

JB

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

JB/T 8734.4-2012

Replacing JB/T 8734.4-1998

**Polyvinyl chloride insulated cables and wires and cords of
rated voltages up to and including 450/750V - Part 4: Insulated
wires for internal wiring of equipment**

额定电压450/750V 及以下聚氯乙烯绝缘电缆电线和软线 第4部分：安装用电线
(English Translation)

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1 Scope

This Part of JB/T 8734 specifies the operating characteristics, models, specifications, technical requirements and inspection of wires for internal wiring.

This Part applies to copper core polyvinyl chloride insulated wires for internal wiring of electric appliance, instrument, electronic equipment and automation equipment of AC rated voltage U0/U up to and including 300/300V.

2 Normative references

The articles contained in the following documents have become part of this document when they are quoted herein. For the dated documents so quoted, all the modifications (Including all corrections) or revisions made thereafter shall be applicable to this document.

GB/T 2951.11-2008 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 - Tests for determining the mechanical properties

GB/T 2951.12-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 12: Methods for general application - Thermal ageing methods

GB/T 2951.13-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 13: Methods for general application - Measurement for determining the density - Water absorption tests - Shrinkage test

GB/T 2951.14-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 14: Methods for general application - Test at low temperature

GB/T 2951.31-2008 Common test methods for insulating and sheathing materials of electric and optical cables - Part 31: Methods specific to PVC compounds - Pressure test at high temperature - Test for resistance to cracking

GB/T 2951.32-2008 Common test methods for insulating and sheathing materials of

JB/T 8723.4-2012 electric and optical cables - Part 32: Methods specific to PVC compounds - Loss of mass test - Thermal stability test

GB/T 5023.2-2008 Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V - Part 2: Test methods

GB/T 18380.12-2008 Test on electric and optical fibre cables under fire conditions -

Part 12: Test for vertical flame propagation for a single insulated wire or cable -

Procedure for 1kW pre-mixed flame

GB/T 18380.22-2008 Tests on electric and optical fibre cables under fire conditions -

Part 22: Test for vertical flame propagation for a single small insulated wire or cable -

Procedure for diffusion flame

JB/T 8734.1-2012 Polyvinyl chloride insulated cables and wires and cords of rated voltages up to and including 450/750V - Part 1: General requirements

3.1

Cable's rated voltage U_0/U is 300/300V.

3.2

Allowable long-term working temperature of AV-90, AVR-90 type wires shall not exceed 90°C. Allowable long-term working temperature of other types wires and cables shall not exceed 70°C.

Note: When the operating environment of wires can prevent thermoplastic flow and allow reducing insulation resistance, for the polyvinyl chloride compound which can be used continuously at 90°C, its working temperature can be increased to 105°C, on the premise of shortening the total working hours.

4 Models

Wires and cables' models are shown in Table 1.

2.1

Structure inspection T, S T, S T, S T, S T, S T, S

Normal eyesight inspection 2.2 Conductor - conduction test R R R R R R JB/T 8734.1-2012
5.5

23 Insulation thickness T, S T, S T, S T, S T, S T, S GB/T 5023.2-2008 1.9 2.4 Sheath
thickness - - - - T, S - GB/T 5023.2 2008 1.10

2.5 External diameter or appearance

dimension

T, S T, S T, S T, S T, S T, S GB/T 5023.2-2008 1.11

2.6 Ovality - - - - T, S - GB/T 5023.2-2008 1.11

3

Mechanical properties of the insulation 3.1 Tension test before aging T T T T T T GB/T
2951.11-2008 9.1 3.2 Tension test after aging T T T T T T GB/T 2951.12-2008 8.13.1
GB/T 2951.11-2008 9.1

4 Insulation thermal shrinkage test T T T T T T GB/T 2951.13-2008

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Mechanical properties of the sheath 5.1 Tension test before aging - - - - T - GB/T
2951.11-2008 9.2 5.2 Tension test after aging - - - - T - GB/T 2951.12-2008 8.1.3.1
GB/T 2951.11-2008 9.2

6.2 Sheath - - - - T - GB/T 2951.31-2008 8.2

7

Low temperature flexibility and shock strength

7.1 Insulation low temperature winding

test

T T T T T T GB/T 2951.14-2008 8.1

7.2 Sheath low-temperature winding

test

- - - - T - GB/T 2951.14-2008 8.2

7.3 Sheath low-temperature Tension

test

- - - - T - GB/T 2951.14-2008 8.4

7.4

Finished wires and cables - low temperature shock test

- - - - T - GB/T 2951.14-2008 8.5

8.2 Sheath - - - - T - GB/T 2951.31-2008 9.2

9

Mechanical strength test of finished wires and cables 9.1 Insulated cores tear off test - - T -
- - JB/T 8734.1-2012 5.4

10 Flame non-propagation test T T T T T T GB/T

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18380.12-2008

GB/T 18380.22-2008

11

Mark - rubbing resistance inspection

T, S T, S T, S T, S T, S T, S GB/T 5023.2-2008 1.8

12 Thermal stability test - - - - T GB/T 2951.32-2008

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