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

GB/T 11091-2024

Replacing GB/T 11091-2014

Copper strip and foil for cables

电缆用铜带箔材

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents". This document replaces GB/T 11091-2014 "Copper strip for cables". Compared with GB/T 11091-2014, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) MODIFY the scope of the standard, from "applies to copper strips for making communication cable products" to "applies to copper strips and foils for making cable products" (see Clause 1 of this document, Clause 1 of the 2014 edition);
- b) ADD the term of unevenness and its definition (see 3.1 of this document);
- c) ADD the "TP2" designation and its code "C12200" (see 4.1 of this document);
- d) ADD three status of designation TP2, i.e. "annealed, 1/4 hard, 1/2 hard" (see 4.1 of this document);
- e) MODIFY the thickness range, from "0.07 mm ~ 0.80 mm" to "

0.05 mm ~

4.1 of this document,

3.1.1 of the 2014 edition);

1 Scope

China's national standard for the copper strip and foil used in cables - the thin material applied over the insulation as a screen, a shield or a moisture barrier in power, control, instrumentation and communication cables. It is not the conductor: it is the layer that carries the fault current safely to earth in a screened power cable, that keeps interference out of an instrumentation pair, and that stops water tracking along a cable that has been damaged. It specifies the classification and marking, the technical requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage of copper strip and foil for cables. The requirements are those that decide whether the material can be applied at line speed and whether the finished screen works. The chemical composition and the temper, since the strip has to be soft enough to be wrapped helically over an insulated core at high speed without cracking, and strong enough not to tear as it is drawn off the pad. The thickness and width and their tolerances, which govern the electrical cross-section of the screen and therefore the fault current it can carry - a screen thinner than specified fails the very test the cable was designed to pass. The surface condition and freedom from oxide, which determines whether the overlap makes electrical contact and whether the material can be soldered or welded. The mechanical properties, the edge condition, since a burred edge cuts into the insulation beneath it, and the coil dimensions and joint provisions, because a joint that passes through a cable line has to be able to pass through the machine. Issued on 25 April 2024 and in force since 1 November 2024, it replaces GB/T 11091-2014.

This document specifies the classification and marking, technical requirements, test methods, inspection rules, marking, packaging, transportation, storage, and accompanying documents and order forms of copper strips and foils for cables. This document applies to copper strips and foils for making cable products (hereinafter referred to as "strips and foils").

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 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 347 Estimation of average grain size for copper and copper alloy The marking, packaging, transportation and storage of products shall comply with the provisions of GB/T 8888.

8.2 Accompanying documents Each batch of products shall be accompanied by accompanying documents, which shall include supplier information, product information, serial number of this document, factory-exit date or packaging date, and should also include:

a) Product quality guarantee, with the following contents: - Main performance and technical parameters of the product, - Product characteristics (including manufacturing process and raw material characteristics), - Responsibility for product quality, - Quality certification obtained by the product and various analysis and inspection results with the seal of the supplier's technical supervision department;

b) Product certificate, with the following contents: - Inspection items and their results or inspection conclusions, - Batch or batch number, - Inspection date, - Signature or seal of the inspector;

c) Inspection report and finished product inspection report during product quality control;

9 Order form contents

The order form for the products listed in this document shall include at least the following contents:

a) Product name;