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STANDARD

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JIS T 7402-4 : 2005
(JSB/JSA)

**Cobalt based alloys for
surgical implant applications—
Part 4: Wrought cobalt-chromium-
nickel-molybdenum-iron alloy**

ICS 11.040.40

Reference number : JIS T 7402-4 : 2005 (E)

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Health, Labour and Welfare, and 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 Japanese Society for Biomaterials (JSB)/ Japanese Standards Association (JSA), with a draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This Standard has been made based on **ISO 5832-7:1994** *Implants for surgery—Metallic materials—Part 7: Forgeable and cold-formed cobalt-chromium-nickel-molybdenum-iron alloy* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial 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 Ministers 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.

JIS T 7402 consists of the following 4 parts under the general title “*Cobalt based alloys for surgical implant applications*”:

Part 1: Cobalt-chromium-molybdenum casting alloy

Part 2: Wrought cobalt-chromium-molybdenum alloy

Part 3: Wrought cobalt-chromium-tungsten-nickel alloy

Part 4: Wrought cobalt-chromium-nickel-molybdenum-iron alloy

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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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Cobalt based alloys for surgical implant applications— Part 4: Wrought cobalt-chromium- nickel-molybdenum-iron alloy

Introduction This Japanese Industrial Standard has been prepared based on the second edition of **ISO 5832-7** *Implants for surgery—Metallic materials—Part 7: Forgeable and cold-formed cobalt-chromium-nickel-molybdenum-iron alloy* published in 1994 without any modification in technical contents as for the corresponding part, but some items not specified in the corresponding International Standards have been additionally contained for the purpose of embodiment.

The portions underlined with dots are the matters not stated in the original International Standard. A list of modifications with its explanations is given in Annex (informative).

1 Scope This Standard specifies the characteristic and corresponding test methods of wrought cobalt-chromium-nickel-molybdenum-iron alloy (hereafter referred to as “Co-Cr-Ni-Mo-Fe wrought alloy”) used to produce the surgical implant.

- Remarks 1 The mechanical properties of test specimen sampled from the final products produced from the Co-Cr-Ni-Mo-Fe wrought alloy needs not satisfy this Standard.
- 2 The International Standard corresponding to this Standard is 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 5832-7 : 1994 *Implants for surgery—Metallic materials—Part 7: Forgeable and cold-formed cobalt-chromium-nickel-molybdenum-iron alloy* (MOD)

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 G 0551 *Methods of austenite grain size determination for steel*

Remarks : **ISO 643**:1983 *Steels—Micrographic determination of the ferritic or austenitic grain size* is equivalent to the said standard.

JIS G 0552 *Methods of ferrite grain determination test for steel*

Remarks : **ISO 643**:1983 *Steels—Micrographic determination of the ferritic or austenitic grain size* is equivalent to the said standard.

JIS G 0555 *Microscopic testing method for the non-metallic inclusions in steel*