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JIS Z 3201 : 2001

Gas welding rods for mild steel

ICS 25.160.20

Descriptors : low-carbon steels, welding rods, gas welding, low-alloy steels

Reference number : JIS Z 3201 : 2001 (E)

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 in accordance with the Industrial Standardization Law. Consequently **JIS Z 3201 : 1990** is replaced with **JIS Z 3201 : 2001**.

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 is made for conformity with **ISO 636 : 1989** *Bare solid filler rods for oxy-acetylene and tungsten inert gas arc (TIG) welding, depositing an unalloyed or low alloyed steel—Codification*. Further, **JIS Z 3200** specifying “*Welding consumables—Technical delivery conditions for welding filler metals—Type of product, dimensions, tolerances and marking*” is used as the normative reference.

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Divisional Council on Welding

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Gas welding rods for mild steel

Introduction This Japanese Industrial Standard specifies gas welding rods for mild steel to be employed for welding of mild steel, and was established in 1954, and revised thereafter several times without any changes in basic parts, and the materials are classified by the tensile strength and elongation of the deposited metal. On the other hand, in **ISO 636** incorporated in the Annex in this revision, the materials are classified only by the chemical composition. In conformity of **JIS** with the International Standard, it was expected that manufacturers and users might be seriously inconvenienced if the conventional standard is basically changed, and thus, it was decided that the Standard should be conformed with the International Standard step by step. In this Standard, a method of symbolization of "Gas welding rods for mild steel" specified in **ISO 636** was adopted and incorporated in the Annex of the Standard. As a result, two kinds of methods of symbolization are specified in this Standard. Which of these methods is to be applied depends on the agreement between the parties concerned with delivery, but in future, this Standard will be in conformity with the requirements of the International Standard. In principle, one kind of symbolization shall be specified for one item of the material; however, regarding the material to which this Standard is applicable, the material is temporarily classified into two kinds, i.e., the kind specified in the text of this Standard and the kind to which the Annex of this Standard is applicable.

1 Scope This Standard specifies gas welding rods for mild steel (hereafter referred to as "welding rods") employed for welding mild steel.

Remarks : The International Standards corresponding to this Standard is listed as follows:

ISO 636 : 1989 *Bare solid filler rods for oxy-acetylene and tungsten inert gas arc (TIG) welding, depositing an unalloyed or low alloyed steel—Codification*

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

3 Classification Welding rods are classified according to the tensile strength and elongation of the deposited metal, as shown in Table 1.

Regarding classification, the requirements in 2 of the Annex may also be applied by the agreement between the parties concerned with delivery.

Table 1 Classification of welding rods

GA46	GB46
GA43	GB43
GA35	GB35
	GB32

Remarks : The symbols for classification shall be given as shown in the following example:

Example: G A 43

Level of minimum tensile strength of deposited metal

Division of elongation of deposited metal

Gas welding rod

4 Quality

Remarks : Regarding quality, 3 of the Annex may be applied by the agreement between the parties concerned with delivery.

4.1 Appearance Appearance of welding rods shall conform to 3 of JIS Z 3200.

4.2 Chemical composition Chemical composition of welding rods shall conform to the requirements of Table 2 when tested by the method specified in 6.2.

Table 2 Chemical composition of welding rods

Unit : %

P	S	Cu ⁽¹⁾
0.040 max.	0.040 max.	0.30 max.

Note (1) Residual copper in the coating shall be included if the welding rods are copper-coated.

4.3 Mechanical properties The tensile strength and elongation of deposited metal shall meet the requirements of Table 3 when tested by the method specified in 6.3.