

JIS

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS G 3101 : 2020

(JISF)

Rolled steels for general structure

JIS G 3101: 2020 was revised under date of 20 May 2022.
The revised items are included in Amendment 1.

ICS 77.140.01 ; 77.140.10

Reference number : **JIS G 3101 : 2020 (E)**

G 3101 : 2020

Date of Establishment: 1952-11-25

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 3101 : 2020, First English edition published in 2021-03

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 grade and applicable dimensions	3
5 Chemical composition	3
6 Mechanical properties	3
7 Shape, dimensions, mass and tolerances	4
8 Appearance	6
9 Tests	6
9.1 Chemical analysis	6
9.2 Mechanical tests	6
10 Inspection	8
11 Reinspection	8
12 Marking	8
13 Report	8
Annex JA (normative) Mechanical properties of sections with a leg length under 40 mm and of flats with a width under 40 mm	9
Annex JB (normative) Quality requirements for hot extruded sections	10
Annex JC (informative) Comparison table between JIS and corresponding International Standards	13

G 3101 : 2020

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 3101:2017**), which has been technically revised.

However, **JIS G 3101:2017** 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.

Rolled steels for general structure

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 630-1** : 2011, Edition 1, and **ISO 630-2** : 2011, Edition 2, with some modifications of the technical contents.

Annex JA and Annex JB are unique to **JIS** and not given in the corresponding International Standard. 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 JC.

1 Scope

This Standard specifies requirements for the hot rolled steels used for general structures such as bridges, ships and rolling stocks (hereafter referred to as steel products) and hot extruded sections.

The quality requirements specific to hot extruded sections are given in Annex JB.

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

ISO 630-1 : 2011 *Structural steels — Part 1 : General technical delivery conditions for hot-rolled products*

ISO 630-2 : 2011 *Structural steels — Part 2 : Technical delivery conditions for structural steels for general purposes* (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 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 0404 *Steel and steel products — General technical delivery requirements*

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

JIS G 0416 *Steel and steel products — Location and preparation of samples and*

2

G 3101 : 2020

test pieces for mechanical testing

JIS G 3191 Dimensions, mass and permissible variations of hot rolled steel bars and bar in coil

JIS G 3192 Dimensions, mass and permissible variations of hot rolled steel sections

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

JIS G 3194 Dimensions, shape, mass and permissible variations of hot rolled flat steel

JIS Z 2241 Metallic materials — Tensile testing — Method of test at room temperature

JIS Z 2248 Metallic materials — Bend test

3 Terms and definitions

For the purpose of this Standard, the following terms and definitions, and those given in JIS G 0202 and JIS G 0203 apply.

3.1

steel bar

product manufactured by hot rolling steel into a bar

Note to entry 1 Depending on its cross-section, a steel bar may be a round bar (3.2), square bar (3.3), or hexagonal bar (3.4).

Note to entry 2 Steel bars include bars in coil (3.5).

3.2

round bar

steel bar (3.1) having a round cross-section

3.3

square bar

steel bar (3.1) having a square cross-section, with or without rounded edges

3.4

hexagonal bar

steel bar (3.1) having a hexagonal cross-section

3.5

bar in coil

steel bar (3.1) wound into a coil without cutting to length

3.6

hot extrusion

forming of a steel product by extruding heated billets through a die

3.7

forging ratio

ratio of the cross-sectional area of a cast slab or a bloom to that after extrusion

4 Symbols of grade and applicable dimensions

The steel products are classified into four grades, and their symbols and applicable dimensions are as given in Table 1.

Table 1 Symbols of grade and applicable dimensions

Symbol of grade	Shape of steel product	Applicable dimensions
SS330	Plate/sheet, strip in coil, flat and bar	—
SS400	Plate/sheet, strip in coil, section, flat and bar	—
SS490		
SS540	Plate/sheet, strip in coil, section and flat	≤40 mm in thickness ^{a)}
	Bar	≤40 mm in diameter or distance across flats
Note ^{a)} The thickness of sections shall be t or t_2 in Table 3 and t_2 in Table 4 of JIS G 3192 .		

5 Chemical composition

Steel products shall be tested in accordance with 9.1, and their heat analysis values shall conform to Table 2.

