

# JIS

JAPANESE  
INDUSTRIAL  
STANDARD

Translated and Published by  
Japanese Standards Association

---

---

**JIS G 3115** : 2016

(JISF)

**Steel plates for pressure vessels for  
intermediate temperature service**

---

ICS 77.140.30;77.140.50

Reference number : **JIS G 3115 : 2016 (E)**

Date of Establishment: 1968-11-01

Date of Revision: 2016-02-22

Date of Public Notice in Official Gazette: 2016-02-22

Investigated by: Japanese Industrial Standards Committee  
Standards Board for ISO area  
Technical Committee on Metal and Inorganic  
Materials

---

JIS G 3115:2016, 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

AT

## Contents

	Page
Introduction.....	1
1 Scope.....	1
2 Normative references .....	1
3 Classification, symbols and applicable thicknesses.....	2
4 Manufacturing method and heat treatment .....	2
4.1 Manufacturing method .....	2
4.2 Heat treatment of steel plates.....	2
4.3 Specification of heat treatment .....	3
4.4 Heat treatment on test pieces .....	3
4.5 Symbol of heat treatment.....	3
5 Chemical composition .....	4
6 Carbon equivalent and weld-crack sensitivity composition .....	4
6.1 Carbon equivalent and weld-crack sensitivity composition of SPV315, SPV355 and SPV410 .....	4
6.2 Carbon equivalent and weld-crack sensitivity composition of SPV450 and SPV490 .....	5
7 Mechanical properties .....	6
7.1 Yield point or proof stress, tensile strength, elongation and bendability.....	6
7.2 Charpy absorbed energy .....	6
8 Shape, dimensions, mass and tolerances .....	9
9 Appearance .....	9
10 Tests .....	9
10.1 Chemical analysis .....	9
10.2 Mechanical tests .....	9
11 Inspection.....	11
12 Reinspection .....	11
13 Marking.....	11
14 Report .....	12
Annex JA (informative) Comparison table between JIS and corresponding International Standards .....	13

## 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 The Japan Iron and Steel Federation (JISF) 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 G 3115:2010** is replaced with this Standard.

However, **JIS G 3115:2010** may be applied in the **JIS** mark certification based on the relevant provisions of Article 19 Clause 1, etc. of the Industrial Standardization Law until February 21, 2017.

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

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

# Steel plates for pressure vessels for intermediate temperature service

## Introduction

This Japanese Industrial Standard has been prepared based on the third editions of **ISO 9328-1**, **ISO 9328-3** and **ISO 9328-5** published in 2011, and the second edition of **ISO 9328-6** published in 2011 with some modifications of the technical contents.

The portions given sidelines or dotted underlines are the matters in which the contents of the corresponding International Standards have been modified. A list of modifications with the explanations is given in Annex JA.

## 1 Scope

This Standard specifies hot rolled steel plates (hereafter referred to as “steel plates”) with improved weldability, to be used for pressure vessels, equipment for high pressure service (excluding those to be used for high and low temperature services).

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

ISO 9328-1:2011 *Steel flat products for pressure purposes—Technical delivery conditions—Part 1: General requirements*

ISO 9328-3:2011 *Steel flat products for pressure purposes—Technical delivery conditions—Part 3: Weldable fine grain steels, normalized*

ISO 9328-5:2011 *Steel flat products for pressure purposes—Technical delivery conditions—Part 5: Weldable fine grain steels, thermomechanically rolled*

ISO 9328-6:2011 *Steel flat products for pressure purposes—Technical delivery conditions—Part 6: Weldable fine grain steels, quenched and tempered* (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

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

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

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

JIS G 3193 *Dimensions, mass and permissible variations of hot rolled steel plates, sheets and strips*