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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 15073-2014

Replacing GB/T 15073-1994

Casting titanium and titanium alloys

铸造钛及钛合金

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 15073-1994 "Designation and chemical composition of cast titanium and titanium alloys". As compared with GB/T 15073-1994, the main technical changes of this standard are as follows: - CHANGE the standard name into "Casting titanium and titanium alloys"; - MODIFY the chapter name and chapter structure; - ADD the title to each table; - In the ZTC4 alloy, MODIFY the Al element composition range from "5.5% ~ 6.8%" to "5.50% ~ 6.75%". - ADD the chemical composition of ZTA9, ZTA10, ZTA15 and ZTA17 alloys; - ADD the descriptions on the specific element analysis; - ADD the descriptions on arbitration analysis; - MODIFY the composition range and allowable deviation in Table 2; ADD the range of Al element, Mo element, and V element; ADD the allowable composition deviation of Zr element, Ni element, and Pd element. This standard was proposed by AND shall be under the jurisdiction of the National Foundry Standardization Technical Committee (SAC/TC 54). The responsible drafting organizations of this standard. Shenyang Foundry Research Institute, China Aviation Industry Corporation Beijing Aeronautical Materials Research Institute. The participating drafting organizations of this standard. China Shipbuilding Heavy Industry Group No. 725 Research Institute, Baoji Titanium Industry Co., Ltd., Guizhou Anji Aviation Precision Casting Co., Ltd., Beijing Xinghang Electromechanical Equipment Co., Ltd., Wuchang Shipbuilding Heavy Industry Group Co., Ltd. The main drafters of this standard. Liu Hongyu, Xie Huasheng, Nan Hai, Yang Xuedong, Feng Junning, Liu Qin, Ma Linzhi, Zhang Riheng, Zhao Jun, Zhu Zhongren. Casting titanium and titanium alloys

1 Scope

GB/T 15073-2014 is the Chinese national standard on casting titanium and titanium alloys, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer

specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 3 September 2014 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 June 2015. Classification: ICS 77.120.50, CCS J31. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the designations, code and chemical composition, and chemical composition analysis methods for the casting titanium and titanium alloys. This standard is applicable to titanium and titanium alloys of graphite type, tamping type, metal type and investment pattern precision casting.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this Standard.

GB/T 4698 (all parts) Methods for chemical analysis of sponge titanium, titanium and titanium alloys

GB/T 8063 Designation representation of cast nonferrous metals and their alloys

GB/T 8170 Rules of rounding off for numerical values & expression and judgment of limiting values

3.1 Designations and codes

3.1.1 The casting titanium and titanium alloy designations are presented in accordance with the provisions of GB/T 8063.

3.1.2 The casting titanium and titanium alloy code is composed of ZT plus A, B or C (A, B and C respectively represent type alpha, type beta and type alpha + beta alloy) and the sequence number, AND the sequence number shall make reference to the presentation method of the same type wrought titanium and titanium alloy.

3.2 Chemical composition The chemical analysis sample is cut on a casting rod or cast AND is allowed to be cut from the runner. Chemical analysis sample must be clean, AND free of mixed impurities or casting surfaces.

4.2 Analytical methods and analysis reports

4.2.1 Chemical composition analysis shall follow the provisions of GB/T 4698 (all parts). As

negotiated between the supplier and the purchaser, it may also use other test methods for analysis. In case of dispute on the result, it shall GB/T 4698 (all parts) for arbitration.

4.2.2 Where the purchaser requires providing the specific element content as not listed in this standard, the supplier shall analyze its chemical composition AND indicate it out in the analysis report.

4.2.3 The number of effective digits of the numerical value as reported in the chemical composition analysis shall be consistent with the number of the effective digits of the corresponding limit values in Table 1. The analysis value shall be rounded off in accordance with the provisions of GB/T 8170.

4.2.4 When the chemical composition is re-inspected and analyzed by the purchaser, the allowable composition deviation shall comply with the requirements of Table 2.