Table 2 Chemical composition

Symbol of grade	Unit: %			
	C	Mn	P	S
SS330	—	—	≤0.050	≤0.050
SS400				
SS490				
SS540	≤0.30	≤1.60	≤0.040	≤0.040
Elements in the table with no limit values or elements not given in the table may be added as necessary.				

6 Mechanical properties

The steel products shall be tested in accordance with 9.2, and satisfy the yield point or proof stress, tensile strength, elongation and bendability requirements in Table 3. Requirements for sections with a leg length under 70 mm and flats with a width under 50 mm shall be as follows.

4

G 3101 : 2020

- a) For sections with a leg length under 40 mm, requirements in Annex JA shall apply. For sections with a leg length 40 mm or over to and excluding 70 mm, requirements in Annex JA may be applied.
- b) For flats with a width under 40 mm, requirements in Annex JA shall apply. For flats with a width 40 mm or over to and excluding 50 mm, requirements in Annex JA may be applied.

In a bend test, if performed, the test piece shall be free from cracks on its outside surface.

NOTE..... For the details of bend test, see 9.2.1.

7 Shape, dimensions, mass and tolerances

The shape, dimensions, mass and tolerances of steel products shall be in accordance with JIS G 3191, JIS G 3192, JIS G 3193 and JIS G 3194.

Tolerances on width and length, unless otherwise specified, shall be as follows.

- a) For width of cut-edged plates/sheets and strips in coil, Tolerance A given in Table 7 of JIS G 3193 shall apply.
- b) For length of plates/sheets, the tolerances given in Table 8 of JIS G 3193 shall apply.

Table 3 Mechanical properties

Sym- bol of grade	Yield point or proof strength N/mm ²				Tensile strength N/mm ²	Elongation			Bendability		
	Thickness ^{a)} mm					Thickness ^{a)} mm	Test piece	%	Bend- ing angle	Inner radius	Test piece ^{c)}
	≤16	>16 ≤40	>40 ≤100	>100							
SS330	≥205	≥195	≥175	≥165	330 to 430	<5 in thickness of plates/sheets, strips in coil and flats	No. 5	≥26	180°	0.5 × thickness	No. 1
						>5 ≤16 in thickness of plates/sheets, strips in coil and flats	No. 1A	≥21			
						>16 ≤50 in thickness of plates/sheets, strips in coil and flats	No. 1A	≥26			
						>40 in thickness of plates/sheets and flats	No. 4	≥ 28 ^{b)}			
						≤25 in diameter or distance across flats of bars	No. 2	≥25	180°	0.5 × diameter or dis- tance across flats	No. 2
						>25 in diameter or distance across flats of bars	No. 14A	≥28			

Table 3 (continued)

Sym- bol of grade	Yield point or proof strength N/mm ²				Tensile strength N/mm ²	Elongation			Bendability		
	Thickness ^{a)} mm					Thickness ^{a)} mm	Test piece	%	Bend- ing angle	Inner radius	Test piece ^{c)}
	≤16	>16 ≤40	>40 ≤100	>100							
SS400	≥245	≥235	≥215	≥205	400 to 510	≤5 in thickness of plates/sheets, strips in coil, flats and sections	No. 5	≥21	180°	1.5 × thickness	No. 1
						>5 ≤16 in thickness of plates/sheets, strips in coil, flats and sections	No. 1A	≥17			
						>16 ≤50 in thickness of plates/sheets, strips in coil, flats and sections	No. 1A	≥21			
						>40 in thickness of plates/sheets, flats and sections	No. 4	≥ 23 ^{b)}			
						≤25 in diameter or distance across flats of bars	No. 2	≥20	180°	1.5 × diameter or dis- tance across flats	No. 2
						>25 in diameter or distance across flats of bars	No. 14A	≥22			
SS490	≥285	≥275	≥255	≥245	490 to 610	≤5 in thickness of plates/sheets, strips in coil, flats and sections	No. 5	≥19	180°	2.0 × thickness	No. 1
						>5 ≤16 in thickness of plates/sheets, strips in coil, flats and sections	No. 1A	≥15			
						>16 ≤50 in thickness of plates/sheets, strips in coil, flats and sections	No. 1A	≥19			
						>40 in thickness of plates/sheets, flats and sections	No. 4	≥ 21 ^{b)}			
						≤25 in diameter or distance across flats of bars	No. 2	≥18	180°	2.0 × diameter or dis- tance across flats	No. 2
						>25 in diameter or distance across flats of bars	No. 14A	≥20			

