



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 3604 : 2012

(HPI)

Copper and copper alloy clad steels

ICS 77.140.20

Reference number : JIS G 3604 : 2012 (E)

PROTECTED BY COPYRIGHT

G 3604 : 2012

Date of Establishment: 1980-01-01

Date of Revision: 2012-04-20

Date of Public Notice in Official Gazette: 2012-04-20

Investigated by: Japanese Industrial Standards Committee
Standards Board

Technical Committee on Iron and Steel

JIS G 3604 : 2012, First English edition published in 2013-02

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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

© JSA 2013

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

PROTECTED BY COPYRIGHT

Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Grades and designations	2
5 Chemical composition	3
6 Mechanical properties	3
7 Condition of bonding	4
8 Free iron	5
9 Shape, dimensions and tolerances thereof	5
9.1 Tolerances on width and length	5
9.2 Tolerances on thickness	5
9.3 Flatness	6
10 Appearance	6
11 Materials	6
12 Manufacturing method	7
13 Tests	7
13.1 Application of tests	7
13.2 Chemical analysis method, cladding metal thickness measurement, mechanical test, ultrasonic examination and appearance test	7
13.3 Sampling method of test pieces for mechanical test	8
14 Inspection	8
15 Repair by welding	9
16 Re-inspection	9
17 Designation of product	9
18 Marking	10
19 Report	10

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 according to the proposal for revision of Japanese Industrial Standard submitted by High Pressure Institute of Japan (HPI) with the draft prepared from the association standard (**HPIS-B107**) 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 G 3604:2004** is replaced with this Standard.

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

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 or utility model right. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public or the utility model right.

Copper and copper alloy clad steels

Introduction

This Japanese Industrial Standard was established in 1980 and has gone through 4 revisions to this day. The last revision was made in 2004, and the revision at this time is to correspond to the progress in technologies concerning clad steels afterwards, and the like.

Further, no International Standard corresponding to this Standard has been established at this point.

1 Scope

This Standard specifies the clad steels to be used for pressure vessels, storage tanks, water treatment systems and the like, whose cladding metals are copper and copper alloys.

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 0306 *Steel forgings — General technical requirements*

JIS G 0404 *Steel and steel products — General technical delivery requirements*

JIS G 0601 *Testing methods for clad steels*

JIS G 3101 *Rolled steels for general structure*

JIS G 3103 *Carbon steel and molybdenum alloy steel plates for boilers and pressure vessels*

JIS G 3106 *Rolled steels for welded structure*

JIS G 3114 *Hot-rolled atmospheric corrosion resisting steels for welded structure*

JIS G 3115 *Steel plates for pressure vessels for intermediate temperature service*

JIS G 3118 *Carbon steel plates for pressure vessels for intermediate and moderate temperature services*

JIS G 3124 *High strength steel plates for pressure vessel for intermediate and moderate temperature service*

JIS G 3126 *Carbon steel plates for pressure vessels for low temperature service*

JIS G 3128 *High yield strength steel plates for welded structure*

JIS G 3136 *Rolled steels for building structure*