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Copper and copper alloy
gas welding rods

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS Z 3202 : 1983** is replaced with **JIS Z 3202 : 1999**.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

This revision employs **JIS Z 3200 : 1999** *Welding consumables—Technical delivery conditions for welding filler metals—Type of product, dimensions, tolerances and marking* as the normative reference.

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Copper and copper alloy gas welding rods

1 Scope This Japanese Industrial Standard specifies the copper and copper alloy bare welding rods (hereafter referred to as "welding rods") to be used for the gas weldings which include brazing.

2 Normative references The standards listed in Attached Fig. 1 contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards shall be applied.

3 Classification The classification of welding rods shall be as shown in Table 1.

Table 1 Classification of welding rods

Classification	Constituent system
GCu	Copper
GCuZnSn	Naval brass
GCuZnNi	Nickel silver

4 Quality

4.1 Appearance The appearance of welding rods shall be in accordance with **3** of JIS Z 3200.

4.2 Chemical composition The chemical composition of the welding rods shall be tested according to **6**, and the results shall conform to Table 2.

Table 2 Chemical composition of welding rod

Unit : %

Classifica- tion	Chemical composition							
	Cu	Sn	Si	Ni	P	Pb	Al	Zn
GCu	99.5 min.	—	—	—	0.1 max.	0.03 max.	—	—
GCuZnSn	57 to 61	0.5 to 1.5	—	—	—	0.05 max.	0.02 max.	Remainder
GCuZnNi	46 to 50	—	0.25 max.	9 to 11	0.25 max.	0.05 max.	0.02 max.	Remainder

5 Dimensions and tolerances

5.1 Diameter and tolerances of welding rods shall be in accordance with **2** of JIS Z 3200. Representative dimensions of welding rods are given in Table 3.

Table 3 Representative dimensions of welding rods

Unit : mm	
Diameter	1.2, 1.6, 2, 2.4, 2.6, 3, 3.2, 4, 5, 6, 8
Length	500, 1 000

5.2 The welding rod may be wound around a coil according to specification of the purchaser.

6 Test The method for chemical analysis of the welding rods shall be in accordance with **JIS H 1291**.

7 Inspection

7.1 The quality and dimensions of welding rods shall comply with **4** and **5** respectively.

7.2 Other general matters shall be in accordance with **JIS H 0321**.

8 Packaging The welding rods shall be packed according to **5** of **JIS Z 3200**.

9 Designation of products The products shall be designated by the class and dimensions of the welding rods.

Example: $\frac{\text{GCu}}{\text{Class}} - \frac{2.6}{\text{Diameter}} \times \frac{500}{\text{Length}}$

10 Marking The marking shall be carried out according to **4** of **JIS Z 3200**. Each welding rod shall be stamped for discrimination of class or coloured as shown in Table 4 on the end face.

Table 4 Colour marking of welding rods

Classification	End face colour
GCu	White
GCuZnSn	Green
GCuZnNi	Purple

Attached Table 1 Normative references

- JIS H 0321 *General rules for inspection of non-ferrous metal materials*
JIS H 1291 *Method for atomic absorption spectrochemical analysis of copper and alloys*
JIS Z 3200 *Welding consumables—Technical delivery conditions for welding filler metals—Type of product, dimensions, tolerances and marking*

Errata for JIS (English edition) are printed in *Standardization Journal*, published monthly by the Japanese Standards Association, and also provided to subscribers of JIS (English edition) in *Monthly Information*.

Errata will be provided upon request, please contact:

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