6

G 3101 : 2020

Table 3 (concluded)

Sym- bol of grade	Yield point or proof strength N/mm ²				Tensile strength N/mm ²	Elongation			Bendability		
	Thickness ^{a)} mm					Thickness ^{a)} mm	Test piece	%	Bend- ing angle	Inner radius	Test piece ^{c)}
	≤16	>16 ≤40	>40 ≤100	>100							
SS540	≥400	≥390	—	—	≥540	≤5 in thickness of plates/sheets, strips in coils, flats and sections	No. 5	≥16	180°	2.0 × thickness	No. 1
						>5 ≤16 in thickness of plates/sheets, strips in coil, flats and sections	No. 1A	≥13			
						>16 ≤40 in thickness of plates/sheets, strips in coil, flats and sections	No. 1A	≥17			
						≤25 in diameter or distance across flats of bars	No. 2	≥13	180°	2.0 × diameter or dis- tance across flats	No. 2
						>25 ≤40 in diameter or distance across flats of bars	No. 14A	≥16			

NOTE 1 N/mm² = 1 MPa
 Note ^{a)} Thickness shall be : thickness at the location of test piece for section; diameter for round bars; and distance across flats for square and hexagonal bars.
 Note ^{b)} For the elongation of No. 4 test piece of steel plate/sheet of thickness over 90 mm, subtract 1 from the values of this table for each increment of 25 mm or its fraction in thickness. The number subtracted shall not exceed 3.
 Note ^{c)} For the bend test of steel products of thickness 5 mm or under, No. 3 test piece may be used.

8 Appearance

The appearance of steel products shall be in accordance with Clause 9 of JIS G 3191, Clause 9 of JIS G 3192, Clause 7 of JIS G 3193 and Clause 8 of JIS G 3194.

9 Tests

9.1 Chemical analysis

The chemical analysis shall be as follows.

- a) **General requirements and sampling method** General requirements for chemical analysis and sampling method for heat analysis shall be in accordance with Clause 8 of JIS G 0404.
- b) **Analysis method** The heat analysis method shall be in accordance with JIS G 0320.

9.2 Mechanical tests

9.2.1 General

General requirements for mechanical tests shall be in accordance with Clauses 7 and

9 of JIS G 0404. The sampling method shall be in accordance with Class A in 7.6 of JIS G 0404.

The bend test may be omitted ¹⁾ unless it is specified by the purchaser.

Note ¹⁾ Even when the test is omitted at the discretion of the manufacturer, the products are still required to satisfy the specified bendability.

9.2.2 Number of tensile and bend test pieces

The number of tensile and bend test pieces shall be as follows.

- a) **Plates/sheets (excluding cut lengths), and flats** Take one test piece from each lot of plates/sheets or flats which belong to the same heat, and of which the maximum thickness is within two times the minimum thickness. When the mass of one lot exceeds 50 t, take two test pieces from each lot. When the mass of one plate/sheet exceeds 50 t, take one test piece from each plate/sheet.
- b) **Strips in coil and cut lengths therefrom** Take one test piece from each lot of strips in coil or cut lengths belonging to the same heat and rolled to the same thickness. When the mass of one lot exceeds 50 t, take two test pieces from each lot.
- c) **Sections** Take one test piece from each lot of sections belonging to the same heat and rolled to the same sectional profile, of which the maximum thickness is within two times the minimum thickness. When the mass of one lot exceeds 50 t, take two test pieces from each lot.
- d) **Bars** Take one test piece from each lot of bars belonging to the same heat and rolled to the same sectional profile, of which the maximum diameter (distance across flats) is within two times the minimum diameter (distance across flats). When the mass of one lot exceeds 50 t, take two test pieces from each lot.
- e) **Heat treated steel products** Take the number of test pieces specified in a), b), c) or d) from each lot of products grouped according to heat treatment conditions.

