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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 25831-2024

Replacing GB/T 25831-2010

Wrought superalloy - Wire

变形高温合金 丝材

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB/T 25831-2010. Compared with GB/T 25831-2010, in addition to structural adjustments and editorial changes, the main technical The technical changes are as follows:

- a) Added the grades and chemical compositions of deformed high-temperature alloys commonly used for spring wire, upsetting wire and brush wire (see 7.1);
- b) Added smelting methods for each grade (see 7.2);
- c) Added the delivery status of each brand (see 7.3);
- d) The mechanical properties of each grade have been increased (see 7.4);
- e) The technical requirements for high and low magnifications are clarified (see 7.5, 7.6, 7.8);
- f) The processing performance of upsetting wire and brushing wire has been increased (see 7.7);
- g) Added ultrasonic testing requirements for each brand (see 7.9). Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by the China Iron and Steel Association. This document is under the jurisdiction of the National Technical Committee on Steel Standardization (SAC/TC183). This document was drafted by: Beijing Beiye Functional Materials Co., Ltd., Nanchang Hangkong University, Beijing Gangyan Gaona Technology Co., Ltd., Western Superconducting Materials Technology Co., Ltd., Metallurgical Industry Information Standards Research

Institute, Jiangyin Farsen Hongsheng Stainless Steel Products Co., Ltd., Nanjing Damai Technology Industry Co., Ltd., Hebei University of Technology, Shanghai Kangsheng Aerospace Materials Technology Co., Ltd., Shanghai Ichiro Alloy Materials Co., Ltd., AVIC Shenyang Aircraft Design and Research Institute. The main drafters of this document are. Zhang Zhiwei, Niu Yongji, Xie Jilin, Tian Cheng, Xu Guohua, Wang Lin, Xu Qinhua, Wu Yuning, Liang Chunyong, Chen Yuhua, Yan Chengming, Li Zhenrui, Liang Chen, Wang Jing, Yan Lei, An Ning, Wang Weili, Zhao Bo, and Liu Xiaopei. The previous versions of this document and the documents it replaces are as follows:

---First published in 2010 as GB/T 25831-2010;

---This is the first revision. Deformed high temperature alloy wire

1 Scope

GB/T 25831-2024 is the Chinese national standard on wrought superalloy - wire, 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 29 September 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2025. Classification: ICS 77.140.99, CCS H 57. 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 document specifies the dimensions, shape, technical requirements, test methods, inspection rules, packaging, marking and quality certification of deformed high-temperature alloy wire. This document is applicable to the production of springs, cold forging and brush seals with a nominal diameter not greater than 8.0mm of deformed high-temperature alloy cold-drawn wire. (hereinafter referred to as wire material). Wire materials for other purposes can be used for reference.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 223.4 Determination of manganese content in steel and alloys - Potentiometric titration or visual titration method

GB/T 223.5 Determination of acid-soluble silicon and total silicon content of iron and steel -

Reduced molybdenum silico-silicic acid spectrophotometric method

GB/T 223.8 Chemical analysis methods for iron, steel and alloys - Sodium fluoride separation-EDTA titration method for determination of aluminum content

GB/T 223.9 Determination of aluminum content in steel and alloys - Chrome azurol S spectrophotometric method

GB/T 223.11 Determination of chromium content in steel and alloys Visual titration or potentiometric titration method

GB/T 223.13 Chemical analysis methods for iron, steel and alloys - Ammonium ferrous sulfate titration method for determination of vanadium content

GB/T 223.17 Chemical analysis methods for iron, steel and alloys - Determination of titanium content by diantipyryl methane photometric method

GB/T 223.19 Methods for chemical analysis of iron, steel and alloys - Determination of copper content by the new cuproline-chloroform extraction spectrophotometric method

GB/T 223.20 Chemical analysis methods for iron, steel and alloys - Potentiometric titration for determination of cobalt content

GB/T 223.25 Methods for chemical analysis of iron, steel and alloys - Dimethylglyoxime gravimetric method for the determination of nickel content

GB/T 223.26 Determination of molybdenum content in steel and alloys - Thiocyanate spectrophotometric method

GB/T 223.30 Chemical analysis methods for iron, steel and alloys - Determination of arsenazo III by precipitation separation with bromomandelic acid Zirconium content

GB/T 223.33 Chemical analysis methods for iron, steel and alloys - Extraction and separation - Chlorophosphonazo mA photometric method for the determination of cerium content