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

GB/T 25089-2010

**Road vehicles -- Data cables
(English Translation)**

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Foreword

This standard, through modification, adopts ISO/TS 16553.2006 "Road vehicles
- Data cables - Test methods and requirements".

This standard was redrafted in accordance with ISO/TS 16553.2006.

The technical differences between the standard and ISO/TS 16553.2006 and
the causes are as follows.

- The definitions of 3.3 "Shielding" and 3.4 "Cable core" in the original text
are repeated in the terms of GB/T 25087-2010 "Road vehicles - Round,
screened and unscreened 60 V and 600 V multi-core sheathed cables"; in
this standard, GB/T 25087-2010 is directed referenced AND the repeated
definitions are deleted.

- In accordance with the provisions on drafting of national standards, ADD
the following information to the scope of application. This standard applies

to type M, N, O, L vehicle data cable.

As compared with ISO/TS 16553:2006, the editorial changes are as follows.

- CHANGE "this international standard" in the original text into "this standard";
- DELETE the final references from the international standard.

This standard was proposed by the National Development and Reform Commission.

This standard shall be under the jurisdiction of the National Automobile Standardization Technical Committee.

The drafting organization of this standard. Beijing Force Automotive Wire Co., Ltd.

1 Scope

This standard specifies the test methods and requirements for shielded and unshielded, sheathed and non-sheathed twisted pair data cables and coaxial pair cables for road vehicles. As for the sheathed cables, SEE GB/T 25087-

2010 "Road vehicles - Round, screened and unscreened 60 V and 600 V multi-

core sheathed cables". As for the rated temperature class, SEE GB/T 25085-

2010 "Road vehicles - 60 V and 600 V single-core cables".

This standard applies to type M, N, O, L vehicle data cable.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard; however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 25085-2010 Road vehicles - 60 V and 600 V single-core cables (ISO

6722.2006, IDT)

GB/T 25087-2010 Road vehicles - Round, screened and unscreened 60 V and 600 V multi-core sheathed cables (ISO 14572.2006, IDT)

ASTM D 4566 Standard test methods for electrical performance properties of insulations and jackets for telecommunications wire and cable

3 Terms and definitions

The terms and definitions as established in GB/T 25087-2010 and the following apply to this standard.

3.1

Capacitance

5.1 Cable outer diameter

It shall follow 5.2 of GB/T 25087-2010.

5.2 Sheath ellipticity

It shall follow 5.3 of GB/T 25087-2010, AND whether this test is used is to be determined by the supplier and the buyer through negotiation.

5.3 Sheath thickness

It shall follow 5.4 of GB/T 25087-2010.

5.4.1 Overview

This test is only applicable to unshielded twisted pairs. Whether this test is used is to be determined by the supplier and the buyer through negotiation.

5.4.2 Test specimen

PEEL the sheath from the 1 m length cable; ENSURE that the twisted pair ends are not scattered. It may also use other lengths based on the cable length.

5.4.3 Device

It shall use the measurement device of precision ± 1.0 mm.

5.4.4 Procedure

CLAMP the test specimen to prevent loosening. MEASURE the length of the five pitches; AND a single pitch is the travel length for one turn along the axial single line of the twisted pair. The average length of a single pitch is the measured length divided by 5.

5.4.5 Requirements

The average pitch length shall be within the scope as determined by the supplier and the buyer through negotiation.

L2 - Length of the second test specimen, m.

6.4.4 Requirements

The values of C, CA, and CB are to be determined by the supplier and the buyer through negotiation.

6.5.1 Test application

Whether this test is used is to be determined by the supplier and the buyer through negotiation.

6.5.2 Test specimen

From one end of a 3 m length test specimen, PEEL 50 mm sheath; and PEEL

6.5.3 Device

The measurement device used is a network analyzer.

6.5.4 Procedures

It shall follow ASTM D 4566. USE the network analyzer to measure the phase constant at 1 MHz. USE the following equation to calculate linear delay.

Where.

w - Angular frequency, rad/s;

beta - Phase constant, rad;

tp - Linear delay, ns/m;