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Rolled steels for general structure

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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 ${\bf JIS}~{\bf G}~{\bf 3101}$:2010 is replaced with this Standard.

However, JIS G 3101:2010 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 August 19, 2016.

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.

Rolled steels for general structure

Introduction

This Japanese Industrial Standard has been prepared based on the first editions of ISO 630-1 and ISO 630-2 published in 2011 with some modifications of the technical contents.

The portions given continuous 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 JC.

1 Scope

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

The quality requirements for 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

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 0416 Steel and steel products — Location and preparation of samples and 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, mass and permissible variations of hot rolled steel plates, sheets and strips

JIS G 3194 Dimensions, 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 Classification, symbols 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 Symbol of grade and applicable dimensions

	•	
Symbol of grade	Shape of steel product	Applicable dimensions
SS330	Steel plates and sheets, steel strips in coil, flats and bars	_
SS400	Steel plates and sheets, steel	
SS490	strip in coil, sections, flats and bars	· –
SS540	Steel plates and sheets, steel strips in coil, sections and flats	≤40 mm in thickness a)
	Steel bars	≤40 mm in diameter, side or distance across flats
NOTE: Steel bar	s include bar-in coils.	

Note a) The thickness of sections shall be t or to in Table 3 and to in Table 4 of JIS G 3192.

4 Chemical composition

Steel products shall be tested in accordance with 8.1, and the heat analysis values shall be as given in Table 2.

Table 2 Chemical composition

Unit: %

				ОЩ10- 70_
Symbol of grade	C	Mn	P	S
SS330	_		≤0.050	≤0.050
SS400		*		
SS490				
SS540	≤0.30	≤1.60	≤0.040	≤0.040
Alloy elements of	ther than those s	pecified in this t	able may be add	ed as necessary.

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5 Mechanical properties

The steel products shall be tested in accordance with 8.2, and the yield point or proof stress, tensile strength, elongation and <u>bendability</u> shall be as given in Table 3. The mechanical properties of sections with a side under 40 mm and of flats with a width under 40 mm shall be in accordance with Annex JA.

The steel products shall satisfy the bendability without generating any cracks on the outer surface of the bend test piece.

NOTE: For the details of bend test, see 8.2.1.

6 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.

In this case, the tolerances on the width of cut-edged steel plate, sheet and steel strip in coil as well as the tolerances on length of steel plate or sheet shall be in accordance with tolerance A in Tables 7 and 8 of JIS G 3193, unless otherwise specified. The tolerance on thicknesses not specified in JIS G 3193 may be agreed between the purchaser and the manufacturer.

Table 3 Mechanical properties

				Te	able 3	Mechanical properti	es	2			
Sym-	Yield p	_		rength	Tensile	Elongation			,]	Bendability	У
bol of		N/m			strength	,				I -	<u> </u>
grade		Thickr	ness ^{a)}						Bend-		Test
		m		4		Thickness ^{a)}	Test	%	ing	dius	piece ພ
		>16	>40	>100		· mm	piece	, •	angle		"
	≤16	≤40	≤100		N/mm ²						
SS330	≥205	≥195	≥175	≥165	330 to	≤5 in thickness of steel	No. 5	≥26	180°	0.5 ×	No. 1
		l			430	plates and sheets,				thickness	
		1				steel strip in coil and					
						flats		-			
	-					$> 5 \le 16$ in thickness of	No. 1A	≥21			
					,	steel plates and					
						sheets, steel strip in					
						coil and flats					
						$> 16 \le 50$ in thickness	No. 1A	≥26			
			.*			of steel plates and				,	
						sheets, steel strip in					
						coil and flats	-,	. 00			
		1		ł		>40 in thickness of	No. 4	≥28 b)			
				\		steel plates and		D)		w	
						sheets, and flats	No. 2	>0F	180°	0.5 × di-	No. 2
						≤25 in diameter, side	No. 2	≥25	180	ameter,	110. 2
						or distance across flats of steel bars				side or	
		!					No. 14A	>28		distance	4 . /
	٠.			1		or distance across flats	140. 147	220		across	
						of steel bars		•		flats	
SS400	≥245	≥235	≥215	≥205	400 to	≤5 in thickness of steel	No. 5	≥21	180°	1.5 ×	No. 1
20100			=====		510	plates and sheets,				thickness	l
						steel strip in coils,					
						flats and sections					
				1		$> 5 \le 16$ in thickness of	No. 1A	≥17			
			1	1		steel plates and	٠.		,		
					Ì	sheets, steel strip in					
				1		coil, flats and sections]		
				Į		$> 16 \le 50$ in thickness	No. 1A	≥21			
						of steel plates and	,				
						sheets, steel strip in				-	
	. , .					coil, flats and sections					
		l				>40 in thickness of	No. 4	≥23			
				l	*	steel plates and		ь)			
		2				sheets, flats and sec-					
						tions	N 0	>00	1000	1.5. 1	NT: 5
						≤25 in diameter, side	No. 2	≥20	180°	1.5 × di-	No. 2
		1				or distance across flats				ameter,	
2 1		1				of steel bars	NT- 144	>00	1	side or	
		1				>25 in diameter, side	No. 14A	222		distance across	
1	· ·				,	or distance across flats		1		flats	
						of steel bars	L	L		TIMES	L

