

ICS 29.060.20
K 13



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

中华人民共和国国家标准

GB/T 12528-2008
Replaces GB 12528.1-1990, GB 12528.11-2003

**Rail vehicle cables with rated voltages up to and
including 3kV**
交流额定电压 3kV 及以下轨道交通车辆用电缆

Issued on June 30, 2008

Implemented on April 1, 2009.

**Issued by General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China and Standardization
Administration of the People's Republic of China**

Contents

Foreword	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	3
4 Product code, marking and sample	4
5 Operational properties.....	7
6 Model, name and specification of the product	7
7 Technical requirements	9
8 Test Methods	22
9 Inspection Rules.....	23
10 Mark and Package	25
Annex A_(Normative) Scraping test	27
Annex B (Normative) Immersion oil test method.....	29
Annex C (Normative) The voltage test method of the cable after bending	32
Annex D (Normative) Surface test of leakage and discharge	33
Annex E (Normative) Humidity resistance test.....	35

Foreword

Rail vehicle cables with rated voltages up to and including 3kV in GB/T 12528 is an integration of GB 12528.1--1990 and GB 12528.11--2003.

The Standard is a replacement for the *Insulated cables (wires) for railway vehicles of rated voltages up to and including 3kV General* (GB 12528.1--1990) and *Insulated cables (wires) for railway vehicles of rated voltages up to and including 3kV Amendment 1: Cross-linked polyolefin insulated cables (wires) for railway vehicles* (GB 12528.11--2003)

The major disparities of the Standard with that of GB 12528.1--1990 and GB 12528.11--2003 are as below:

——*Insulated cables (wires) for railway vehicles of rated voltages up to and including 3kV General* (GB 12528.1--1990) and *Insulated cables (wires) for railway vehicles of rated voltages up to and including 3kV Amendment 1: Cross-linked polyolefin insulated cables (wires) for railway vehicles* (GB 12528.11--2003): are changed into *Rail vehicle cables with rated voltages up to and including 3kV* in this edition.

——Updated and added normative references. The Chapter 2 in GB 12528.1--1990 and GB 12528.11--2003; the Chapter 2 in this edition.

——For insulation and sheathing materials, the Standard of this edition specifies chlorosulfonated polyethylene rubber compound or other equivalent synthetic elastomers, ethylene propylene rubber compound, cross-linked polyolefin compound and polyolefin compound used for thin-wall cables. CANCEL the provisions (3.2 in GB12528.1--1990; and 4.2 in this edition) of natural styrene butadienerubber, polyvinyl chloride, neoprene, nylon and other compounds in standard GB 12528.1--1990.

——The oil resistance property is divided into three classes, namely Class I, Class II, and Class III, and applications in which the environment is polluted by high concentration acids and bases are not specified. SPECIFY the cable products with Class I and Class II oil resistance property (3.2.1.5 in GB 12528.1--1990, 3.4 in GB 12528.11--2003 and 4.4 in this edition).

——Specify the cable's voltage bracket in four categories: 500V, 750V, 1.5kV and 3kV. CANCEL the 250V bracket and 1kV bracket (5.4.4.1 in GB12528.1--1990, 3.1 in GB

12528.11--2003 and 5.1 in this edition).

——Adjust the cable's bending radius (3.5 in GB 12528.11--2003 and 5.4 in this edition).

——Add Category 2 conductor, represented by (C). CANCEL the provisions for conductor structure (5.1.1 in GB 12528.1--1990, 5.1.2 in GB 12528.11--2003 and 7.1.2 in this edition).

——Add the experimental value of direct voltage to the spark test voltage. (5.2.3 in GB 12528.1--1990, 5.2.3 in GB 12528.11--2003 and 7.2.4 in this edition).

——The thin-wall cable's insulation thinnest thickness has changed from 90%-0.1mm of the former standard thickness nominal value in GB 12528.11--2003 to 75%. (Table 2 in GB 12528.11--2003 and table 11 in this edition).

