIS B 0211 : 1997 *Limits of sizes and tolerances for metric fine screw threads*

Remarks : The items cited from **ISO 965-1** : 1980 *ISO general-purpose metric screw threads—Tolerances—Part 1 : Principles and basic data* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 965-2** : 1980 *ISO general-purpose metric screw threads—Tolerances—Part 2 : Limits of sizes for general purpose external and internal screw threads—Medium quality* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 965-3** : 1980 *ISO general-purpose metric screw threads—Tolerances—Part 3 : Deviations for constructional screw threads* are equivalent to the matters corresponding to the said standard.

JIS B 1021 *Tolerance system for threaded fasteners*

Remarks : The items cited from **ISO 4759-1** : 1978 *Tolerances for fasteners—Part 1 : Bolts, screws and nuts with thread diameters between 1, 6 (inclusive) and 150 mm (inclusive) and product grades A, B and C* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 4759-2** : 1979 *Tolerances for fasteners—Part 2 : Bolts, screws and nuts with thread diameters from 1 up to 3 mm and product grade F, for fine mechanics* are equivalent to the matters corresponding to the said standard.

JIS B 1042 *Fasteners—Surface discontinuities—Part 2 : Nuts*

Remarks : **ISO 6157-2** : 1995 *Fasteners—Surface discontinuities—Part 2 : Nuts* is identical with the said standard.

JIS B 1044 *Threaded components—Electroplated coatings*

Remarks : **ISO 4042** : 1989 *Fasteners—Electroplated coatings* is identical with the said standard.

JIS B 1056 *Prevailing torque type steel hexagon nuts—Mechanical and performance properties*

Remarks : **ISO 2320** : 1997 *Prevailing torque type steel hexagon nuts—Mechanical and performance properties* is identical with the said standard.

JIS B 1091 *Fasteners—Acceptance inspection*

Remarks : **ISO 3269** : 1988 *Fasteners—Acceptance inspection* is identical with the said standard.

JIS B 1181 *Hexagon nuts and hexagon thin nuts*

Remarks : The items cited from **ISO 4032** : 1986 *Hexagon nuts, style 1—Product grades A and B* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 4033** : 1979 *Hexagon nuts, style 2—Product grades A and B* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 4034** : 1986 *Hexagon nuts—Product grade C* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 4035** : 1986 *Hexagon thin nuts (chamfered)—Product grades A and B* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 4036 : 1979** *Hexagon thin nuts (unchamfered)—Product grade B* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 8673 : 1988** *Hexagon nuts, style 1, with metric fine pitch thread—Product grades A and B* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 8674 : 1988** *Hexagon nuts, style 2, with metric fine pitch thread—Product grades A and B* are equivalent to the matters corresponding to the said standard.

The items cited from **ISO 8675 : 1988** *Hexagon thin nuts (chamfered) with metric fine pitch thread—Product grades A and B* are equivalent to the matters corresponding to the said standard.

3 Classification The prevailing torque type nuts—hexagon nuts with non-metallic insert specified in this Standard are as given in Table 1.

Table 1 Classification of prevailing torque type nuts—hexagon nuts with non-metallic insert

Classification	Property class	Range of nominal thread diameter	Corresponding International Standards
Style 1—coarse threads	5, 8, 10	3 mm to 36 mm	ISO 7040 : 1997
Style 1—fine pitch threads	6, 8, 10	8 mm to 36 mm	ISO 10512 : 1997
Style 2—coarse threads	9, 12	5 mm to 36 mm	ISO 7041 : 1997
Low type—coarse threads	04, 05	3 mm to 36 mm	ISO 10511 : 1997

4 Shape, dimensions, product specification and designation The shape, dimensions, product specification and designation of the prevailing torque type nuts—hexagon nuts with non-metallic insert specified in this Standard are as given in Table 2.

Table 2 Shape, dimensions, product specification and designation

Classification	Shape and dimensions	Product specification	Designation
Style 1—coarse threads	Fig. 1 and Attached Table 1.1	Attached Table 1.2	Attached Table 1.3
Style 1—fine pitch threads	Fig. 1 and Attached Table 2.1	Attached Table 2.2	Attached Table 2.3
Style 2—coarse threads	Fig. 1 and Attached Table 3.1	Attached Table 3.2	Attached Table 3.3
Low type—coarse threads	Fig. 1 and Attached Table 4.1	Attached Table 4.2	Attached Table 4.3

Remarks : The shape and dimensions of the hexagon nuts with non-metallic insert specified in this Standard are obtained on the basis of the shape and dimensions of the outline of the hexagon nuts specified in the body of **JIS B 1181** by adding thereto the prevailing torque element.