

ICS 29.060.20

CCS K 13



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

GB/T 18015.3-2025

Replacing GB/T 18015.3-2007

**Multicore and symmetrical pair/quad cables for digital
communications - Part 3: Work area cable - Sectional
specification**

数字通信用对绞或星绞多芯对称电缆 第3部分：工作区布线电缆 分规范

(English Translation)

Issued on: October 5, 2025

Implemented on: May 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative References	
3 Terms and Definitions	
4 Installation conditions	
5 Materials and Cable Structure	
5.1 General Requirements	
5.2 Cable Structure	
5.2.1 Conductor	
5.2.2 Insulation	
5.2.3 Cable Components	
5.2.4 Cable Assembly	
5.2.5 Cable core shielding	
5.2.6 Sheath	
5.2.7 Mark	
5.2.8 Finished Cables	
6 Performance and Requirements	
6.1 General Rules	
6.2 Electrical Performance	
6.2.1 Conductor Resistance	
6.2.2 Resistance Imbalance	
6.2.3 Dielectric strength	
6.2.4 Insulation resistance	
6.2.5 Working Capacitor	
6.2.6 Capacitor Imbalance	
6.2.7 Transfer Impedance	
6.3 Transmission Performance	
6.3.1 Propagation speed (phase velocity)	
6.3.2 Phase delay and phase delay difference	
6.3.3 Attenuation	
6.3.4 Unbalanced attenuation	

- 6.3.5 Near-End Crosstalk (NEXT)
- 6.3.6 Characteristic Impedance
- 6.3.7 Return Loss
- 6.4 Mechanical properties and dimensional requirements
 - 6.4.1 Dimensional Requirements
 - 6.4.2 Conductor elongation at break
 - 6.4.3 Elongation at break of insulation
 - 6.4.4 Elongation at break of the sheath
 - 6.4.5 Tensile strength of the sheath
 - 6.4.6 Cable flattening test
 - 6.4.7 Cable Impact Test
 - 6.4.8 Repeated bending of the cable
 - 6.4.9 Cable tensile properties
- 6.5 Environmental Performance
 - 6.5.1 Insulation Shrinkage
 - 6.5.2 Winding test after insulation thermal aging
 - 6.5.3 Low-Temperature Bending Test for Insulation
 - 6.5.4 Elongation at break after heat aging of the sheath
 - 6.5.5 Tensile strength of the sheath after heat aging
 - 6.5.6 High-temperature pressure test of the sheath
 - 6.5.7 Low-Temperature Bending Test of Cables
 - 6.5.8 Thermal shock test
 - 6.5.9 Flame spread performance of a single cable
 - 6.5.10 Flame spread performance of bundled cables
 - 6.5.11 Release of halogen acid gases
 - 6.5.12 Smoke Emission
 - 6.5.13 Emission of Toxic Gases
 - 6.5.14 Combined Combustion and Smoke Test of Cables under Ventilated Space Conditions
- 7 Blank detailed specifications 9.
- Appendix A (Informative) Structure Numbering Comparison Table
- Reference

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 3 of GB/T 18015 "Twisted or Star-Twisted Multi-Core Symmetrical Cables for Digital Communication". GB/T 18015 has been issued.

The following parts were laid out.

- Part 1: General Specifications;
- Part 11: General Specifications for Competency Accreditation;
- Part 2: Horizontal Cabling Cables with Twisted Pair or Star-Shaped Symmetrical Cables and Transmission Characteristics of 100MHz and Below specification;
- Part 21: Detailed Specifications for Blanking Cables in Horizontal Cabling Layers;
- Part 22: Horizontal Cabling Cable Capability Approval Specification;
- Part 3: Work Area Cabling Cable Specifications;
- Part 31: Detailed Specifications for Blank Cabling in Work Areas;
- Part 32: Work Area Cabling Capability Approval Specification;
- Part 4: Specifications for Vertical Cabling Cables;
- Part 41: Detailed Specifications for Vertical Cabling Cable Blanks;
- Part 42: Vertical Cabling Cable Capability Accreditation Specification;
- Part 5: Horizontal Cabling Cables with Twisted Pair or Star-Shaped Symmetrical Cables and Transmission Characteristics of 1000MHz and Below specification;
- Part 6: Work Area Cabling Cables for Twisted Pair or Star-Twisted Symmetrical Cables with Transmission Characteristics of 1000MHz and Below specification;
- Part 7: Twisted-pair or star-twisted symmetrical cables for digital and analog communication with transmission characteristics of 1200MHz and below specification;
- Part 8: Work Area Cabling Cables for Twisted Pair or Star-Shaped Symmetrical Cables with Transmission Characteristics of 1200MHz and Below specification.

This document replaces GB/T 18015.3-2007 "Digital Communication - Twisted Pair or Star-Twisted Multi-Core Symmetrical Cables - Part 3: Work Area Wiring" Compared with GB/T 18015.3-2007, the "Cable Specification" has the following main technical changes, in addition to structural adjustments and editorial modifications.

- a) The cable configuration within the scope has been changed (see Chapter 1, 1.1 of the 2007 edition);
- b) PVC material has been removed from the insulation materials list (see 2.2.4 in the 2007 edition);
- c) The shielding requirements for cable components have been changed (see 5.2.3, 2.2.7 of the 2007 version);
- d) The requirement for the fill factor in the cable core shielding has been removed (see 2.2.9 of the 2007 edition);
- e) An additional requirement has been added regarding the unbalanced resistance between wire pairs (see 6.2.2.2);
- f) The requirements for capacitor imbalance have been changed (see 6.2.6, 3.2.6 in the 2007 version);
- g) The test results requirements for dielectric strength have been increased (see 6.2.3);
- h) The test results requirements for insulation resistance have been changed (see 6.2.4, 3.2.4 in the 2007 edition);
- i) The requirements for capacitor imbalance have been changed (see 6.2.6, 3.2.6 in the 2007 version);
- j) The transfer impedance requirements have been changed (see 6.2.7, 3.2.7 of the 2007 edition);
- k) Category 4 cables have been removed (see 3.3 in the 2007 edition);
- l) The phase delay requirements have been changed (see 6.3.2, 3.3.1.1 in the 2007 version);
- m) The test requirements for phase delay difference have been changed (see 6.3.2.2.1, 3.3.1.2 in the 2007 version);
- (n) The temperature range for environmental impact has been changed (see 6.3.2.2.2, 3.3.1.2.1 in the 2007 edition);
- o) The attenuation requirements have been changed (see 6.3.3, 3.3.2 in the 2007 version);
- p) The requirements for near-end crosstalk have been changed (see 6.3.5, 3.3.4 in the 2007 version);
- q) The requirement for remote crosstalk has been removed (see 3.3.5 in the 2007 version);
- r) The characteristic impedance requirements have been changed (see 6.3.7, 3.3.6 in the 2007 edition);
- s) The return loss requirements have been changed (see 6.3.8, 3.3.7 in the 2007 edition);