9.2.3 Location of tensile and bend test pieces

The location of tensile and bend test pieces shall be in accordance with JIS G 0416. The centre of test pieces across the width of a plate/sheet, strip in coil and flat shall be 1/4 of the width from the edge of the width or as near this location as possible.

9.2.4 Test pieces

Tensile and bend test pieces shall be as follows.

- a) Tensile test pieces shall be No. 1A, 2, 4, 5, 14A or 14B specified in JIS Z 2241.
- b) Bend test pieces shall be No. 1, 2 or 3 specified in JIS Z 2248.

9.2.5 Test methods

The tensile test and the bend test shall be as follows.

- a) The tensile test shall be performed in accordance with JIS Z 2241.
- b) The bend test shall be performed in accordance with JIS Z 2248 using the bending

8

G 3101 : 2020

angle and inner radius as given in Table 3.

10 Inspection

The inspection shall be as follows.

- a) General requirements of inspections are specified in JIS G 0404.
- b) Chemical composition shall conform to the requirements in Clause 5.
- c) Mechanical properties shall conform to the requirements in Clause 6.
- d) Shape, dimensions and mass shall conform to the requirements in Clause 7.
- e) Appearance shall conform to the requirements in Clause 8.

11 Reinspection

Steel products having failed the mechanical tests may be retested in accordance with 9.8 of JIS G 0404 to be further judged for acceptance.

12 Marking

Each piece or bundle of steel products having passed the inspection shall be marked with the following information by a suitable means. Part of the following particulars may be omitted upon agreement between the purchaser and the manufacturer, as far as the identification of the product is possible.

- a) Symbol of grade

NOTE In some cases, an additional mark specified by the order or the agreement between the purchaser and the manufacturer is suffixed to the symbol of grade to facilitate identification by the purchaser.

- b) Heat number or inspection number
- c) Dimensions. The marking of dimensions shall be in accordance with Clause 4 of JIS G 3191, Clause 4 of JIS G 3192, Clause 3 of JIS G 3193 and Clause 4 of JIS G 3194.
- d) Quantity in or mass of each bundle (for plates/sheets and strips in coil)
- e) Manufacturer's name or its identifying brand

13 Report

Unless otherwise specified, the manufacturer shall submit an inspection document to the purchaser. The report shall be in accordance with Clause 13 of JIS G 0404. Unless otherwise specified in the order, the type of the inspection document shall be in accordance with 5.1 of JIS G 0415.

Where an alloy element(s) other than specified in Table 2 has been added, the analysis value(s) of the added element(s) shall be indicated in the report.

Annex JA (normative)

Mechanical properties of sections with a leg length under 40 mm and of flats with a width under 40 mm

Sections with a leg length under 40 mm and flats with a width under 40 mm shall be tested in accordance with 9.2, and conform to the yield point or proof stress, tensile strength, elongation and bendability requirements given in Table JA.1.

Table JA.1 Mechanical properties of sections with a leg length under 40 mm and of flats with a width under 40 mm

Symbol of grade	Yield point or proof strength N/mm ²		Tensile strength N/mm ²	Thick-ness ^{a)} mm	Tensile test piece	Elon-gation %	Bendability		
	Thickness ^{a)} mm						Bending angle	Inner ra-dius	Test piece ^{b)}
	≤16	>16 ≤40							
SS330	≥205	≥195	330 to 430	≥3 ≤5	No. 5	≥26	180°	0.5 × thickness	No. 1
					No. 14B	≥26			
				>5 ≤16	No. 5	≥33			
					No. 14B	≥30			
				>16 ≤40	No. 5	≥41			
					No. 14B	≥30			
SS400	≥245	≥235	400 to 510	≥3 ≤5	No. 5	≥21	180°	1.5 × thickness	No. 1
					No. 14B	≥21			
				>5 ≤16	No. 5	≥27			
					No. 14B	≥24			
				>16 ≤40	No. 5	≥33			
					No. 14B	≥24			
SS490	≥285	≥275	490 to 610	≥3 ≤5	No. 5	≥19	180°	2.0 × thickness	No. 1
					No. 14B	≥19			
				>5 ≤16	No. 5	≥24			
					No. 14B	≥22			
				>16 ≤40	No. 5	≥30			
					No. 14B	≥22			
SS540	≥400	≥390	≥540	≥3 ≤5	No. 5	≥16	180°	2.0 × thickness	No. 1
					No. 14B	≥16			
				>5 ≤16	No. 5	≥21			
					No. 14B	≥19			
				>16 ≤40	No. 5	≥27			
					No. 14B	≥20			

NOTE 1 N/mm² = 1 MPa
 Note^{a)} For sections, the thickness shall be that at the location of test pieces.
 Note^{b)} For bend test of steel products of thickness 5 mm or under, No. 3 test piece may be used.