Table 3 (concluded)

Sym	372 23	-			Tabl	e 3 (concluded)					
Sym- bol of	Yield p			rength		Elongation	1			Bendabilit	y
grade		N/m			strength						
5-446		Thickr							Bend-	Inner ra-	Test
		m in				Thickness a)	Test	%	ing	dius	piece
	≤16	>16	>40	>100		mm	piece	%	angle		c)
SS490	≥285	≤40 >075	≤100		N/mm ²						
55450	2200	≥275	≥255	≥245	490 to	≤5 in thickness of steel	No. 5	≥19	180°	2.0 ×	No. 1
					610	plates and sheets,				thickness	
				-		steel strip in coils,		_		~	
						flats and sections				*	
						$>$ 5 \leq 16 in thickness of	No. 1A	≥15			
		8 8				steel plates and			}		
						sheets, steel strip in					
						coil, flats and sections				y ==	
						>16 ≤ 50 in thickness	No. 1A	≥19			
						of steel plates and					
						sheets, steel strip in					
						coil, flats and sections	77	. 01			
						>40 in thickness of steel plates and	No. 4	≥21 b)	,		
,	1					sheets, flats and sec-		u)			
						tions			*		
						≤25 in diameter, side	No. 2	≥18	180°	2.0 × di-	No. 2
	2		_			or distance across flats	110, 2	210	100	ameter,	110. 2
1						of steel bars				side or	
			1				No. 14A	≥20		distance	
						or distance across flats				across	-
				l		of steel bars			-	flats	}
SS540	≥400	≥390	_	-	≥540	≤5 in thickness of steel	No. 5	≥16.	180°	2.0 ×	No. 1
			1			plates and sheets,				thickness	
						steel strip in coils,	, "				
					1	flats and sections					
	,					$>$ 5 \leq 16 in thickness of	No. 1A	≥13			
						steel plates and					
				-		sheets, steel strip in					
		*				coil, flats and sections	27 - 7 4				
						>16 ≤ 40 in thickness	No. 1A	≥17			
						of steel plates and					
		1		4		sheets, steel strip in					
						coil, flats and sections	No. 2	≥13	180°	2.0 × di-	No. 2
						≤25 in diameter, side or distance across flats		213	100	ameter,	140. 2
	*		1	17.50		of steel bars				side or	
1				,		$>25 \le 40$ in diameter,	No. 14A	>16		distance	
	1		1			side or distance across	110, 140	=10		across	٠,
						flats of steel bars				flats	,
	,			1		ITALB OF BLEEF DATA					<u> </u>

NOTE: $1 \text{ N/mm}^2 = 1 \text{ MPa}$

For sections, the thickness of steel products shall be that of the location of test pieces. The Notes a) thickness of steel products shall be that of diameter for round bars, that of side for square bars, and that of distance across flats for hexagon bars.

For the elongation of No. 4 test piece of steel plate of thickness over 90 mm, subtract 1 from the elongation values of this table for each increment of 25.0 mm or its fraction in thickness. However, the subtraction shall not exceed 3.

