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Slotted head tapping screws

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In the event of any doubts arising as to the contents,
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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 Research Institute for Screw Threads and Fasteners (JFRI)/Japanese Standards Association (JSA) 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 B 1115:2006** is replaced with this Standard.

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Slotted head tapping screws

Introduction

This Japanese Industrial Standard has been prepared based on the second editions of **ISO 1481**, **ISO 1482** and **ISO 1483** published in 2011, by editing and incorporating items (shape and dimensions, product specifications and designation of products) that correspond to **JIS** contents without modification of technical contents.

The portions given sidelines or dotted underlines are the matters not given in the corresponding International Standard. A list of modifications with the explanations is given in Annex JB

This Standard contains the following Annex, not given in the **ISO** Standards, for providing requirements that reflect the manufacturing and use of the product in Japan.

Annex JA (normative) Slotted head tapping screws with thread shapes and dimensions of Class 1 to Class 4

1 Scope

This Standard specifies the characteristics of slotted head tapping screws with thread sizes from ST2.2 to ST9.5 inclusive.

The characteristics of slotted head tapping screws with Class 1 to Class 4 threads that are not in accordance with **JIS B 1007** are specified in Annex JA.

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

ISO 1481:2011 *Slotted pan head tapping screws*

ISO 1482:2011 *Slotted countersunk (flat) head tapping screws*

ISO 1483:2011 *Slotted raised countersunk (oval) head tapping screws*
(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 B 0101 *Screw threads and fasteners—Vocabulary*

JIS B 0143 *Fasteners—Bolts, screws, studs and nuts—Symbols and descriptions of dimensions*

NOTE : Corresponding International Standard: ISO 225:2010 *Fasteners—Bolts, screws, studs and nuts—Symbols and descriptions of dimensions* (IDT)

JIS B 1007 *Tapping screws thread*

NOTE : Corresponding International Standard: ISO 1478:1999 *Tapping screws thread* (IDT)

JIS B 1010 *Designation system for fasteners*

JIS B 1013 *Countersunk head screws—Head configuration and gauging*

NOTE : Corresponding International Standard: ISO 7721:1983 *Countersunk head screws—Head configuration and gauging* (IDT)

JIS B 1021 *Tolerances for fasteners—Part 1: Bolts, screws, studs and nuts—Product grades A, B and C*

NOTE : Corresponding International Standard: ISO 4759-1:2000 *Tolerances for fasteners—Part 1: Bolts, screws, studs and nuts—Product grades A, B and C* (IDT)

JIS B 1044 *Fasteners—Electroplated coatings*

NOTE : Corresponding International Standard: ISO 4042:1999 *Fasteners—Electroplated coatings* (IDT)

JIS B 1046 *Fasteners—Non-electrolytically applied zinc flake coatings*

NOTE : Corresponding International Standard: ISO 10683:2000 *Fasteners—Non-electrolytically applied zinc flake coatings* (IDT)

JIS B 1047 *Passivation of corrosion-resistant stainless-steel fasteners*

NOTE : Corresponding International Standard: ISO 16048:2003 *Passivation of corrosion-resistant stainless-steel fasteners* (IDT)

JIS B 1054-4 *Mechanical properties of corrosion-resistant stainless steel fasteners—Part 4: Tapping screws*

NOTE : Corresponding International Standard: ISO 3506-4:2009 *Mechanical properties of corrosion-resistant stainless steel fasteners—Part 4: Tapping screws* (IDT)

JIS B 1055 *Heat-treated steel tapping screws—Mechanical properties*

NOTE : Corresponding International Standard: ISO 2702:2011 *Heat-treated steel tapping screws—Mechanical properties* (IDT)

JIS B 1071 *Fasteners—Methods of verification for size and geometry*

JIS B 1091 *Fasteners—Acceptance inspection*

NOTE : Corresponding International Standard: ISO 3269:2000 *Fasteners—Acceptance inspection* (IDT)

JIS B 1099 *Fasteners—General requirements for bolts, screws, studs and nuts*

NOTE : Corresponding International Standard: ISO 8992:2005 *Fasteners—General requirements for bolts, screws, studs and nuts* (IDT)

JIS B 1122 *Cross recessed head tapping screws*

3 Terms and definitions

For the purpose of this Standard, the terms and definitions given in **JIS B 0101** apply.

4 Classification

Classification of slotted head tapping screws shall be as given in Table 1.