Annex JB (normative)

Quality requirements for hot extruded sections

JB.1 Application

This Annex specifies the quality requirements for hot extruded sections of specially ordered shape to be used for construction components, coupling components for steel sheet piles, steel pipe sheet piles and the like.

Hot extruded sections shall be applied by agreement between the purchaser and the manufacturer.

JB.2 Symbols of grade and applicable dimensions

Hot extruded sections are classified into two grades, and their symbols and applicable dimensions shall be as given in Table JB.1.

Table JB.1 Symbols of grade and applicable dimensions of hot extruded sections

Symbol of grade	Applicable dimension
SS400	≥ 5 mm in thickness
SS490	≤ 250 mm in leg length or height

JB.3 Manufacturing method

Hot extruded sections shall be produced by hot extrusion at a minimum forging ratio of 4.

JB.4 Chemical composition

Hot extruded sections shall be tested in accordance with 9.1, and their heat analysis values shall conform to Table 2.

JB.5 Mechanical properties

JB.5.1 Location of tensile and bend test pieces

The location of tensile and bend test pieces of hot extruded sections shall be as agreed between the purchaser and the manufacturer. The No. 4 tensile test pieces shall be taken from 1/4 of the thickness; if this is impracticable, they shall be taken from a position as close to this as possible.

JB.5.2 Tensile test and bend test properties

Hot extruded sections shall be tested in accordance with the test method for sections given in 9.2, and satisfy the yield point or proof stress, tensile strength, elongation and

bendability requirements for sections given in Table 3 and Table JA.1. Where No. 1A test piece cannot be taken due to the specific geometry of the hot extruded section, No. 5 test piece may be taken.

Elongation requirements for hot extruded sections are given in Table JB.2.

Table JB.2 Elongation of hot extruded sections

Symbol of grade	Elongation		
	Thickness mm	Test piece	%
SS400	≤5	No. 5	≥21
	>5 ≤16	No. 1A	≥17
		No. 5	≥27
	>16 ≤50	No. 1A	≥21
		No. 5	≥33
>40	No. 4	≥23 ^{a)}	
SS490	≤5	No. 5	≥19
	>5 ≤16	No. 1A	≥15
		No. 5	≥24
	>16 ≤50	No. 1A	≥19
		No. 5	≥30
>40	No. 4	≥21 ^{a)}	
Note ^{a)} For the elongation of steel plates/sheets with a thickness over 100 mm, subtract 1 from the elongation values of this table for each increment of 25 mm or its fraction in thickness. The number subtracted shall not exceed 3.			

JB.6 Shape, dimensions and tolerances

The shape of the hot extruded section shall be specified by the purchaser. If extrusion into the ordered shape is not possible, the purchaser shall specify a change of shape upon agreement with the manufacturer.

NOTE Hot extruded sections are mainly used as components specified in designing documents that are based on technical standards such as standard specifications for building operations and common specifications for port construction work.

The tolerances on shape and dimensions of hot extruded sections shall be as given in Table JB.3.

Table JB.3 Tolerances on shape and dimensions

Unit: mm

Division		Tolerance
Leg length, height and thickness	< 50	±1.5
	≥50 <100	±2.0
	≥100 <200	±3.0
	≥200	±4.0
Length	≤7 m	+40 0
	>7 m	For plus tolerance, add 5 mm to the above plus tolerance for each increment of 1 m or its fraction in length. Minus tolerance shall be 0 mm.
Squareness of cross-section	≤100 mm in maximum leg length	≤1.6
	>100 mm in maximum leg length	≤3.0
Bendability		≤0.5 % of length ^{a)}
<p>Upon agreement between the purchaser and the manufacturer, the full spread of the above tolerance range may be moved to the plus or minus side, provided the lower limit when the range is moved to the plus side is not above zero and the upper limit when it is moved to the minus side is not below zero.</p> <p>Note ^{a)} Applicable to vertical and horizontal bending.</p>		

JB.7 Appearance

The appearance of hot extruded sections shall be in accordance with Clause 9 of JIS G 3192.

