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Copper and copper alloy castings

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Foreword

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 Japan Foundry Society, Inc. (JFSinc)/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 H 5120:2009** is replaced with this Standard.

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It should be noted that being in conformance with this Standard may come under the use of the patent rights held by the following:

- Name of invention: Lead free bronze alloy
- Date of registration of establishment : 2003-08-08
- Patent number : 3459623
- Patent holder: Kyowa Bronze Co., Ltd
314 Sayamashinkaichi, Kumiya-ma-cho, Kuse-gun,
Kyoto
- Name of invention : Copper-base alloy, and ingot and liquid contact parts using the alloy
- Date of registration of establishment : 2005-06-24
- Patent number : 3690746
- Patent holder: Kitz Corporation
1-10-1 Nakase, Mihama-ku, Chiba-shi, Chiba
- Name of invention : Bronze alloy
- Date of registration of establishment : 2006-03-03
- Patent number : 3776441
- Patent holder: Kitz Corporation
1-10-1 Nakase, Mihama-ku, Chiba-shi, Chiba
- Name of invention : Bronze alloy, and cast ingot and liquid contacting part each using the alloy
- Date of registration of establishment : 2006-07-21
- Patent number : 3830946
- Patent holder: Kitz Corporation
1-10-1 Nakase, Mihama-ku, Chiba-shi, Chiba
- Name of invention : Copper alloy valve for drinking water
- Date of registration of establishment : 2006-09-08
- Patent number : 3850861
- Patent holder: Kitz Corporation
1-10-1 Nakase, Mihama-ku, Chiba-shi, Chiba
- Name of invention : Lead-free copper alloy for casting having excellent pressure resistance
- Date of registration of establishment : 2007-05-18

- Patent holder: Shiga Valve Cooperative Association
52 Oka-machi, Hikone-shi, Shiga
: Shiga prefectural government
4-1-1 Kyo-machi, Otsu-shi, Shiga
- Name of invention : Copper alloy series member for water supply
- Date of registration of establishment : 2007-04-20
- Patent number : 3946244
- Patent holder: KURIMOTO, Ltd.
1-12-19 Kitahorie, Nishi-ku, Osaka-shi, Osaka
- Name of invention : Lead-free free-cutting copper alloy
- Date of registration of establishment : 2005-10-28
- Patent number : 3734372
- Patent holder: Mitsubishi Shindoh Co., LTD.
4-7-35 Kita-shinagawa, Shinagawa-ku, Tokyo
- Name of invention : Free-cutting copper alloy
- Date of registration of establishment : 2007-02-16
- Patent number : 3917304
- Patent holder: Mitsubishi Shindoh Co., LTD.
4-7-35 Kita-shinagawa, Shinagawa-ku, Tokyo
- Name of invention : Free-cutting copper alloy with super-low lead content
- Date of registration of establishment : 2012-03-16
- Patent number : 4951623
- Patent holder: Mitsubishi Shindoh Co., LTD.
4-7-35 Kita-shinagawa, Shinagawa-ku, Tokyo
- Name of invention : Lead-free copper alloy for casting excellent in mechanical property
- Date of registration of establishment : 2013-08-09
- Patent number : 5335558
- Patent holder: Shiga Valve Cooperative Association
52 Oka-machi, Hikone-shi, Shiga
: BIWALITE Co., Ltd
52 Oka-machi, Hikone-shi, Shiga
: Shiga prefectural government
4-1-1 Kyo-machi, Otsu-shi, Shiga
- Name of invention: Copper alloy for aqueduct member
- Date of registration of establishment : 2013-11-08
- Patent number : 5406405
- Patent holder: KURIMOTO, Ltd.
1-12-19 Kitahorie, Nishi-ku, Osaka-shi, Osaka
- Name of invention : Lead-free free-cutting brass excellent in castability
- Date of registration of establishment : 2014-01-17
- Patent number : 5454144

- Patent holder: TOTO Ltd.
2-1-1 Nakashima, Kokurakita-ku, Kitakyushu-shi,
Fukuoka
- Name of invention : Brass metal for waterworks components
- Date of registration of establishment : 2014-04-18
- Patent number : 5522582
- Patent holder: KURIMOTO, Ltd.
1-12-19 Kitahorie, Nishi-ku, Osaka-shi, Osaka
- Name of invention : Valve for drinking water
- Date of registration of establishment : 2012-02-12
- Patent number : 4455507
- Patent holder: Kitz Corporation
1-10-1 Nakase, Mihama-ku, Chiba-shi, Chiba

The relevant holders of the above-mentioned patent rights have indicated an intention of granting license to anyone under the nondiscriminatory and reasonable conditions, except to the other relevant holders of the patent rights related to this Standard who will not grant their licenses under the same conditions.

It should be noted that following this Standard does not always refer to granting a free license.

There is the possibility that some parts of this Standard may conflict with patent rights other than mentioned above. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights.

The “patent rights” as mentioned here include patent right, application for a patent after opening to the public or utility model right.

Copper and copper alloy castings

1 Scope

This Japanese Industrial Standard specifies the copper and copper alloy castings (hereafter referred to as “castings”) manufactured by sand mould casting, metal mould casting, centrifugal casting, precision casting, etc. (excluding continuous casting).

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 B 0403 *Castings — System of dimensional tolerances and machining allowances*
- JIS H 0321 *General rules for inspection of non-ferrous metal materials*
- JIS H 0505 *Measuring methods for electrical resistivity and conductivity of non-ferrous materials*
- JIS H 1012 *General rules for chemical analysis of copper and copper alloys*
- JIS H 1051 *Copper and copper alloys — Determination of copper content*
- JIS H 1052 *Methods for determination of tin in copper and copper alloys*
- JIS H 1053 *Methods for determination of lead in copper and copper alloys*
- JIS H 1054 *Methods for determination of iron in copper and copper alloys*
- JIS H 1055 *Methods for determination of manganese in copper and copper alloys*
- JIS H 1056 *Methods for determination of nickel in copper and copper alloys*
- JIS H 1057 *Methods for determination of aluminium in copper and copper alloys*
- JIS H 1058 *Copper and copper alloys — Determination of phosphorus content*
- JIS H 1061 *Methods for determination of silicon in copper and copper alloys*
- JIS H 1062 *Methods for determination of zinc in copper and copper alloys*
- JIS H 1065 *Method for determination of selenium in copper and copper alloys*
- JIS H 1068 *Methods for determination of bismuth in copper and copper alloys*
- JIS H 1070 *Copper and copper alloys — Determination of sulfur content*
- JIS H 1072 *Methods for determination of antimony in copper and copper alloys*
- JIS H 1292 *Methods for X-ray fluorescence spectrometric analysis of copper alloys*
- JIS Z 2241 *Metallic materials — Tensile testing — Method of test at room temperature*