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Titanium and titanium alloys — Designation system

Titane et alliages de titane — Système de désignation

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 79, *Light metals and their alloys*, Subcommittee SC 11, *Titanium*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document was developed in response to a demand for designating an alloy system for titanium and titanium alloys developed worldwide.

As this system is established, newly developed alloys can be designated in the same way as existing alloys and it becomes possible to establish standards concerning new alloy products.

This unified classification can promote the sale of titanium and titanium alloys products in the global market.

Titanium and titanium alloys — Designation system

1 Scope

This document specifies a designation system of titanium and titanium alloys in terms of their chemical composition and impurities contents.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Material designation

4.1 Basis of designation

4.1.1 General

The material designations of unalloyed titanium shall be based on the content of impurities. The material designations of titanium alloys shall be based on their chemical composition and the content of impurities in the case of titanium alloys containing micro-alloying elements in a low percentage such as palladium, ruthenium, molybdenum, nickel, chromium and cobalt, either singly or in combination in unalloyed titanium for improving corrosion resistance and other characteristics.

4.1.2 Prefix

All material designations shall have the prefix “ISO”.

This prefix may be omitted for brevity in International Standards as well as in correspondence where it is obvious that ISO designations are used.

4.1.3 Designation system

International chemical symbols shall be used for the designation of the base element and alloying elements.

4.2 Unalloyed titanium

Designations for unalloyed titanium shall consist of the international chemical symbol of the element “Ti”, followed by a figure of one digit showing the maximum allowable contents of impurities such as nitrogen, iron and oxygen, e.g. Ti1.