Table 1 Classification of slotted head tapping screws

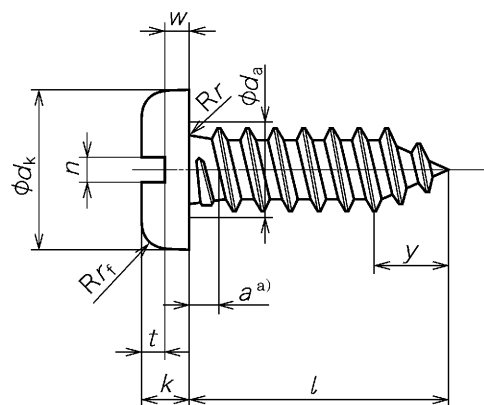
Type	Type of thread end	Corresponding International Standard (informative)
Slotted pan head tapping screws	Type C, Type F, Type R	ISO 1481
Slotted countersunk (flat) head tapping screws		ISO 1482
Slotted raised countersunk (oval) head tapping screws		ISO 1483

5 Shape and dimensions, product specifications and designation of products

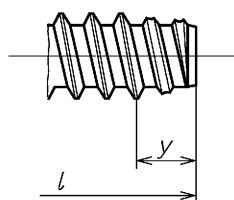
The shape and dimensions, product specifications and designation of products shall be as given in Table 2.

Table 2 Shape and dimensions, product specifications and designation of products for slotted head tapping screws

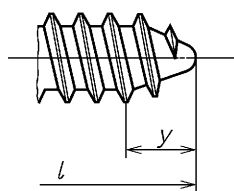
Type	Shape and dimensions	Product specifications	Designation of products (example)
Slotted pan head tapping screws	Figure 1 and Table 3	Table 4	Table 5
Slotted countersunk (flat) head tapping screws	Figure 2 and Table 6	Table 7	Table 8
Slotted raised countersunk (oval) head tapping screws	Figure 3 and Table 9	Table 10	Table 11
Symbols of shapes and dimensions are specified in JIS B 0143 . Designation of products is specified in JIS B 1010 .			



a) Type C



b) Type F



c) Type R

Note ^{a)} Dimension a shall be measured at the core diameter of the first full thread to the bearing surface of the head.

Figure 1 Shapes of slotted pan head tapping screws (Type C, Type F, Type R)

Table 3 Dimensions of slotted pan head tapping screws (Type C, Type F, Type R)

Unit: mm

Thread size		ST2.2	ST2.9	ST3.5	ST4.2	ST4.8	ST5.5	ST6.3	ST8	ST9.5
$P^a)$		0.8	1.1	1.3	1.4	1.6	1.8	1.8	2.1	2.1
a	max.	0.8	1.1	1.3	1.4	1.6	1.8	1.8	2.1	2.1
d_a	max.	2.8	3.5	4.1	4.9	5.5	6.3	7.1	9.2	10.7
d_k	max.	4.0	5.6	7.0	8.0	9.5	11.0	12.0	16.0	20.0
	min.	3.7	5.3	6.6	7.6	9.1	10.6	11.6	15.6	19.5
k	max.	1.3	1.8	2.1	2.4	3.0	3.2	3.6	4.8	6.0
	min.	1.1	1.6	1.9	2.2	2.7	2.9	3.3	4.5	5.7
n	nom.	0.5	0.8	1	1.2	1.2	1.6	1.6	2	2.5
	max.	0.70	1.00	1.20	1.51	1.51	1.91	1.91	2.31	2.81
	min.	0.56	0.86	1.06	1.26	1.26	1.66	1.66	2.06	2.56
r	min.	0.10	0.10	0.10	0.20	0.20	0.25	0.25	0.40	0.40
r_f	ref.	0.6	0.8	1.0	1.2	1.5	1.6	1.8	2.4	3.0
t	min.	0.5	0.7	0.8	1.0	1.2	1.3	1.4	1.9	2.4
w	min.	0.5	0.7	0.8	0.9	1.2	1.3	1.4	1.9	2.4
y (ref.)	Type C	2.0	2.6	3.2	3.7	4.3	5.0	6.0	7.5	8.0
	Type F	1.6	2.1	2.5	2.8	3.2	3.6	3.6	4.2	4.2
	Type R	—	—	2.7	3.2	3.6	4.3	5.0	6.3	—
$l^b)$										
nom.	Type C and Type R									
	min. max.	min. max.								
4.5	3.7 5.3	3.7 4.5		—	—	—	—	—	—	—
6.5	5.7 7.3	5.7 6.5				—	—	—	—	—
9.5	8.7 10.3	8.7 9.5						—	—	—
13	12.2 13.8	12.2 13.0							—	—
16	15.2 16.8	15.2 16.0								
19	18.2 19.8	18.2 19.0								
22	21.2 22.8	20.7 22.0								
25	24.2 25.8	23.7 25.0								
32	30.7 33.3	30.7 32.0								
38	36.7 39.3	36.7 38.0								
45	43.7 46.3	43.5 45.0								
50	48.7 51.3	48.5 50.0								
Notes ^{a)} P =pitch of the thread.										
^{b)} Recommended nominal lengths (l) are those within the bold lines; sizes with lengths marked with a dash (—) cannot be manufactured.										