

Translated English of Chinese Standard: GB/T5054.2-2024

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

ICS 43.040.10

CCS T 36

GB/T 5054.2-2024 / ISO 4141-2:2019

Replacing GB/T 5054.2-2008

**Road vehicles - Multi-core connecting cables - Part 2: Test
methods and requirements for high performance sheathed
cables**

道路车辆 多芯连接电缆 第2部分:高性能护套电缆的性能要求
和试验方法

(ISO 4141-2:2019, IDT)

Issued on: October 26, 2024

Implemented on: May 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of PRC.**

Table of Contents

Foreword	3
Introduction.....	5
1 Scope	6
2 Normative references	6
3 Terms and definitions.....	7
4 General requirements	7
5 Tests and requirements.....	7
6 Additional tests and requirements for coiled multi-core cables.....	9

Road vehicles - Multi-core connecting cables - Part 2: Test methods and requirements for high performance sheathed cables

1 Scope

This document specifies the performance requirements for high-performance multi-core sheathed cables for electrical connections between tractors and trailers, and describes the corresponding test methods. The cables are suitable for use in the temperature range of Class A and Class B defined in ISO 19642 (all parts).

2 Normative references

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for any dated reference, only the version corresponding to that date applies to this document; for any undated reference, the latest version (including all amendments) applies to this document.

ISO 1817 Rubber, vulcanized or thermoplastic - Determination of the effect of liquids

NOTE: GB/T 1690-2010 Rubber, vulcanized or thermoplastic - Determination of the effect of liquids (ISO 1817:2005, MOD)

ISO 4141-1 Road vehicles - Multi-core connecting cables - Part 1: Test methods and requirements for basic performance sheathed cables

NOTE: GB/T 5054.1-2024 Road vehicles - Multi-core connecting cables - Part 1: Test methods and requirements for basic performance sheathed cables (ISO 4141-1:2019, MOD)

ISO 4141-3 Road vehicles - Multi-core connecting cables - Part 3: Construction, dimensions and marking of unscreened sheathed low-voltage cables

NOTE: GB/T 5054.3-2024 Road vehicles - Multi-core connecting cables - Part 3: Construction, dimensions and marking of unscreened sheathed low-voltage cables (ISO 4141-3:2019, IDT)

ISO 19642(all parts)¹⁾ Road vehicles - Automotive cables

NOTE: GB/T 25085.1- 2024 Road vehicles - Automotive cables - Part 1: Vocabulary and design guidelines (ISO 19642-1:2023, IDT);

GB/T 25085.2-2024 Road vehicles - Automotive cables - Part 2: Test methods (ISO 19642-2:2023, IDT);

GB/T 25085.3-2020 Road vehicles - Automotive cables - Part 3: Dimensions and requirements for 30 V a.c. or 60 V d.c. single-core copper conductor cables (ISO 19642-3:2019, IDT);

GB/T 25085.4-2020 Road vehicles - Automotive cables - Part 4: Dimensions and requirements for 30 V a.c. or 60 V d.c. single-core aluminium conductor cables (ISO 19642-4:2019, IDT).

3 Terms and definitions

There are no terms or definitions that require definition in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Encyclopedia of Electronic Engineering: <https://www.electropedia.org/>;
- ISO online browsing platform: <https://www.iso.org/obp>.

4 General requirements

High-performance multi-core sheathed cables shall comply with the requirements of ISO 4141-1 and Chapter 5.

Coiled multi-core cables shall comply with the additional tests and requirements specified in Chapter 6.

5 Tests and requirements

5.1 Impact test

The test shall be carried out according to ISO 4141-1, but the test temperature shall be $(-20 \pm 2) ^\circ\text{C}$.

¹⁾ ISO 6722-1 and ISO 14572 referenced in ISO 4141-2:2019 have been superseded by ISO 19642(all parts).

at (23 ± 5) °C for 168 hours.

Take out the specimen from the sample solution, clean it, straighten it, and then observe it.

5.4.3 Requirements

The sheath shall not have obvious cracks or damage.

6 Additional tests and requirements for coiled multi-core cables

6.1 Elongation due to cable weight

6.1.1 Testing

Measure the length L_B of the coiled segment of the coiled cable in a horizontal and static state.

Then, hang the cable vertically for at least 60 seconds and then measure the length of the coiled cable.

6.1.2 Requirements

The length of the coiled segment after the coil is stretched shall not be greater than twice the original length.

6.2 Resistance to cyclic stretching

6.2.1 Testing

The test specimens in 6.1 are used. The specimens are fixed horizontally on the test equipment and then tested according to the two test steps listed in Table 1.

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----