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Copper and Copper Alloy Strip for Relay

继电器用铜及铜合金带

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Foreword

This Standard was drafted in accordance with the rules in GB/T 1.1-2009.

This Standard was proposed by China Nonferrous Metals Industry Association.

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

The drafting organizations of this Standard: Ningbo XINGYE SHENGTAI Group Co. Ltd.; Ningbo XINGYE XINTAI New Electronic Materials Co., Ltd.; Anhui XINKE Copper Industry Co., Ltd.; TONGLING JINVI Copper Corp.; KAIMEILONG Precision Copper Strip (Henan) Co., Ltd.; Jiangxi JPTK Science and Technology Co., Ltd.; Shaoxing Quality and Technology Supervision and Inspection Institute.

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Copper and Copper Alloy Strip for Relay

1 Scope

This Standard stipulates the technical requirements, test methods, inspection rules, marking, packaging, transportation, storage, quality certificate and order form (or contract) content of copper and copper alloy strip for relay.

This Standard is applicable to copper and copper alloy strip for relay (hereinafter referred to as strip).

2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 232 *Metallic Materials - Bend Test*;

GB/T 351 *Metallic Materials - Resistivity Measurement Method*;

GB/T 4340.1 *Metallic Materials - Vickers Hardness Test - Part 1: Test Method*;

GB/T 5121 (all parts) *Methods for Chemical Analysis of Copper and Copper Alloys*;

GB/T 5231 *Designation and Chemical Composition of Wrought Copper and Copper Alloys*;

GB/T 8170 *Rules of Rounding-off for Numerical Values & Expression and Judgement of Limiting Values*;

GB/T 8888 *Wrought Heavy Non-ferrous Metal Products - Packing, Marking, Transportation, Storing and Certificate of Quality*;

GB/T 26303.3 *Measuring Methods for Dimensions and Shapes of Wrought Copper and Copper Alloys - Part 3: Sheets and Strips*;

GB/T 32791 *Electromagnetic (eddy-current) Examination Method for Electrical Conductivity of Copper and Copper Alloys*;

GB/T 34505-2017 *Copper and Copper Alloy Materials - Tensile Testing at Room Temperature*;

YS/T 482 *Methods for Analysis of Copper and Copper Alloys - The Atomic Emission*

Tensile sample shall comply with the stipulations in GB/T 34505-2017. The type of sample shall select P01 from Table 3 in GB/T 34505-2017. Test method of Vickers hardness of strip shall comply with the stipulations in GB/T 4340.1.

4.4 Bending Performance

Bending performance of strip shall comply with the stipulations in GB/T 232.

4.5 Electrical Performance

Electrical performance test of strip shall comply with the stipulations in GB/T 32791 or GB/T 351. Arbitration shall comply with the stipulations in GB/T 351.

4.6 Surface Quality

Surface quality of strip shall receive visual inspection.

5 Inspection Rules

5.1 Inspection and Acceptance Inspection

5.1.1 Strip shall be inspected by the supply side, which shall guarantee that product quality complies with the requirements of this Standard and the order form (or contract). Moreover, quality certificate shall be filled out.

5.1.2 The demand-side shall inspect the received products in accordance with the stipulations in this Standard and the order form (or contract). If the inspection result does not comply with the requirements of this Standard and the order form (or contract), this shall be proposed to the supply-side in the written form; and solved by the demand-side and the supply-side through negotiation. Objections regarding surface quality and dimensional deviations shall be proposed within 1 month upon receiving the products. Other quality objections shall be proposed within 3 months upon receiving the products. If arbitration is needed, arbitration sampling shall be jointly conducted by the demand-side and the supply-side.

5.2 Group Batch

Strip shall be submitted for acceptance inspection in batches. Each batch shall be constituted of strips of the same designation, status and specification. Generally speaking, the weight of each batch shall be not more than 4,500 kg (if that batch is under the same furnace No., then, batch weight may not be restricted).

5.3 Inspection Items

5.3.1 Each batch of strips shall receive inspection of chemical composition, dimensions and allowable deviations, bending performance and surface quality.

5.5.2 When the inspection result of chemical composition is disqualified, then, the batch of strips shall be determined as disqualified.

5.5.3 When dimensions, allowable deviations and surface quality are disqualified, the coil of strip shall be determined as disqualified.

5.5.4 When there are samples that are disqualified in the inspection result of mechanical properties, bending performance and electrical performance, take a double size of samples for re-inspection from that batch of strips (including the coil of strip that is disqualified in the previous inspection). If the re-inspection result is completely qualified, then, that batch of strips shall be determined as qualified. If the re-inspection result is still disqualified, then, that batch of strips shall be determined as disqualified. Or, the supply-side may inspect coil by coil, and deliver those that are qualified.

6 Marking, Packaging, Transportation, Storage and Quality Certificate

Products' marking, packaging, transportation, storage and quality certificate shall comply with the stipulations in GB/T 8888.

7 Order Form (or contract) Content

Order form (or contract) content of materials listed in this Standard shall include the following content:

- a) Product name;
- b) Designation (code);
- c) Status of supply;
- d) Weight;
- e) Dimensional precision (common grade or high-precision grade);
- f) Either tensile test or hardness test (choose one from them);
- g) Electrical performance (when the demand-side requests);
- h) Serial No. of this Standard;
- i) Others.

_____ **END** _____

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