

JIS

JAPANESE INDUSTRIAL STANDARD

White Metals

☞ JIS H 5401 —1958

Translated and Published

by

Japanese Standards Association

**In the event of any doubt arising,
the original Standard in Japanese is to be final authority.**



JAPANESE INDUSTRIAL STANDARD

J I S

White Metals

H 5401-1958
(Reaffirmed: 1988)**1. Scope**

This standard specifies requirements for white metal ingots, hereinafter referred to as the "ingots", intended for backing of sliding part of various bearings, packing and so forth.

2. Classification

Ingots shall be divided in accordance with chemical composition as specified in Table 1.

Table 1

Classification	Symbol	Application
White metal, Class 1	WJ 1	High speed, heavy load bearing
White metal, Class 2	WJ 2	
White metal, Class 2 B	WJ 2B	
White metal, Class 3	WJ 3	High speed, medium load bearings
White metal, Class 4	WJ 4	Medium speed, medium load bearings
White metal, Class 5	WJ 5	
White metal, Class 6	WJ 6	High speed, light load bearings
White metal, Class 7	WJ 7	Medium speed, medium load bearings
White metal, Class 8	WJ 8	
White metal, Class 9	WJ 9	Medium speed, light load bearings
White metal, Class 10	WJ 10	

3. Manufacturing Process

Unless otherwise specified, ingots shall be produced by melting in the crucible furnace, pan furnace or other appropriate method.

4. Quality

4.1 Ingots shall be uniform in quality, clean on surface and free from injurious defects such as cracks or blowholes.

4.2 Chemical composition of the ingot shall conform to the requirements given in Table 2.

5. Shape, Size and Weight

The ingot shall be of shape and dimension convenient for handling, and unless otherwise specified, the weight shall not exceed 10 kg.

6. Test

The chemical analysis shall be performed in accordance with JIS H 1501-Method for Chemical Analysis of White Metal.

7. Inspection

7.1 In preparing sample for chemical analysis, the sampling method of ingot shall be decided by agreement with the purchaser.

7.2 The ingot sampled in compliance with 7.1 shall be thoroughly cleaned of foreign matter with a suitable solvent as acetone and such, and saw cuts shall be made in each sample ingot at the locations and of the depth shown in Fig. 1 to obtain sawings amounting to 100 g from 9 positions. No lubricant shall be used for sawing.

The sawings shall be carefully treated with a magnet to remove any particles of steel in taking the sample. The materials thus obtained shall be thoroughly mixed and used for chemical analysis.

7.3 The ingot shall be inspected by its surface appearance, as well as be tested in accordance with 6, and shall meet the requirements specified in 4.

7.4 The general consideration other than stated above shall comply with JIS H 0321-General Rules for Inspection on Non-ferrous Metal Materials.

7.5 The results of chemical analysis shall be provided only for the purchaser demands.

8. Marking

The ingot shall be indicated by suitable means with the following particulars:

- (1) Classification or grade number
- (2) Lot number or melting number
- (3) Manufacturer's name or mark

Fig. 1

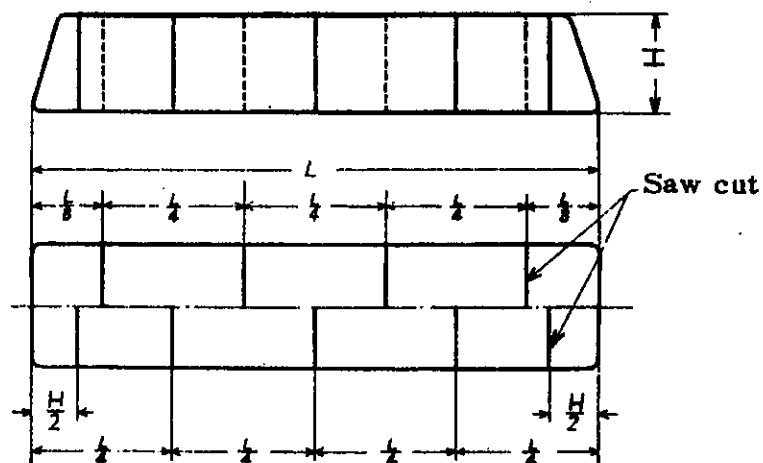


Table 2

Classification	Symbol	Chemical composition (%)												
		Sn	Sb	Cu	Pb	Zn	As	Impurities						
								Pb	Fe	Zn	Al	Bi	As	Cu
White metal, Class 1	WJ 1	Remains	5.0~ 7.0	3.0~ 5.0	—	—	—	0.50 max.	0.08 max.	0.01 max.	0.01 max.	0.08 max.	0.10 max.	—
White metal, Class 2	WJ 2	Remains	8.0~ 10.0	5.0~ 6.0	—	—	—	0.50 max.	0.08 max.	0.01 max.	0.01 max.	0.08 max.	0.10 max.	—
White metal, Class 2B	WJ 2B	Remains	7.5~ 9.5	7.5~ 8.5	—	—	—	0.50 max.	0.08 max.	0.01 max.	0.01 max.	0.08 max.	0.10 max.	—
White metal, Class 3	WJ 3	Remains	11.0~ 12.0	4.0~ 5.0	3.0 max.	—	—	—	0.10 max.	0.01 max.	0.01 max.	0.08 max.	0.10 max.	—
White metal, Class 4	WJ 4	Remains	11.0~ 13.0	3.0~ 5.0	13.0~ 15.0	—	—	—	0.10 max.	0.01 max.	0.01 max.	0.08 max.	0.10 max.	—
White metal, Class 5	WJ 5	Remains	—	2.0~ 3.0	—	28.0~ 29.0	—	—	0.10 max.	—	0.05 max.	—	—	—
White metal, Class 6	WJ 6	44.0~ 46.0	11.0~ 13.0	1.0~ 3.0	Remains	—	—	—	0.10 max.	0.05 max.	0.01 max.	—	0.20 max.	—
White metal, Class 7	WJ 7	11.0~ 13.0	13.0~ 15.0	1.0 max.	Remains	—	—	—	0.10 max.	0.05 max.	0.01 max.	—	0.20 max.	—
White metal, Class 8	WJ 8	6.0~ 8.0	16.0~ 18.0	1.0 max.	Remains	—	—	—	0.10 max.	0.05 max.	0.01 max.	—	0.20 max.	—
White metal, Class 9	WJ 9	5.0~ 7.0	9.0~ 11.0	—	Remains	—	—	—	0.10 max.	0.05 max.	0.01 max.	—	0.20 max.	0.30 max.
White metal, Class 10	WJ 10	0.8~ 1.2	14.0~ 15.5	0.1~ 0.5	Remains	—	0.75~ 1.25	—	0.10 max.	0.05 max.	0.01 max.	—	—	—

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