JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 4110 : 2026

(JISF)

High strength chromium-molybdenum and chromium-molybdenum-vanadium alloy steel plates for pressure vessels under high-temperature service

ICS 77.140.30;77.140.50
Reference number: JIS G 4110 : 2026 (E)

PROTECTED BY COPYRIGHT

Date of Establishment: 1993-06-01

Date of Revision: 2026-05-20

Date of Public Notice in Official Gazette: 2026-05-20

Developed by: The Japan Iron and Steel Federation

Investigated by: The Japan Iron and Steel Federation,
Standardization Center

JIS G 4110 : 2026, First English edition published in 2026-10

Translated and published by: Japanese Standards Association
Mita Avanti, 3-11-28, 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 2026
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

Introduction ····· 1
1 Scope ····· 1
2 Normative references ····· 1
3 Terms and definitions ····· 2
4 Symbols of grade and applicable thicknesses ····· 2
5 Manufacturing method and heat treatment ····· 2
5.1 Manufacturing method ····· 2
5.2 Heat treatment and symbols for heat treatment ····· 2
6 Chemical composition ····· 4
6.1 Heat analysis values ····· 4
6.2 Product analysis values ····· 4
7 Mechanical properties ····· 5
7.1 Tensile test properties and bendability ····· 5
7.2 Charpy absorbed energy ····· 6
8 Shape, dimensions, mass and tolerances ····· 6
9 Appearance ····· 7
10 Tests ····· 7
10.1 Chemical analysis ····· 7
10.2 Mechanical tests ····· 7
11 Inspection ····· 8
12 Reinspection ····· 9
13 Marking ····· 9
14 Information to be supplied by the purchaser ····· 9
15 Report ····· 9
Bibliography ····· 10
Annex JA (informative) Comparison table between JIS and corresponding International Standards ····· 11

PROTECTED BY COPYRIGHT

Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry based on the provision of Article 14, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act in response to a proposal for revision of Japanese Industrial Standard with a draft being attached, submitted by The Japan Iron and Steel Federation (JISF), an accredited standards development organization. This edition replaces the previous edition (**JIS G 4110** : 2021), which has been technically revised.

However, **JIS G 4110** : 2021 may be applied in the JIS mark certification based on the relevant provisions of Article 30, paragraph (1), etc. of the Industrial Standardization Act until 19 May 2027.

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

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, published patent application or utility model rights. The relevant Minister is not responsible for identifying any of such patent rights, published patent application or utility model rights.

PROTECTED BY COPYRIGHT

High strength chromium-molybdenum and chromium-molybdenum-vanadium alloy steel plates for pressure vessels under high-temperature service

Introduction

This Japanese Industrial Standard has been prepared based on ISO 9328-1 : 2018, Edition 4 and ISO 9328-2 : 2018, Edition 4, with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standards. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies requirements for hot-rolled high strength chromium- molybdenum and chromium-molybdenum-vanadium alloy steel plates for pressure vessels used under the high-temperature service (hereafter referred to as steel plates).

NOTE The International Standards corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 9328-1 : 2018 *Steel flat products for pressure purposes – Technical delivery conditions — Part 1: General requirements*

ISO 9328-2 : 2018 *Steel flat products for pressure purposes–Technical delivery conditions — Part 2: Non-alloy and alloy steels with specified elevated temperature properties* (overall evaluation: MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standards and JIS are IDT (identical), MOD (modified), and NEQ (not equivalent) according to ISO/IEC Guide 21-1.

2 Normative references

Part or all of the provisions of the following standards, 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 0201 *Glossary of terms used in iron and steel (Heat treatment)*

JIS G 0202 *Glossary of terms used in iron and steel (Testing)*

JIS G 0203 *Glossary of terms used in iron and steel (Products and quality)*

JIS G 0320 *Standard test method for heat analysis of steel products*

JIS G 0321 *Product analysis and its tolerance for steel products*

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

PROTECTED BY COPYRIGHT