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

GB/T 28429-2025

Replacing GB/T 28429-2012

**Cables for electrified railways - DC traction power cables and
accessories up to 1500 V**

电气化铁路电缆 1500V及以下直流牵引电力电缆及附件

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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 28429-2012 "DC Traction Power Cables and Accessories for Rail Transit of 1500V and Below", and is consistent with... Compared with GB/T 28429-2012, apart from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The term and definition of "low toxicity" have been added (see 3.5); (b) Requirements and test methods for high-modulus or high-hardness ethylene propylene rubber insulation have been removed (see sections 5.2.2 of the 2012 edition). Chapter 7);
- c) The scope of application for polyethylene sheath materials has been expanded (see 4.3);
- d) The first type of bare annealed copper conductor has been removed (see 5.1 in the 2012 edition);
- e) Changes were made to the longitudinal overlap width of the aluminum-plastic composite tape, the thickness of the extruded fire-resistant layer, the requirements for armor, outer sheath materials, insulation, and non-metallic sheath thickness. Measurement requirements (see 5.1.4, 5.1.5.4, 5.1.6, 5.1.7.2, 5.1.7.3, and 5.4.2, 5.5.3, 5.6, 5.7.2, and 7.2.2.3 in the 2012 edition);
- f) The tensile strength requirements of EPR insulation before aging and the mechanical property requirements of SHF2 sheathing compound were changed (see Tables 10 and 11, 2012). (Tables 17 and 18 of the version)
- g) Added requirements for low toxicity, termite resistance, and rodent resistance of cables (see 5.3.7, 5.3.8, and 5.3.9);
- h) The requirements for restoring insulation or sheathing of cable accessories have been changed (see 6.1.6, 2012 edition of 6.1.6);
- i) The performance specifications for cold-shrink and heat-shrink accessories have been changed (see 6.2, 6.3, and 6.2, 6.4 in the 2012 edition);

1 Scope

GB/T 28429-2025 is the Chinese national standard covering the DC traction cable of a

metro or tram system - 1500 volts direct current, with the stray current and electrolytic corrosion problems peculiar to DC traction, and the fire performance required in a tunnel. It replaces GB/T 28429-2012, with the AC railway cable standard GB/T 28427-2026. It was issued on 31 December 2025 and has been in force since 1 July 2026, replacing GB/T 28429-2012. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the voltage markings, codes, and specifications for DC traction power cables and accessories with a rated voltage of 1500V and below used in rail transit. Representation methods, cable technical requirements, cable accessory technical requirements, test methods, inspection rules, product acceptance rules, marking and packaging, transportation and custody. This document applies to DC traction power cables and accessories for rail transit with rated voltages of 1500V and 750V.

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

3 Identification Marking of Wires and Cables

GB/T 7113.2-2014 Insulating hoses - Part

11 General Test Methods Methods

--- Thickness and Dimensional Measurement

--- Mechanical Property Testing

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

12 General Test Methods Method

---Thermal Aging Test

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

13.General Test Methods Methods for determining density. water absorption test, shrinkage test.

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

13 Impulse Voltage Test

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

GB/T 3956-2008 Conductors of Cables

GB/T 4909.2-2009 Bare wires - Test methods - Part

14 General Test Methods Method

---Low Temperature Test

GB/T 2951.21-2008 General Test Methods for Insulation and Sheath Materials of Cables and Optical Fibers - Part

21.Elastomer Compounds Test methods. ozone resistance test, heat stretching test, mineral oil immersion test.

GB/T 2951.31-2008 General Test Methods for Insulation and Sheath Materials of Cables and Optical Fibers - Part

31.Polyvinyl Chloride Blends Specialized testing methods

--- High temperature pressure test

--- Crack resistance test

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

GB/T 3048.13-2007 Electrical Performance Test Methods for Wires and Cables - Part