ICS 77.150.30
CCS H62

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 26017-2020

Replacing GB/T 26017-2010

High purity copper

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Issued on: September 29, 2020 **Implemented on: August 1, 2021**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

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1 Scope

GB/T 26017-2020 is the Chinese national standard on high purity copper, 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 2020 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 August 2021. Classification: ICS 77.150.30, CCS H62. 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 requirements, test methods, inspection rules, marking, packaging, transportation, storage, quality certificate and order (or contract) contents for high purity copper products. This Standard applies to high purity copper used in sputtering targets and ion plating products, various connecting wires in the electronics industry, bonding wires for electronic packaging, high-quality audio cables, high purity reagents, standard samples and advanced alloys.

2 Normative references

The following referenced documents are indispensable for the application of this document.

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 8170, Rules of rounding off for numerical values and expression and judgement of limiting values YS/T 922, Methods for chemical analysis of high purity copper. Determination of trace impurity elements content. Glow discharge mass spectrometry

3 Requirements

3.1 Product classification High purity copper is divided into four designations according to the copper content. HPCu-7N, HPCu-6N5, HPCu-6N, and HPCu-5N. NOTE. HPCu is the abbreviation of High purity copper.

3.2 Chemical composition

3.2.1 The chemical composition requirements of high purity copper shall comply with the requirements in Table 1.

3.3 Product dimensions

3.3.1 Strip. length x width is (300±1) mm x (10±1) mm; thickness is (4±2) mm.

3.3.2 Block. length x width is (50±1) mm x (50±1) mm; thickness is (4±2) mm.

3.3.3 Product dimensions can be cut to suit the requirements of the purchaser and must be specified in the order (or contract).

3.4 Appearance quality

3.4.1 The surface of high purity copper has a metallic luster. It is clean and tidy. It is free of oil stains, attachments, and pores.

3.4.2 The size of the protrusions on the surface of high purity copper shall not exceed 3 mm x 3 mm. The height beyond the surface shall not exceed 3 mm.

3.4.3 The color of the same batch of products shall remain consistent.

3.5 Other requirements If the purchaser has special requirements for the chemical composition and physical specifications of high purity copper, the supplier and the purchaser can negotiate and indicate it in the order (or contract).

4 Test methods

4.1 The determination of impurity elements in high purity copper shall be carried out in accordance with the method specified in YS/T 922.

4.2 The dimensions of the product and the dimensions of the protrusions on the surface

shall be measured with corresponding precision measuring tools. The rest of the appearance shall be measured by visual inspection.

5.1 Inspection and acceptance

5.1.1 The supplier's quality supervision department is responsible for inspecting the products, ensuring that the products comply with the provisions of this Standard or the purchase order (or contract), and filling in the quality certificate.

5.1.2 The purchaser may inspect the products received. If the inspection results are inconsistent with the provisions of this Standard or the purchase order (or contract), the purchaser shall submit a request to the supplier within 15 days from the date of receipt of the product. The supplier and purchaser shall negotiate to resolve the issue. If arbitration is required, the arbitration sampling shall be conducted by the purchaser. The supplier and purchaser shall jointly conduct the arbitration.

5.2 Batching Each batch of products shall consist of products of the same designation produced in the same system and in the same production cycle. The batch weight shall not exceed 1 ton.

5.3 Sampling and sample preparation

5.3.1 Chemical composition arbitration sampling. Use shearing equipment to randomly cut no less than two samples (the specific details can be negotiated by the supplier and the purchaser and specified in the contract). The sample size specifications shall comply with the analysis requirements of YS/T 922.

5.3.2 Place the cut sample in a nitric acid solution with a ratio of V (nitric acid). V (deionized water) = 1.1 [nitric acid purity must be analytical designation or above. Sulfuric acid can also be used instead of nitric acid according to customer requirements and shall be specified in the order (or contract)] and soak for 1 min~2 min. Wash thoroughly with deionized water to remove all foreign dirt and residual acid on the surface and dry (avoid oxidation). Vacuum pack in aluminum plastic bag for arbitration analysis.

5.3.3 Product size and appearance quality shall be inspected piece by piece.

5.4 Determination of test results

5.4.1 The analysis results shall be rounded off in accordance with the provisions of GB/T 8170.The rounded value comparison method shall be used for determination.