JB.8 Inspection

The inspection of hot extruded sections shall be in accordance with Clause 10.

JB.9 Reinspection

The reinspection of hot extruded sections shall be in accordance with Clause 11.

JB.10 Marking

The marking of hot extruded sections shall be in accordance with Clause 12.

JB.11 Report

The report of hot extruded sections shall be in accordance with Clause 13.

Annex JC (informative)

Comparison table between JIS and corresponding International Standards

JIS G 3101		ISO 630-1 : 2011, ISO 630-2 : 2011, (MOD)		
a) No. of clause (JIS)	b) No. of clause (corresponding International Standard)	c) Classification by clause	d) Detail and justification of technical deviation	e) Future measures for the technical deviation
3	ISO 630-1 3	Addition	JIS adds definitions of terms relevant to products uniquely specified in JIS .	JIS corresponds to manufacturing methods used in Japan.
4	ISO 630-2 4	Alteration	Steel grade designation in JIS is based on tensile strength while designation in ISO is based on yield point.	Difference in designation system. No harmonization measures will be taken.
5	ISO 630-2 6	Deletion	ISO specifies more elements.	Most of JIS specifications have been incorporated into ISO .
6	ISO 630-2 6	Addition	JIS adds bendability requirements.	JIS requirements are stricter than ISO .
7	ISO 630-1 6	Addition	JIS specifies details of dimensional and shape requirements different from ISO .	Difference in commercial practices. No harmonization measures will be taken.
8	ISO 630-1 6	Alteration	JIS does not permit local insufficiency in plate thickness caused by removal of surface flaws, while ISO does.	JIS requirements are stricter than ISO .
9.1	ISO 630-1 9	Alteration	JIS refers to other JIS s for analysis requirements.	JIS specifies the heat analysis method to be adopted.
9.2	ISO 630-2 8	Alteration	JIS and ISO use slightly different test units, but specify the same location of test pieces.	Harmonization between JIS and ISO has progressed as ISO has incorporated proposals from JIS .
11	ISO 630-1 7.3	Addition	JIS adds a matter to be agreed between the purchaser and the manufacturer.	Difference in commercial practices. No harmonization measures will be taken.
12	ISO 630-1 10	Addition	ISO does not include “heat number” in the information to be marked, or provide specific instruction for marking dimensions.	Difference in commercial practices. No harmonization measures will be taken.

14.

G 3101 : 2020

a) No. of clause (JIS)	b) No. of clause (corresponding International Standard)	c) Classification by clause	d) Detail and justification of technical deviation	e) Future measures for the technical deviation
13	ISO 630-1 7.1	Alteration	JIS refers to another JIS for report requirements.	Difference in commercial practices. No harmonization measures will be taken.
Annex JA	—	Addition	JIS specifies non-proportional test pieces as well while ISO only specifies proportional test pieces.	The specification is of unique necessity to Japan. No harmonization measures will be taken.
Annex JB	—	Addition	JIS adds product requirements intended only for building structures in Japan.	The specification is of unique necessity to Japan. No harmonization measures will be taken.
<p>NOTE 1 Symbols in sub-columns of classification by clause in the above table indicate as follows :</p> <ul style="list-style-type: none"> — Deletion : Delete the specification item(s) or content(s) of International Standard(s). — Addition : Add the specification item(s) or content(s) which are not included in International Standard(s). — Alteration : Alter the specification content(s) or structure of International Standard(s). <p>NOTE 2 Symbol of overall degree of correspondence between JIS and International Standard(s) in the above table indicates as follows :</p> <ul style="list-style-type: none"> — MOD : Modify International Standard(s). 				

Errata for **JIS** (English edition) can be downloaded in PDF format at Webdesk (purchase information page) of our website (<https://www.jsa.or.jp/>).

For inquiry, please contact:

Publication and Information Unit, Japanese Standards Association Group

Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

TEL. 03-4231-8550 FAX. 03-4231-8665