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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 77.150.30

H 62

GB/T 18813-2014

Replacing GB/T 18813-2002

Copper Strip for Transformer

变压器铜带

Issued on: December 5, 2014

Implemented on: May 1, 2015

Issued by: General Administration of Quality Supervision, Inspection and Quarantine;

Standardization Administration of the People's Republic of China.

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Foreword

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

This Standard serves as a replacement of GB/T 18813-2002 *Transformer Copper Strip*. In comparison with GB/T 18813-2002, the main changes are as follows:

- The code representation for alloys is added;
- Strip with a thickness $> 2.5 \text{ mm} \sim 3.0 \text{ mm}$ and a width $\leq 610 \text{ mm}$ is added;
- The width range of the strip is modified: for strip with a thickness $0.1 \text{ mm} \sim < 0.5 \text{ mm}$, the width is modified from 600 mm into 610 mm ; for strip with a thickness $0.5 \text{ mm} \sim 2.5 \text{ mm}$, the width is modified from $1,000 \text{ mm}$ into $1,050 \text{ mm}$;
- The allowable deviation of the thickness of the strip becomes more rigorous;
- The stipulation of burrs on the cutting-edge of the strip becomes more rigorous;
- The stipulation that “chemical composition analysis shall be conducted in accordance with the stipulations of YS/T 482” is added;
- The stipulation that “the inspection of overall dimensions of the strip shall be conducted in accordance with the stipulations of GB/T 26303.3” is added;
- The stipulation that “specimen preparation shall be conducted in accordance with the stipulations of YS/T 815” is added;
- The stipulation that “sampling method shall comply with the stipulations of YS/T 668” is added.

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: CHINALCO Luoyang Copper Processing Co., Ltd.; CHINALCO Shanghai Copper Processing Co., Ltd.; Ningbo Xingye Shengtai Group Co., Ltd.; Baiyin Nonferrous Group Co., Ltd.; China Nonferrous Metals Techno-Economic Research Institute.

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The issuing of the previous version:

- GB/T 18813-2002.

Copper Strip for Transformer

1 Scope

This Standard specifies the requirements, test methods, inspection rules, marking, packaging, transportation, storage, quality certificate and order sheet (or contract) of copper strip for transformer.

This Standard is applicable to copper strip for winding transformer coil.

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 228.1-2010 Metallic Materials - Tensile Testing - Part 1: Method of Test at Room Temperature

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 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

YS/T 478 Method for Electrical Conductivity Measurement of Copper and Copper Alloys by Use of Eddy Current

YS/T 482 Method for Analysis of Copper and Copper Alloys - The Atomic Emission Spectrometry

YS/T 668 Sampling Method of Physical and Chemical Testing for Copper and Copper Alloys

YS/T 815 Preparation Method of Test Pieces for Mechanical and Technological Properties of Copper and Copper Alloys

stipulations of GB/T 5121 (all parts).

4.2 Overall Dimensions and Allowable Deviations

The measurement of the overall dimensions of the strip shall be conducted in accordance with the stipulations of GB/T 26303.3.

4.3 Mechanical Properties

The tensile test of the strip shall be conducted in accordance with the stipulations of GB/T 228.1-2010. The specimen No. is P02 in Appendix B of GB/T 228.1-2010. The Vickers hardness test shall comply with the stipulations of GB/T 4340.1.

4.4 Electrical Properties

The test of the electrical properties of the strip shall be conducted in accordance with the stipulations of GB/T 351 or YS/T 478. The arbitration test shall comply with the stipulations of GB/T 351.

4.5 Surface Quality

The surface quality of the strip shall be subject to visual inspection.

5 Inspection Rules

5.1 Inspection and Acceptance Inspection

5.1.1 The strip shall be inspected by the technical supervision department of the supply-side to ensure that the product quality complies with the stipulations of this Standard and the order sheet (or contract). In addition, a quality certificate shall be filled out.

5.1.2 The demand-side shall inspect the received products in accordance with the stipulations of this Standard and the order sheet (or contract). If the inspection results are inconsistent with the stipulations of this Standard and the order sheet (or contract), it shall be submitted to the supply-side in the written form, and be resolved by the demand-side and the supply-side through negotiation. Objections belonging to surface quality and dimensional deviations shall be proposed within 1 month from the date of receipt of the product; other quality objections shall be proposed within 3 months from the date of receipt of the product. If arbitration is required, the arbitration sampling shall be jointly conducted by the demand-side and the supply-side at the demand-side's place.

5.2 Batch

The strips shall be submitted for acceptance inspection in batches. Each batch shall be composed of strips of the same designation, status and specification. The weight of each batch shall be not greater than 6,500 kg (if it is the same melting time, the batch size may not be limited).

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