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STANDARD

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JIS B 1188 : 2006

(JFRI)

**Cross recessed head screws with
captive washer**

(Amendment 1)

JIS B 1188:1995 has been revised under date of March 25, 2006. The revised items are included in this Amendment 1.

ICS 21.060.10

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Foreword

This translation has been made based on the Amendment to the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee 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 1188:1995 is partially replaced with this Amendment.

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Cross recessed head screws with captive washer (Amendment 1)

JIS B 1188:1995 is revised as follows.

1. Scope

Delete Remarks 3 and renumber the subsequent Remarks.

3. Classification

In Note (2), replace "Class 1 light load washers specified in JIS B 1252" with "Class 1 Light duty washers specified in JIS B 1251".

4.1 Mechanical properties of steel screw

Replace Table 3 with the following table.

Table 3 Mechanical properties of steel screw

Type of steel screw		Mechanical properties	
		Strength class	Applicable standards
Cross recessed head	Pan head screw Countersunk head screw Raised countersunk head screw Truss head screw Binding head screw	4.8	JIS B 1051

6. Screw threads

Replace "the body of JIS B 0205" with "JIS B 0205-2", "the tolerance class" with "the tolerance zone class", and "JIS B 0209" with "JIS B 0209-2".

8. Appearance

In (1), replace " $25 \mu\text{m} R_y$ " with " $25 \mu\text{m} R_z$ ".

8. Appearance

In (2), replace " $25 \mu\text{m} R_y$ " with " $25 \mu\text{m} R_z$ ".

11.1.1 Inspection for mechanical properties of steel screws

Replace Table 7 with the following table.

Table 7 Items to be inspected on mechanical properties of steel screws and their test methods

Strength class	Classification of screws to be inspected	Items to be inspected	Test method
4.8	Nominal diameter of screw thread (d) is 4 mm or under, or nominal length of screw is under $3d$.	Hardness of core portion (min., max.) ⁽⁵⁾	As prescribed in 8.4 of JIS B 1051.
		Head robustness to percussion	As prescribed in 8.8 of JIS B 1051.
	Nominal diameter of screw thread is over 4 mm, and nominal length of screw is $3d$ or over.	Tensile strength ⁽⁶⁾	As prescribed in 8.2 of JIS B 1051.
		Hardness of core portion (max.) ⁽⁵⁾	As prescribed in 8.4 of JIS B 1051.
		Proof load stress	As prescribed in 8.5 of JIS B 1051.
		Wedge tensile strength ⁽⁷⁾	As prescribed in 8.6 of JIS B 1051.

11.1.1 Inspection for mechanical properties of steel screws

Delete Note ⁽⁸⁾ in Table 7 and renumber the following Notes.

11.1.1 Inspection for mechanical properties of steel screws

Delete Remarks 2 in Table 7 and renumber the following Remarks.

11.1.3 Inspection for mechanical properties of washer

Replace Table 8 with the following table.

Table 8 Items to be inspected on mechanical properties of washers and their test methods

Type of washer	Items to be inspected	Test method
Spring lock washer	Hardness	As prescribed in JIS Z 2245
	Spring function	As prescribed in 12.2 of JIS B 1251
	Toughness	As prescribed in 12.3 of JIS B 1251
Toothed lock washer	Hardness	As prescribed in JIS Z 2245
	Spring function	As prescribed in 12.2 of JIS B 1251
	Toughness	As prescribed in 12.3 of JIS B 1251
Conical spring	Hardness	As prescribed in JIS Z 2245
	Spring function	As prescribed in 12.2 of JIS B 1251
	Toughness	As prescribed in 12.4 of JIS B 1251. This test, however, may be omitted for the non-plated washers, subject to the agreement between the parties concerned with delivery.

12 Designation of product

In Note ⁽¹²⁾ [new Note ⁽¹¹⁾], replace "Annex D to JIS B 1044" with "Annex E to JIS B 1044".

13.1 Marking on product

Replace completely with "The product marking on each screw shall be made in accordance with JIS B 1051."

Attached Table 8.

Replace "JIS B 0205 Metric coarse screw threads" with "JIS B 0205-2 *ISO general purpose metric screw threads—Part 2: General plan*".

Attached Table 8.

Replace "JIS B 0209 Limits of sizes and tolerances for metric coarse screw threads" with "JIS B 0209-2 *ISO general purpose metric screw threads—Tolerances—Part 2: Limits of sizes for general purpose external and internal screw threads—Medium quality*".

Attached Table 8.

Replace "JIS B 0601 Surface roughness—Definitions and designation" with "JIS B 0601 *Geometrical Product Specifications (GPS)—Surface texture: Profile method—Terms, definitions and surface texture parameters*".