For bend test of steel products of thickness 5 mm or under, No. 3 test piece may be used.

7 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 10 of JIS G 3194.

8 Tests

8.1 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.

8.2 Mechanical tests

8.2.1 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), but if specified by the purchaser, the test shall be performed.

Note 1) It means that although the test may be omitted according to the judgement of the manufacturer, the steel products shall satisfy the specified bendability.

8.2.2 Number of tensile and bend test pieces

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

- a) Steel plates, sheets and flats Take one test piece for each test from one lot of steel plate, sheet or flat which belongs 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 a steel sheet exceeds 50 t in this case, take one test piece from each steel sheet.
- b) Steel strip in coil or cut length Take one test piece for each test from one lot of steel strip in coil or cut length which belongs to the same heat and of 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 for each test from one lot of section which belongs to the same heat rolled to the same sectional profile, 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.
- d) Steel bars Take one test piece for each test from one lot of steel bar which belongs to the same heat rolled to the same sectional profile, and of which the maximum diameter (side or distance across flats) is within two times the minimum diameter

(side or distance across flats). When the mass of one lot exceeds 50 t, take two test pieces from each lot.

e) Heat treated steel products The number of test pieces of heat treated steel product shall be in accordance with a), b), c) and d), by the same heat and the same conditions of heat treatment.

8.2.3 The 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 steel plate or sheet, steel strip in coil and flat shall be at 1/4 from the edge of the width or as near to that location as possible.

8.2.4 Test pieces

Tensile test and bend test pieces shall be as follows.

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

8.2.5 Test methods

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

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

9 Inspection

The inspection shall be as follows.

- a) General requirements for inspection shall be in accordance with JIS G 0404.
- b) The chemical composition shall conform to the requirements of clause 4.
- c) The mechanical properties shall conform to the requirements of clause 5.
- d) The shape, dimensions and mass shall conform to the requirements of clause 6.
- e) The appearance shall conform to the requirements of clause 7.

10 Reinspection

The steel products having failed in the tensile test and the bend test may be subjected to the retest according to 9.8 of JIS G 0404 for further acceptance judgement.

11 Marking

The steel products which have passed the inspection shall be marked on each piece or each bundle with the following items by suitable means. By agreement between the purchaser and the manufacturer, part of the items may be omitted to such extent that the product can be still identified.

a) Symbol of grade

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

- 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 or mass of each bundle (for steel plate, sheet and steel strip in coil)
- e) Manufacturer's name or its identifying brand

12 Report

The manufacturer shall submit the 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 to be submitted shall be the standard designation 3.1 in Table 1 of JIS G 0415.

When any alloy elements other than those in Table 2 are added, the content rate of the element included shall be addressed in the report.

Annex JA (normative)

Mechanical properties of sections with side under 40 mm and of flats with width under 40 mm

JA.1 Mechanical properties

Sections with a side under 40 mm and flats with a width under 40 mm shall be tested in accordance with 8.2, and the yield point or proof stress, tensile strength, elongation and bendability shall be as given in Table JA.1.

Table JA.1 Mechanical properties of sections with side under 40 mm and of flats with width under 40 mm

