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ICS 29.060.20
CCS K 13

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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 13849-2025

Replacing GB/T 13849.1-2013

Communication cables with polyolefin insulation and moisture barrier polyolefin sheath up to 1MHz

1MHz及以下聚烯烃绝缘挡潮层聚烯烃护套通信电缆

Issued on: October 5, 2025 **Implemented on: May 1, 2026**

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

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document supersedes GB/T 13849.1-2013 "Polyolefin Insulated and Polyolefin Sheathed Indoor Communication Cables - Part

1.General Rules". GB/T 13849.2-1993 "Polyolefin Insulated and Polyolefin Sheathed Indoor Communication Cables - Part

2.Copper Core, Solid or Foam (Foam-coated)" Polyolefin insulated, unfilled, moisture-proof polyolefin sheathed indoor communication cable, GB/T 13849.3-1993 "Polyolefin insulated polyolefin sheathed" Part 3 of the series of indoor communication cables. Copper core, solid or foam (with foam sheath) polyolefin insulation, filled, moisture-proof polyolefin

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sheath. Communication Cables, GB/T 13849.4-1993 "Polyolefin Insulated and Polyolefin Sheathed Indoor Communication Cables Part

4.Copper Core and Solid Polyolefin..." "Insulated (non-filled), self-supporting, moisture-proof polyolefin sheathed indoor communication cables" and GB/T 13849.5-1993 "Polyolefin insulated polyolefin cables" Sheathed indoor communication cables, Part

5.Copper core, solid or foam (with sheathed foam) polyolefin insulation, shielded (internal shield), moisture barrier polyolefin Hydrocarbon-sheathed indoor communication cable. This document is based on GB/T 13849.1-2013, and integrates GB/T 13849.2-1993, GB/T 13849.3-1993, Partial contents of GB/T 13849.4-1993 and GB/T 13849.5-1993.Compared with GB/T 13849.1-2013, except for structural adjustments... Aside from editorial changes, the main technical changes are as follows:

---The applicable scope of the cable has been expanded (see Chapter 1);

---The technical requirements for conductor splicing have been removed (see 4.2,

5.2 in the.2013 edition);

---Added requirements for star-shaped couplings (see Chapter 6, 7.1.2);

---Increased compatibility requirements for the insulation cores and fillers of filled cables (see 7.2.1);

---Added basic unit requirements for star strand assembly and cable core tie numbers and color coding requirements (see 8.3, Table 3);

---The process requirements for splicing aluminum-plastic composite strips have been removed (see section

13.2.3 of the.2013 edition);

1 Scope

GB/T 13849-2025 is the Chinese national standard on communication cables with polyolefin insulation and moisture barrier polyolefin sheath up to 1mhz, in the field of electrical engineering. 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 5 October 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 May 2026. Classification: ICS 29.060.20, CCS K 13. 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.

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This document specifies the structure, mechanical and physical properties, and specifications of copper-core polyolefin insulated, moisture-proof, and polyolefin-sheathed communication cables with a frequency of 1MHz and below. Electrical performance requirements, test methods, inspection rules, and marking and packaging. This document applies to communication cables transmitting audio signals and digital signals at 2B D rate and below for Integrated Services Digital Network (ISDN). Communication cables suitable for transmitting digital signals of 2048 kbit/s or analog signals below 150 kHz; under certain conditions, they can also be used... Cables suitable for transmitting digital signals above 2048 kbit/s; also suitable for telephone lines in urban and suburban areas, and densely equipped locations (railways, etc.). Communication cables with copper core, polyolefin insulation, moisture barrier layer, and polyolefin sheath of 1MHz or below are used in communication systems of power plants, factories, intelligent buildings, etc.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 2900.10-2013 Electrical Terminology - Cables

GB/T 2951.11-2008 General Test Methods for Insulation and Sheath Materials of Cables and Optical Fibers - Part

11.General Test Methods Thickness and Dimension Measurement - Mechanical Property Testing

GB/T 2951.12-2008 General Test Methods for Insulation and Sheath Materials of Cables and Optical Fibers - Part

3 General outer sheath for non-metallic sheathed cables

GB/T 3048.4-2007 Electrical Performance Test Methods for Wires and Cables - Part 4: DC Resistance Test of Conductors

GB/T 3048.5-2007 Electrical Performance Test Methods for Wires and Cables - Part

5 Insulation Resistance Test

GB/T 3048.10-2007 Electrical Performance Test Methods for Wires and Cables - Part

10 Spark Test for Extruded Sheaths

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GB/T 3048.14-2007 Electrical Performance Test Methods for Wires and Cables - Part 14: DC Voltage Test

GB/T 3953 Electrical round copper wire

GB/T 6995.2-2008 Methods for Identification Marking of Wires and Cables Part

12 General Test Methods Thermal aging test method

GB/T 2951.13-2008 General Test Methods for Insulation and Sheath Materials of Cables and Optical Fibers - Part

13.General Test Methods Density Measurement Methods - Water Absorption Test - Shrinkage Test

GB/T 2951.14-2008 General Test Methods for Insulation and Sheath Materials of Cables and Optical Fibers - Part

14 General Test Methods Low temperature test

GB/T 2951.41-2008 General Test Methods for Insulation and Sheath Materials of Cables and Optical Fibers - Part

41.Polyethylene and Polypropylene Special test methods for mixtures. environmental stress cracking test, melt index measurement method, direct combustion method for measuring carbon black and... (or) Thermogravimetric analysis (TGA) to measure carbon black content; microscopic assessment of carbon black dispersion in polyethylene.

GB/T 2951.42-2008 General Test Methods for Insulation and Sheath Materials of Cables and Optical Fibers - Part

42.Polyethylene and Polypropylene Special test methods for mixtures. tensile strength and elongation at break after high temperature treatment; winding test after high temperature treatment; air heat aging. The winding test determines the increase in mass, the long-term thermal stability test, and the copper catalytic oxidation degradation test method.

GB/T 2952.1-2008 Cable Outer Sheath Part

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