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**Titanium and titanium alloys — Welded
tubes for heat exchangers**

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Foreword

This Japanese Industrial Standard has been 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 Titanium Society (JTS)/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 4631:2012** is replaced with this Standard.

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Titanium and titanium alloys — Welded tubes for heat exchangers

Introduction

This Japanese Industrial Standard has been prepared based on ISO 18762 : 2016, Edition 1, with some modifications of the technical contents.

The vertical lines on both sides and dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JB.

1 Scope

This Standard specifies the titanium and titanium alloy welded tubes having a circular cross-section, intended for the use in appliances where heat is exchanged between the inside and the outside of the tube wall (hereafter referred to as tubes).

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

ISO 18762 : 2016 *Tubes of titanium and titanium alloys — Welded tubes for condensers and heat exchangers — Technical delivery conditions* (MOD)

In addition, 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 G 0415 *Steel and steel products — Inspection documents*

JIS H 0321 *General rules for inspection of non-ferrous metal materials*

JIS H 0515 *Eddy current inspection of titanium pipes and tubes*

JIS H 0516 *Ultrasonic inspection of titanium pipes and tubes*

JIS H 0517 *Differential pressure testing method of titanium welded tubes*

JIS H 1610 *Titanium and titanium alloys — Sampling methods*

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*