		or frats	with wic	ith under 40 m	m				
Sym-	Yield poir	t or proof	Tensile	Thickness a)	Tensile	Elon-	F	Bendabilit	у
bol of	stre	ngth	strength		test	gation			,
grade	N/n	nm²			piece				
	Thickness	sa) mm					Bend-	Inner	Test
	≤16	>16	3 70 61				ing	radius	piece b)
		≤40	N/mm ²	mm		%	angle		
SS330	≥205	≥195	330 to	≥ 3 ≤ 5	No. 5	≥26	180°	0.5 ×	No. 1
			430	2020	No. 14B	≥26		thick-	
		8.00		> 5 ≤ 16	No. 5	≥33		ness	
				7 9 3 10	No. 14B	≥30			
\				> 16 ≤ 40	No. 5	≥41			
				710240	No. 14B	≥30			
SS400	≥245	≥235	400 to	≥ 3 ≤ 5	No. 5	≥21	180°	1.5 ×	No. 1
			510	2030 ,	No. 14B	≥21		thick-	1
	7			> 5 ≤ 16	No. 5	≥27		ness	
			,	7 3 2 10	No. 14B	≥24			
		1.6		> 16 ≤ 40	No. 5	≥33			
				7 10 5 40	No. 14B	≥24			
SS490	≥285	≥275	490 to	≥ 3 ≤ 5	No. 5	≥19	180°	2.0 ×	No. 1
			610	2020	No. 14B	≥19	}	thick-	}
İ			*		No. 5	≥24		ness	
1		5		> 5 ≤ 16	No. 14B	≥22	1		
					No. 5	≥30			
ж .			20	> 16 ≤ 40	No. 14B	≥22	1		1
SS540	≥400	≥390	≥540		No. 5	≥16	180°	2.0 ×	No. 1
22010	2.00			≥ 3 ≤ 5	No. 14B	≥16	,	thick-	,
					No. 5	≥21	1	ness	
,				> 5 ≤ 16	No. 14B	≥19	1	,	100
					No. 5	≥27	1		
			51	> 16 ≤ 40	No. 14B	≥20	1		
	1	1	1		1 TO. 14D				

NOTE: $1 \text{ N/mm}^2 = 1 \text{ MPa}$

Notes a) For sections, the thickness of steel products shall be that at the location of test pieces.

b) For bend test of steel products of 5 mm or under in thickness, No. 3 test piece may be used.

Annex JB (normative) Quality requirements for hot extruded sections

JB.1 Application

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

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

JB.2 Classification, symbols and applicable dimensions

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

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

Symbol of grade	Applicable dimensions
SS400	≥5 mm in thickness
SS490	≤250 mm in side or height

JB.3 Manufacturing method

The sections shall be manufactured by hot extrusion ²⁾. Hot extruded sections shall be formed so that the forging ratio ³⁾ is at least 4.

- Notes 2) Hot extrusion means a forming method by which heated billets are extruded through the dice.
 - The forging ratio here means a ratio of the cross-section area of a cast slab or a bloom to that after hot extrusion.

JB.4 Chemical composition

Hot extruded sections shall be tested in accordance with 8.1, and the heat analysis values shall be as given in Table 2.

JB.5 Mechanical properties

JB.5.1 The 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 piece shall be taken at 1/4 of the width.

JB.5.2 Tensile test and bend test properties

Hot extruded sections shall be tested in accordance with 8.2, and the yield point or proof stress, tensile strength, elongation, and bendability shall be as given in Table 3 and Table JA.1. When the shape of hot extruded section is not appropriate to take No. 1A test piece, No. 5 test piece may be taken. In this case, the specifications in Table 3 shall be replaced as follows: replace $\geq 17\%$ by $\geq 27\%$, $\geq 21\%$ by $\geq 33\%$ for SS400; replace $\geq 15\%$ by $\geq 24\%$, $\geq 19\%$ by $\geq 30\%$ for SS490.

JB.6 Shape, dimensions and tolerances

The shape of hot extruded sections shall be as specified by the purchaser. When a specific shape cannot be formed, the purchaser shall specify changes of shape by agreement between the purchaser and the manufacturer.

NOTE: Hot extruded sections are used mainly as components specified in designing documents, 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.2.

Table JB.2 Tolerances on shape and dimensions

Unit: mm

	Division	Tolerance
Side, height	< 50	±1.5
and thickness	≥ 50 < 100	±2.0
v	≥ 100 < 200	±3.0
	≥200	±4.0
Length	≤7 m	+40
	'	0
	>7 m	For the plus side tolerance, add
,		5 mm to the plus side tolerance
		for each increment of 1 m or its
	•	fraction in length.
•		The minus side tolerance shall
	•	be 0 mm.
Squareness of	≤100 mm in maximum	≤1.6
cross-section	side length	* -
*	>100 mm in maximum	≤3.0
	side length	
Bendability		≤0.5 % of length a)

The tolerances may be moved to the minus side in the same range as the total tolerance range specified in Table JB.2 upon agreement between the purchaser and the manufacturer. When the tolerance is moved to the plus side, the lower limits shall not be above zero, and, when it is moved to the minus side, the upper limits shall not be below zero.