——The low-smoke zero halogen flame retardant cables shall pass the bunch combustion experiment in addition to the single vertical combustion. (5.3 in GB 12528.11--2003 and 7.4 in this edition);

——Insulation resistance has changed from $1 \times 10^{13} \Omega \cdot m$ in GB 12528.11--2003 to $5 \times 10^{12} \Omega \cdot m$ in this edition.

——Cancel the experimental method of tin layer in tinned copper wires in annex A; add scraping and grinding experiment in Annex A (Annex A in GB 12528.1--1990, Annex A in this edition).

——Keep the maxim current leakage indicator which reflect the cable's surface resistance value the same with specified value of EN50264 (Annex D in GB 12528.1--1990 and table 6 in GB 12528.11--2003 and Annex D in this edition).

The Annexes A, B, C, D and E to this Standard are normative.

This Standard is proposed by China Electrical Equipment Industrial Association.

This Standard is centralized by National Technical Committee on Wire and Cable of Standardization of China SAC/TC 213.

This Standard is drafted by: Shanghai Electric Cable Research Institute.

The organizations participating in drafting this Standard are: Shanghai Nanyang Cable Co., Ltd; Jinshan Electric Wire & Cable Ltd., Tianjin; Shanghai Nan Yang Electrical Appliance Co., Ltd.; Hengyang Hengfei Cable LLC; Haixing Cable (Group) Co., Ltd, Chaohu, Anhui Province; Shanghai Hanxin, Wires & Cable Co., Ltd; Huang Shi Chang Da

Wires & Cable Co., Ltd.

Main drafters of this part: Zhang Xianling, Tan Jinfeng, Zheng Guojun, Zhang Guoping, Li Chunyang, Ma Yongbiao, Zhao Cuijing, Wang Yingchang, Zhou Xiaowei, Xin Jimin.

The information concerning the issuance of previous editions of the standard replaced by this Standard is as follows:

——GB12528.1—1990;

——GB12528.11—2003.

Rail vehicle cables with rated voltages up to and including 3kV

1 Scope

This Standard stipulates provisions of type, specification, technical requirement, testing method, mark and package of the cable used in rail vehicles with rated voltages up to and including 3kV.

This Standard is applicable to cables used in electric units like power distribution system, control system, signal system etc. suitable for rail transit vehicles of rated voltages up to and including 3kV.

2 Normative references

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB 252-2000 Light diesel fuels

GB/T 1690-2006 Rubber vulcanized or thermoplastic - Determination of the effect of liquids (ISO 1817:2005, MOD)

GB/T 2900.10-2001 Electrotechnical vocabulary--Electric cables (idt IEC 60050(461):1984)

GB/T 2951.1-1997 Common test methods for insulating and sheathing materials of electric cables Part 1:Methods for general application Section one: Measurement of thickness and overall dimensions—Tests for determining the mechanical properties (idt IEC 811-1-1:1993)

GB/T 2951.2-1997 Common test methods for insulating and sheathing materials of electric cables--Part 1: Methods for general application--Section two: Thermal ageing methods (idt IEC 811-1-2:1985)

GB/T 2951.4-1997 Common test methods for insulating and sheathing materials of

完整版本请在线下单/Order Checks Online for Full version

联系我们/or Contact:

TEL: 400-678-1309

QQ: 19315219 | Skype: Lancarver

Email : info@lancarver.com

<http://www.lancarver.com>

线下付款方式 :

I. 对公账户 :

单位名称 : 北京文心雕语翻译有限公司

开户行 : 中国工商银行北京学清路支行

账 号 : 0200 1486 0900 0006 131

II. 支付宝账户 : info@lancarver.com

III. Paypal: info@lancarver.com

注: 付款成功后, 请预留电邮, 完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱, 如需索取发票, 下单成功后的三个工作日内安排开具并寄出, 预祝合作愉快!

NOTE All documents on the store are in electronic Adobe Acrobat PDF format, there is not sell or ship documents in hard copy. Mail the order and payment information to info@lancarver.com, you will shortly receive an e-mail confirming your order.

