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(JSNM/JSA)

Zirconium alloy tubes

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Mita MT Building, 3-13-12, Mita, Minato-ku, Tokyo, 108-0073 JAPAN

In the event of any doubts arising as to the contents,
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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 Japan Society of Newer Metals (JSNM)/ 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 H 4751**: 1998 is replaced with this Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with patent rights, applications for a patent after opening to the public or utility model rights. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights, applications for a patent after opening to the public or utility model rights.

Zirconium alloy tubes

1 Scope

This Japanese Industrial Standard specifies seamless zirconium alloy tubes (hereafter referred to as "tubes") used for nuclear fuel cladding.

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 1653 *Methods for determination of nitrogen in zirconium and zirconium alloys*

JIS H 1664 *Methods for determination of hydrogen in zirconium and zirconium alloys*

JIS H 1665 *Methods for determination of oxygen in zirconium and zirconium alloys*

JIS Z 2241 *Metallic materials—Tensile testing—Method of test at room temperature*

3 Classification and symbols

The tubes shall be classified by the chemical compositions, and their classification and symbols shall be as given in Table 1.

Table 1 Classification and symbols

Classification	Symbols
Sn-Fe-Cr-Ni zirconium alloy tube	ZrTN 802 D
Sn-Fe-Cr zirconium alloy tube	ZrTN 804 D

4 Quality

4.1 Appearance

Tubes shall be examined as given in **7.1**, and be well-finished and free from detrimental defects such as stains, cracks, flaws and others.

4.2 Chemical composition

Tubes shall be examined as given in **7.2**, and the chemical compositions shall be as given in Table 2. The permissible values of impurities shall be as given in Table 3. The permissible variation given in Table 2 and Table 3 refers to a deviation from the specified or permissible values, in the analyses of tubes, by the purchaser with an aim to confirm the chemical composition.