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(JWES/JSA)

**Welding rods and solid wires for
welding of titanium and titanium
alloys**

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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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 Welding Engineering Society (JWES)/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 Z 3331:2009** is replaced with this Standard.

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Welding rods and solid wires for welding of titanium and titanium alloys

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of **ISO 24034** published in 2005 and Amendment 1 (2008) with some modifications of the technical contents.

The portions given sidelines or dotted underlines are the matters in which the contents of the corresponding International Standard have been modified. A list of modifications with the explanations is given in Annex JC. Annex JA and Annex JB contain matters that are not given in the corresponding International Standard.

1 Scope

This Standard specifies the solid rods (hereafter referred to as “rods”) and solid wires (hereafter referred to as “wires”) used for TIG welding, MIG welding, plasma welding, electron beam welding and laser welding of titanium and titanium alloys.

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

ISO 24034:2005 *Welding consumables—Solid wires and rods for fusion welding of titanium and titanium alloys—Classification* and Amendment 1:2008 (MOD)

The symbols which denote the degree of correspondence in the contents between the relevant International Standard 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 H 0321 *General rules for inspection of non-ferrous metal materials*

JIS H 1611 *Titanium and titanium alloys—General rules for chemical analysis*

JIS H 1612 *Methods for determination of nitrogen in titanium and titanium alloys*

JIS H 1614 *Methods for determination of iron in titanium and titanium alloys*

JIS H 1617 *Methods for determination of carbon in titanium and titanium alloys*

JIS H 1618 *Methods for determination of silicon in titanium and titanium alloys*

JIS H 1619 *Methods for determination of hydrogen in titanium and titanium alloys*

JIS H 1620 *Methods for determination of oxygen in titanium and titanium alloys*

JIS H 1621 *Methods for determination of palladium in titanium alloys*