Note a) Applicable to vertical and horizontal bending.

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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 9.

JB.9 Reinspection

The reinspection of hot extruded sections shall be in accordance with clause 10.

JB.10 Marking

The marking of hot extruded sections shall be in accordance with clause 11.

JB.11 Report

The report of hot extruded sections shall be in accordance with clause 12

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Annex JC (informative)

5	S G 3101:2	JIS G 3101: 2015 Rolled steels for general structure	eral structure			ISO 630-1:2	ISO 630-1: 2011 Structural steels — Part 1: General technical delivery	: General technical delivery
						conditions fo	conditions for hot-rolled products	
						ISO 630-2: 2	ISO 630-2: 2011 Structural steels — Part 2: Technical delivery	: Technical delivery
						conditions fo	conditions for structural steels for general purposes	urposes
8	(I) Requirements in JIS	nts in JIS	(II) Inter-	(III) Requ	(III) Requirements in	(IV) Classific	(IV) Classification and details of technical	(V) Justification for the
			national	Internati	International Standard	deviation bet	deviation between JIS and the Interna-	technical deviation and
			Standard			tional Standa	tional Standard by clause	future measures
Ž	No. and	Content	number	No. of	Content	Classifica.	Detail of technical deviation	•
<u>ਜ</u>	title of			clause		tion by clause		
7	1 Scope		ISO 630-2	1.		Identical		
4. 2	2 Norma- tive refer-							
Б	ences							
(m)	sifi-	SS330	ISO 630-2	4	SS330, SS400, SS490 and SS5540 of	Alteration	Steel grade represents tensile strength in JIS while it	,
3 8	evmbole	SS490	•		JIS correspond to	n	represents yield point in	
6 E	and appli-	SS540			Quality A of SG205,		ISO.	
- 8	cable di-				SG250, SG285 and	•		
B	mensions				SG345 of ISO, respectively.			
4.8	4 Chemical composition	P and S are specified. C and Mn are also specified for SS540.	ISO 630-2	6.3	Si is specified in addition to P and S. Alloy elements can	Alteration	More elements are specified in ISO.	Most specifications in JIS have been covered in ISO.
		Alloy elements can be			be added. Elements specified			
		The content of alloy			shall be reported re-		•	
	•	elements added needs to be reported.			gardless of addition.	†		
. ca	5 Mechan-	Yield point or proof	ISO 630-2	6.4.1	Yield strength (yield	Alteration	Technically, the same con-	
- 3	ties proper	strength, elongation			tensile strength and			
		and bendability			elongation are specified,			

		4 (44)	1		** 'S' (***)		1. 0 4.1
(I) Require	(I) Requirements in JIS	UV Inter	(III) Ked	(III) Kequirements in	(IV) Classifi	(IV) Classification and details of technical	(V) Justincation for the
		national.	Internat	International Standard	deviation be	deviation between JIS and the Interna-	technical deviation and
		Standard			tional Stand	tional Standard by clause	future measures
No. and	Content	number	No. of	Content	Classifica-	Detail of technical deviation	
title of		i	clause		tion by		
clause	,				clause		
6 Shape,	JIS G 3191,	ISO 630-1	6.7	Specified by citing	Addition	Corresponding JIS is ad-	
dimensions,	JIS G 3192,			ISO. Alternatively,		dressed in Annex A.	
tolerances	JIS G 3194 are cited.			standards like JIS may be used.			
7 Appear	For appearance, JIS G	ISO 630-1	6.5	As specified in ISO	Alteration	JIS does not accept the local	Difference in commercial
ance	3191, TE C 2109	•		7788, etc.		insufficiency in plate thick-	practices.
	JIS G 3193.		,			surface flaws, although ISO	,
	JIS G 3194 are cited.	,	,			does.	
8 Tests	Tests						,
8.1 Chemi-	Clause 8 of JIS G 0404	ISO 630-1	9.1	The analysis ad-	Alteration	For analysis, relevant JIS is cited	
cat analysis	For chemical analysis			9769.			
	each relevant JIS is						
8.2 Me-	Clause 9 of JIS G 0404	ISO 630-2	8.2	The basic test unit is	Alteration	JIS and ISO use slightly dif-	The requirements have
chanical	is cited.			40 t or part thereof.		ferent test units, but use the	become similar between
tests	Two test pieces shall					same location of test pieces.	JIS and ISO, because of
	be taken when the	,					proposal from Japan.
	mass exceeds 50 t.						,
	pieces, JIS G 0416 is						
9 Inspace	Cited.	150 630-1	7.1	Reteat	Identical		
tion	monte and rainance	1 000 001	:	TSO 404 is cited	Tacilita		
	tion. JIS G 0404 is						•
	cited.						
10 Rein- spection	As specified in JIS G 0404.	ISO 630-1	7.3	As specified in ISO 404.	Identical	JIS G 0404 conforms to ISO	
						10.41	