Attached Table 8.

Replace "JIS B 1044 Threaded components—Electroplated coatings" with "JIS B 1044 *Fasteners—Electroplated coatings*".

Attached Table 8.

Replace "JIS B 1051 Mechanical properties of steel bolts and screws" with "JIS B 1051 *Mechanical properties of fasteners made of carbon steel and alloy steel—Part 1: Bolts, screws and studs*".

Attached Table 8.

Delete "JIS B 1252 Conical spring washers".

Attached Table 8.

Delete "JIS B 1255 Toothed lock washers".

Attached Table 8.

Replace "JIS Z 2245 Method of Rockwell and Rockwell superficial hardness test" with "JIS Z 2245 *Rockwell hardness test—Test method*".

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**Cross recessed head screws
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JAPANESE INDUSTRIAL STANDARD

J I S

Cross recessed head screws
with captive washer

B 1188-1995

1. **Scope** This Japanese Industrial Standard specifies steel or brass made cross recessed head screws with captive washer for general purposes. The cross recessed head screw with captive washer is a screw of which the threads are rolled after a washer has been assembled on the screw blank so as to prevent the disassembly of the washer from the screw.

Remarks 1. The steel made cross recessed head screws with captive washer are steel made cross recessed head screws assembled with steel captive washers, and the brass made cross recessed head screws with captive washers are brass made cross recessed head screws assembled with brass made or phosphor bronze made captive washers. In this Standard, the steel made cross recessed head screws with captive washer and the brass made cross recessed head screws with captive washer are referred to as "steel screws with washer" and "brass screws with washer", respectively, and in the generic term, they are briefly referred to as "screws with washer".

2. In this Standard, the cross recessed head screws alone of the steel screws with captive washer and of the brass screws with captive washer are referred to as "steel screws" and "brass screws", respectively, and in the generic term, they are briefly referred to as "screws".

The steel washers and brass and phosphor bronze washers of various types assembled on the screws are referred to as "steel washers" and "copper alloy washers" and, in the generic term, they are briefly referred to as "washers".

3. Strength class 4T of mechanical properties specified in this Standard will be withdrawn on April 1, 1999.

4. The standards cited in this Standard are given in Attached Table 8.

2. **Definitions** For the purpose of this Standard, definitions in JIS B 0101 apply.

3. **Classification**

3.1 **Classification of steel screws with washer** The steel screws with washer shall be defined by combinations of types of steel screws and of steel washers marked with ○ given in Table 1.

Table 1. Classification of steel screws with washer

Type of steel screw	Type of steel washer									Range of nominal diameter mm
	Plain washer		(1) Spring lock washer	Toothed lock washer		(2) Conical spring washer	(1) Spring lock washer and small round	(1) Spring lock washer and polished round	External toothed lock washer and polished round	
				External tooth type	Counter-sunk type					
	Small round	Polished round								
Cross recessed head	Pan head screw	○	○	○	○		○	○	○	2 to 8
	Countersunk head screw					○				3 to 8
	Raised countersunk head screw					○				3 to 8
	Truss head screw		○	○	○		○	○	○	2 to 8
	Binding head screw		○	○	○		○	○	○	2 to 8

Cross recessed head

Notes (1) The spring lock washers to be assembled on the steel screw shall be of steel made No. 2 for assembly.

No. 2 washers for assembly are the same as No. 2 washers specified in JIS B 1251 in sectional shape and dimensions, but different from those in inside diameter.

(2) The conical spring washers to be assembled on the steel screw shall be of steel made Class 1 light load for assembly.

Class 1 light load steel washers for assembly are the same in thickness and outside diameter as Class 1 light load washers specified in JIS B 1252, but different from those in inside diameter.

3.2 Classification of brass screws with washer The brass screws with washer shall be defined by combinations of types of brass screw and of copper alloy washer marked with ○ given in Table 2.

Table 2. Classification of brass screws with washer

Type of brass screw	Type of copper alloy washer							Range of nominal diameter mm
	Plain washer		(3) Spring lock washer	Toothed lock washer		(3) Spring lock washer and small round	(3) Spring lock washer and polished round	Polished round and external toothed lock washer
	Small round	Polished round		External tooth type	Counter-sunk type			
Cross recessed head	○	○	○	○		○	○	○
					○			
					○			
		○	○	○			○	○
		○	○	○			○	○

Note (3) For the spring lock washers to be assembled on the brass screw, No. 2 washers of phosphor bronze for assembly shall be used.

This No. 2 washer for assembly shall have the same cross-sectional shape and dimension as No. 2 washer specified in JIS B 1251 and a different inside diameter.