

ICS 43.040.10

CCS T 36



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

GB/T 25085.2-2024

Road vehicles - Automotive cables - Part 2: Test methods

道路车辆 汽车电缆 第2部分：试验方法

(English Translation)

Issued on: October 26, 2024

Implemented on: May 1, 2025

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 Basic Requirements	
4.1 General test conditions	
4.2 Safety Precautions	
4.3 Oven	
5 Test methods for single-core cables	
5.1 General Principles	
5.2 Dimensional inspection	
5.3 Electrical performance test	
5.4 Mechanical properties test	
5.5 Environmental testing	
6 Test methods for sheathed cables and/or multi-core cables	
6.1 General Principles	
6.2 Dimensional inspection	
6.3 Electrical performance test	
6.4 Mechanical properties test	
6.5 Environmental testing	
Appendix A (Informative) Test Reference Consumables	
Appendix B (Informative) Flexibility Test	
Appendix C (Normative) Combustion Test Device	
Appendix D (Informative) Concentricity, coefficient A, Fx, A	
Reference	

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 2 of GB/T 25085 "Road Vehicle Cables". GB/T 25085 has been published in the following parts.

--- Part 1: Terminology and design guidelines;

--- Part 2: Test methods;

--- Part 3: Dimensions and requirements for single-core copper conductor cables for AC 30 V or DC 60 V;

--- Part 4: Dimensions and requirements for single-core aluminium conductor cables for 30 V AC or 60 V DC.

This document is equivalent to ISO 19642-2:2023 "Road vehicles - Cables for motor vehicles - Part 2: Test methods".

Introduction

Automotive cables are an indispensable part of the electrical system of road vehicles, and they undertake the important task of transmitting power, signals and data.

The quality of automotive cables for road vehicles is directly related to the performance and safety of road vehicles.

In order to meet the demand of automobile cables for road vehicles, my country needs to establish a complete standard system for automobile cables for road vehicles.

GB/T 25085 "Road Vehicle Cables" is intended to consist of 12 parts.

--- Part 1: Terminology and design guidelines. The purpose is to define the terms related to automotive cables for road vehicles. Other parts of GB/T 25085.

--- Part 2: Test methods. The purpose is to specify the test methods related to automotive cables for road vehicles, including the test methods for single-core cables.

Test methods for sheathed and/or multicore cables, including low voltage and high voltage cables and radio frequency data cables Test method.

--- Part 3: Dimensions and requirements for single-core copper conductor cables for AC 30V or DC 60V. The purpose is to specify the dimensions and requirements for single-core copper conductor cables for road vehicles.

Performance requirements for low voltage, single core copper conductor automotive cables.

--- Part 4: Dimensions and requirements for single-core aluminum conductor cables for AC 30V or DC 60V. The purpose is to specify the dimensions and requirements for single-core aluminum conductor cables for road vehicles.

Performance requirements for low voltage, single core aluminum conductor automotive cables.

--- Part 5: Dimensions and specifications of single-core copper conductor cables of 600 V AC or 900 V DC and 1000 V AC or 1500 V DC The purpose is to specify the performance requirements for high voltage, single core copper conductor automotive cables for road vehicles and electric vehicles.

--- Part 6: Dimensions and specifications of single-core aluminium conductor cables for AC 600 V or DC 900 V and AC 1000 V or DC 1500 V The purpose is to specify the performance requirements for high voltage, single core aluminum conductor automotive cables for road vehicles and electric vehicles.

--- Part 7: Dimensions and specifications of circular, sheathed, shielded or unshielded, multi-core or single-core copper conductor cables for 30 V AC or 60 V DC The purpose is to specify the requirements of low voltage, round, sheathed, shielded or unshielded, multi-core or single-core copper conductors for road vehicles Performance requirements of cables.

--- Part 8: Dimensions and specifications of circular, sheathed, shielded or unshielded, multi-core or single-core aluminium conductor cables for 30 V AC or 60 V DC The purpose is to specify the requirements of low voltage, round, sheathed, shielded or unshielded, multi-core or single-core aluminum conductors for road vehicles Performance requirements of cables.

--- Part 9: AC 600 V or DC 900 V and AC 1000 V or DC 1500 V round, sheathed, screened or non-screened The purpose is to specify the dimensions and requirements of high voltage, round, shielded, multi-core or single-core copper conductor cables for road vehicles and electric vehicles.

Performance requirements for sheathed, shielded or unshielded, multi-core or single-core copper conductor automotive cables.

--- Part 10: AC 600 V or DC 900 V and AC 1000 V or DC 1500 V circular, sheathed, screened or non-screened The purpose is to specify the dimensions and requirements of high voltage, round, shielded, multi-core or single-core aluminum conductor cables for road vehicles and electric vehicles.

Performance requirements for sheathed, shielded or unshielded, multi-core or single-core aluminum conductor automotive cables.

--- Part 11: Dimensions and requirements for coaxial RF cables with specific analog bandwidth up to 6 GHz (20 GHz).

Define the performance requirements for coaxial radio frequency automotive cables for road vehicles and intelligent connected vehicles.

--- Part 12: Dimensions and requirements for unshielded twisted-pair RF automotive cables with specific analog bandwidths up to 1 GHz.

Specifies the performance requirements for unshielded twisted-pair radio frequency automotive cables for intelligent connected vehicles on road vehicles.

Appendix D presents a test method for verifying the concentricity of conductors within the insulation of single-core cables.

CAUTION: The use of this document may involve hazardous materials, operations, and devices. This document is not intended to address any hazards associated with its use.

It is the responsibility of the user of this document to establish appropriate safety procedures and determine the applicability of the limitations before use.

1 Scope

This document describes test methods for cables for road vehicles. These test methods are applicable to other parts of ISO 19642.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

Note: GB/T 1690-2010 Test method for resistance of vulcanized rubber or thermoplastic rubber to liquids (ISO 1817:2005, MOD)

ISO 4141-1 Road vehicles multi-core connecting cables Part 1: Performance requirements and test methods for ordinary sheathed cables (Road sheathed cables)

Note: GB/T 5054.1-2024 Road vehicles multi-core connecting cables Part 1: Performance requirements and test methods for ordinary sheathed cables (ISO 4141-1:2019,MOD)

ISO 4892-2 Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon arc lamps

Note: GB/T 16422.2-2022 Plastics - Test methods for exposure to laboratory light sources - Part 2: Xenon arc lamps (ISO 4892-2:2013, IDT)

ISO 4926 Road vehicles - Hydraulic braking systems - Non-petroleum reference fluids

Note: GB/T 37285-2019 Motor vehicle brake fluid compatibility test reference fluid (ISO 4926:2006, MOD)

ISO 19642-1 Road vehicles - Automotive cables - Part 1: Terminology and design guidance

Note: GB/T 25085.1-2024 Road vehicles and automotive cables Part 1: Terminology and design