

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS H 5121 : 2016

(JFSinc/JSA)

Copper alloy continuous castings

ICS 77.150.30

Reference number : JIS H 5121 : 2016 (E)

PROTECTED BY COPYRIGHT

10 S

H 5121 : 2016

Date of Establishment: 1997-07-20

Date of Revision: 2016-03-22

Date of Public Notice in Official Gazette: 2016-03-22

Investigated by: Japanese Industrial Standards Committee

Standards Board for ISO area

Technical Committee on Metal and Inorganic Materials

JIS H 5121 : 2016, First English edition published in 2016-08

Translated and published by: Japanese Standards Association
Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

© JSA 2016

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

HN

PROTECTED BY COPYRIGHT

Contents

	Page
1	Scope 1
2	Normative references 1
3	Classification and symbols 2
4	Quality 5
4.1	Quality of continuous castings 5
4.2	Chemical composition 5
4.3	Mechanical properties 9
5	Shape, dimensions, mass and their tolerances 10
6	Manufacturing method 10
7	Tests 10
7.1	Chemical analysis 10
7.2	Tensile test 10
7.3	Hardness test 11
8	Inspection 11
9	Marking 11
10	Report 11

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 5121:2009** is replaced with this Standard.

This **JIS** document is protected by the Copyright Law.

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, Kumiyama-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 : 2010-02-12
- 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 alloy continuous castings

1 Scope

This Japanese Industrial Standard specifies the copper alloy continuous castings (hereafter referred to as “continuous castings”) manufactured by continuous casting method.

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 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*
- JIS Z 2243 *Brinell hardness test — Test method*