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CCS H57



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

**GB/T 1234-2012**

Replacing GB/T 1234-1995

**High resistance alloys for electrical heating**

高电阻电热合金

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### Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB/T 1234-1995 "high electric resistance alloy." This standard compared with GB/T 1234-1995, the main changes are as follows:

- Increasing the "order content" (see Chapter 3);
- Remove the size requirements for iron chrome aluminum 0Cr27Al7Mo2 separate provision (see 1995 edition of the Table 1);
- Rod specifications adjusted to 5.50mm ~ 12.00mm by the 8.0mm ~ 10.0mm, bars specifications from 12.0mm ~ 30.0mm adjusted to 6.00mm ~ 150.0mm, adjusted by the width of the strip to 250.0mm 300.0mm, and a corresponding increase Plus the size of the allowable deviation of the provisions (see Tables 1 and 2, 1995 edition of Tables 1 and 2);
- Minimum diameter alloy wire is adjusted by the 0.03mm to 0.02mm, and a corresponding increase in the size of the allowable deviation of the provisions (See Tables 1 and 3, 1995, edition of the Tables 1 and 3);
- Increased higher precision electric resistor of the thickness of the strip as well as the requirements of dimensional accuracy of the sheet shape (see Table 5 and Table 6, 4.3);
- Adjusted alloy material weight requirements (see 42, 1995, version 3.2.);
- Adds alloy foil filaments and non-metallic inclusions control requirements (see 5.9);
- Increased 0Cr20Al6RE and 0Cr24Al6RE two alloy grades and related technical requirements, canceled 0Cr21Al6 gold medal Number (see Table 11, the 1995 edition Table 9);
- Adjust some Alloy chemical composition (see Table 11, the 1995 edition Table 9);
- Remove the resistance value range per meter, per meter increased resistance values

band tolerances, which expanded from 1.00mm diameter upper limit to 5.50mm (see table 14, 1995 Edition Table 12);

--- Adds alloy recommended heat treatment system (see 5.5.1);

--- Alloy increases the mechanical performance requirements (see 5.5.2);

--- Modify the inspection rules, added a "type test" (see Chapter 7, Chapter 6, 1995 edition);

## 1 Scope

GB/T 1234-2012 is the Chinese national standard on high resistance alloys for electrical heating, 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 5 November 2012 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 May 2013. Classification: ICS 77.140.99, CCS H57. 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 grades of high electric resistance alloys, ordering the content, size, shape, weight and tolerance, technical requirements, test side Method, inspection rules, packaging, marking and quality certificate. This standard applies to the manufacture of various electric heating element and a resistance element with general drawing, rolling and forging of nickel-chromium, nickel, chromium and iron chromium aluminum high Electric resistance alloy wire, plate and strip, rod and wire rod (hereinafter referred to as alloy material).

## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 223.3 steel and alloy chemical analysis method two antipyrine methane phosphomolybdate gravimetric method for the determination of phosphorus content

GB/T 223.5 steel measuring soluble silicon and total silicon content reduced silicon molybdate salt spectrophotometric method

GB/T 223.8 Determination of aluminum content in steel and alloy chemical analysis of sodium fluoride separation -EDTA titration

GB/T 223.9 steel and aluminum alloys - Determination of chromium content Azure S Spectrophotometry Determination of

GB/T 223.11 steel and alloy chromium content of visual titration or potentiometric titration

GB/T 223.23 steel and alloy - Determination of nickel content dimethylglyoxime spectrophotometry Determination of nickel content

GB/T 223.25 Methods for chemical analysis of iron, steel and alloy dimethylglyoxime gravimetric method

GB/T 223.26 steel and alloy - Determination of molybdenum content - Thiocyanate spectrophotometric

GB/T 223.28 Determination of molybdenum steel and alloy chemical analysis method alpha- benzoin gravimetric method

GB/T 223.40 Determination of steel and alloy niobium content sulphochlorophenol S spectrophotometry

GB/T 223.58 Methods for chemical analysis of iron, steel and alloys of sodium arsenite - sodium nitrite determination of manganese content titration

GB/T 223.59 Steel and Alloy Determination of phosphorus content by bismuth phosphomolybdate blue spectrophotometric method and antimony phosphomolybdate blue spectrophotometry

GB/T 223.60 Methods for chemical analysis of iron, steel and alloy perchloric acid dehydration gravimetric method for the determination of silicon content Determination of phosphorus content