

ICS 43.040.10

CCS T 36



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

GB/T 25087-2010

**Road vehicles -- Round, screened and unscreened 60V and
600V multi-core sheathed cables**

道路车辆 圆形、屏蔽和非屏蔽的 60V 和 600V 多芯护套电缆

(English Translation)

Issued on: September 2, 2010

Implemented on: February 1, 2011

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine**

Table of Contents

Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	5
4 General	5
5 Dimensions	6
6 Electrical characteristics	9
7 Mechanical characteristics	12
8 Low-temperature characteristics	15
9 Resistance to abrasion	17
10 Heat ageing	18
11 Resistance to chemicals	20
12 Resistance to flame propagation	22
13 Artificial weathering	22

1 Scope

This Standard specifies test methods and requirements for basic and high- performance round, screened and unscreened, multi-core sheathed cables, which are intended for use in road vehicle applications.

The unscreened, single-core cables must be in accordance with GB/T 25085-

2010. Other cores may be used but, in these cases, the construction and tests required to ensure functionality of these cores must be agreed between the customer and supplier. See GB/T 25085-2010 for temperature classes

2 Normative references

The following standards contain the provisions which, through reference in this

Standard, constitute the provisions of this Standard. For dated references, subsequent amendments (excluding corrections) or revisions do not apply to this Standard. However, the parties who enter into agreement based on this

Standard are encouraged to investigate whether the latest versions of these documents are applicable. For undated reference documents, the latest versions apply to this Standard.

GB/T 25085-2010 Road vehicles - 60 V and 600 V single-core cables (ISO 6722:2006, IDT)

GB/T 2951.11 Common test methods for insulating and sheathing materials of electric and optical cables - Part 11: Methods for general application - Measurement of thickness and overall dimensions (GB/T

2951.11-2008, IEC 60811-1-1:2001, IDT)

GB/T 16422.2 Plastics - Methods of exposure to laboratory light sources

Part 2 : Xenon - Arc sources (GB/T 16422.2-1999, idt ISO 4892-2:1994)

GB/T 17737.1 Coaxial communication cables - Part 1: Generic specification - General definitions and requirements (GB/T 17737.1-2000,

IDT IEC 61196-1:1995)

The temperature-class rating is established by the rating(s) of the cores and sheath. The rating of the cable shall be equal to the lowest rating of the individual cores and sheath.

4.2 600 V cables

Special care shall be taken for cables used for voltages above 600 V d.c. to protect the cables from mechanical stress and to avoid an electric-shock hazard.

The 600 V cable sheath shall be visually identified with a permanent orange color.

4.3 Tests

The cables shall be submitted to the tests as specified in Table 1.

4.4 General test conditions

According to 4.4 of GB/T 25085-2010.

4.5 Ovens

According to 4.5 of GB/T 25085-2010.

4.6 Visual appearance

On visual examination, the sheath shall be smooth, even and free from surface imperfections, such as lumps, voids, particles, or other imperfections.

5.1 General

Due to the variety of constructions, the requirements for dimensions shall be established by agreement between the customer and supplier (see 5.2.4, 5.3.5 and 5.4.4).

5.2.1 Test sample

Follow 5.1.1 of GB/T 25085-2010.

5.2.2 Apparatus

Follow 5.1.2 of GB/T 25085-2010.

5.4.1 Test samples

Follow 5.2.1 of GB/T 25085-2010.

5.4.2 Apparatus

Follow 5.2.2 of GB/T 25085-2010.

5.4.3 Procedure

Follow 5.2.3 of GB/T 25085-2010.

5.4.4 Requirement

The thickness of the sheath shall be within the limits established by agreement between the customer and supplier.

6.1.1 Test sample

Remove 100 mm of sheath from each end of a complete cable and 25 mm of insulation from each end of the cores.

6.1.2 Apparatus

Use an appropriate source connected in series with an indicator such as an ohmmeter, light or buzzer.

6.1.3 Procedure

Connect the apparatus to one of the cores. Repeat the procedure until all cores have been tested. If a screen is present, test the continuity using the same procedure for a core. As an alternative, all of the cores shall be tested at once, by connecting them in series. Take care to select a current which shall not damage the individual conductors.

6.1.4 Requirement

The indicator shall show continuity.

6.2.1 Test sample

Remove 100 mm of sheath from one end of the cable and remove 25 mm of

6.3.3 Line injection method

Allowable frequency ranges according to "Surface transfer impedance, Line injection method" of GB/T 17737.1.

6.3.3.1 Test sample

Follow "Surface transfer impedance, Line injection method" of GB/T 17737.1.

6.3.3.2 Apparatus

Follow "Surface transfer impedance, Line injection method" of GB/T 17737.1.

6.3.3.3 Procedure

Follow "Surface transfer impedance, Line injection method" of GB/T 17737.1.

6.3.3.4 Requirements

The requirements for surface transfer impedance shall be established by agreement between the customer and supplier.

6.3.4 Tri-axial method

Allowable frequency ranges according to "Surface transfer impedance, Tri-axial method" of GB/T 17737.1.

6.3.4.1 Test sample

Follow "Surface transfer impedance, Tri-axial method" of GB/T 17737.1.

6.3.4.2 Apparatus

Follow "Surface transfer impedance, Tri-axial method" of GB/T 17737.1.

6.3.4.3 Procedure

Follow "Surface transfer impedance, Tri-axial method" of GB/T 17737.1.

6.3.4.4 Requirements

The requirements for surface transfer impedance shall be established by agreement between the customer and supplier.