(I) Requirements in JIS	nents in JIS	(II) Inter	(III) Requ	(III) Requirements in	(IV) Classific	(IV) Classification and details of technical	(V) Justification for the
	**	national	Internation	nternational Standard	deviation bet	deviation between JIS and the Interna-	technical deviation and
· ·		Standard		,	tional Standard by clause	rd by clause	future measures
No. and	Content	number	No. of	Content	Classifica-	Detail of technical deviation	
title of			clause		tion by		
clause		•	,		clause		Descent will be made
11 Marking	a) Symbol of grade	ISO 630-1	10	Inspection document	Alteration	More specifications are made in JIS than those in ISO.	reposat will be made based on JIS.
	b) Heat number or m-			יייטייט פו בי דעד אמן אמן			
	Specuon number						
	d) Overtity or mass of	,					
	each hundle						
	e) Manufacturer's						
	name or its identifying	,					
,	brand						
12 Report	JIS G 0404 and	ISO 630-1	7.2		Identical		
1	JIS G 0415 are cited.	,					The specification required
Annex JA	Mechanical properties				Addition		for JIS.
(normative)	of sections with side					,	
,	under 40 mm and of	,				*	,
	flats with width under						
	40 mm				Addition		The specification required
Annex JB (normative)	Quality requirements for hot extruded sec				Manton		for JIS.
	tions					,	
Overall degr	Overall degree of correspondence between JIS and International Standards (ISO 6301-1 : 2011, ISO 630-2 : 2011):	een JIS and In	nternation	al Standards (ISO 6301	-1:2011, ISO 6	330-2:2011): MOD	
NOTE 1	Symbols in sub-columns of classification	f classificatio	n by clause	by clause in the above table indicate as follows:	licate as follow	÷ò.	
	— Identical : Identical in technical contents.	technical conf	tents.		*		
	— Addition: Adds the specification item(s) or content(s) which are not included in International Standard.	cification iter	n(s) or con	tent(s) which are not it	ncluded in Inte	rnational Standard.	
	— Alteration: Alters the specification content(s) which are included in International Standard.	specífication (content(s)	which are included in I	international S	tandard.	
NOTE 2	Symbol in column of over	all degree of c	orresponde	ence between JIS and I	International S	Symbol in column of overall degree of correspondence between JIS and International Standards in the above table indicates as follows:	licates as follows:
	— MOD : Modifies International Standards.	ational Stand	lards.				



Translated and Published by Japanese Standards Association

 $JIS \ G \ 3101:2017$

(JISF)

Rolled steels for general structure

(Amendment 1)

JIS G 3101:2015 was revised under date of March 21, 2017. This Amendment includes the revised items and is to be used in conjunction with JIS G 3101:2015.

ICS 77.140.01;77.140.10

Reference number: JIS G 3101:2017 (E)

G 3101: 2017

Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law.

Consequently JIS G 3101:2015 is partially replaced with this Amendment.

However, JIS G 3101: 2015 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 September 20, 2017.

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ЛS G 3101: 2017

Rolled steels for general structure (Amendment 1)

JIS G 3101: 2015 is revised as follows.

12 Report

Replace "The manufacturer shall submit the inspection document to the purchaser." by "Unless otherwise specified, the manufacturer shall submit the inspection document to the purchaser."