

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 3118 : 2020

(JISF)

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

ICS 77.140.30 ; 77.140.50

Reference number : JIS G 3118 : 2020 (E)

PROTECTED BY COPYRIGHT

10 S

G 3118 : 2020

Date of Establishment: 1970-10-01

Date of Revision: 2020-12-21

Date of Public Notice in Official Gazette: 2020-12-21

Developed by: The Japan Iron and Steel Federation

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

JIS G 3118 : 2020, First English edition published in 2021-04

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 2021

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 grades and applicable thicknesses	2
5	Manufacturing method and heat treatment	2
5.1	Manufacturing method	2
5.2	Heat treatment, and symbols of heat treatment	2
6	Chemical composition	3
6.1	Heat analysis values	3
6.2	Product analysis values	3
7	Carbon equivalent and weld-crack sensitivity composition	5
8	Mechanical properties	6
9	Austenitic grain size	7
10	Shape, dimensions, mass and tolerances	7
11	Appearance	7
12	Tests	8
12.1	Chemical analysis	8
12.2	Mechanical tests	8
12.3	Austenitic grain size test	9
13	Inspection	9
14	Reinspection	9
15	Marking	10
16	Report	10
Annex JA (informative)	Comparison table between JIS and corresponding International Standards	11

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 3118:2017**), which has been technically revised.

However, **JIS G 3118: 2017** 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 20 December 2021.

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.

Carbon steel plates for pressure vessels for intermediate and moderate temperature services

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 9328-1** : 2018 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 Standard. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies the requirements for the hot-rolled carbon steel plates used mainly for pressure vessels for intermediate and moderate temperature services (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 wrought steel*

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

JIS G 0415 *Steel and steel products — Inspection documents*