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**National Standard of the People's Republic of China**

**中华人民共和国国家标准**

GB/T 467 – 2010

Replace GB/T 467 – 1997

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**Copper cathode**

**阴极铜**

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**This standard is jointly issued by the General Administration of Quality Supervision,  
Inspection and Quarantine of the People's Republic of China and Standardization  
Administration of the People's Republic of China**

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## Foreword

This standard is drafted to in accordance with GB/T 1.1 - 2009.

In this standard, Grade A copper(Cu-CATH-1) is identical to the impurity limit of Cu-CATH-1 in EN 1978: 1998, *Copper and copper alloys — Copper cathodes*; No.1 standard copper(Cu-CATH-2) is modified in relation to the impurity limit of Grade2<sup>A</sup> in ASTM B 115-00 (R2004) , *Electrolytic copper cathode*; No.2 standard copper (Cu-CATH-3) is modified in relation to Cu-CATH-2 in EN 1978: 1998, *Copper and copper alloys — Copper cathodes*.

Compared with **EN 1978: 1998** and ASTM B 115-00 (R2004), this standard differs from them as follows:

- For No.1 standard copper (Cu-CATH-2), the limit of bismuth is equal to or less than 0.0005%, higher than the limit of bismuth equal to or less than 0.0003% of Grade2<sup>A</sup> in ASTM B 115-00 (R2004) .The limit of plumbum is equal to or less than 0.002%, lower than the limit of bismuth equal to or less than 0.004 0% of Grade2<sup>A</sup>.The limit of selenium, tellurium, and silver is disregarded. The limit of phosphorous is added. The other indicators of limit are the same.
- For No.2 standard copper, the limit of bismuth and plumbum for Cu-CATH-3 is identical to that of Cu-CATH-2 in EN 1978: 1998; the limit of silver identical to that of Cu-CATH-1.

This standard replaces GB/T 467 – 1997, Copper cathode. Compared with it, the main changes in this standard are as follows:

- No.2 standard copper(Cu-CATH-3) added;
- Provisions for physical properties indicators and mass resistivity added;
- Uniform provisions for surface quality made;
- For analytical method of chemical compositions of copper cathode, YS/T 464, *Methods for analytical of copper cathode — The optical emission spectrometry* added; and
- Method for production, sampling, and specimen preparation of copper cathode added

This standard is under the jurisdiction of National Technical Committee on Nonferrous Metals of Standardization Administration of China (SAC/TC 243).

The responsible drafting organizations of this standard include Jiangxi Copper Co., Ltd and China Nonferrous Metals Industry Standard Metrology and Quality Institute.

The participating drafting organizations of this standard include Daye Non-Ferrous Metals Group Holdings Co., Ltd, Tongling Non-Ferrous Metals Group Holdings Co., Ltd, Yunnan Copper Co., Ltd, Jinchuan (Group) Co., Ltd, Zijin Minerals (Group) Co., Ltd, Yanggu Xiangguang Copper Co., Ltd, and Northern Copper Industry Co., Ltd.

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This standard replaces the following historical editions issued:

- GB/T 467 - 1997;
- GB/T 13585 - 1992; and
- GB/T 467 - 1982

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# Copper cathode

## 1 Scope

This standard specifies the requirements, test method, inspection rules, labeling, packaging, transportation, storage, quality certificate, and contract (purchase order) etc. of copper cathode.

This standard applies to the copper cathode generated in electrolytic refinement method or electrolytic deposition method. It is usually for the purpose of heavy melting.

## 2 Normative references

The following normative documents for application of this document are indispensable. For dated references, only the dated edition applies to this document. For undated references, the latest edition (including all amendments) applies.

GB/T 351, Metallic materials — Resistivity measurement method

GB/T 5121 (All) Methods for chemical analysis of copper and copper alloys

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

YS/T 464, Methods for analytical of copper cathode — the optical emission spectrometry

## 3 Requirements

### 3.1 Product classification

By chemical compositions, the copper cathode includes three designations, i.e. Grade A copper (Cu-CATH-1), No.1 standard copper (Cu-CATH-2), and No.2 standard copper (Cu-CATH-3).

### 3.2 Chemical compositions

**3.2.1** The chemical compositions of Grade A copper shall be in accordance with those specified in Table 1; those of No.1 standard copper in accordance with those specified in Table 2; and those of No.2 standard copper in accordance with those specified in Table 3.

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