

JB

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

JB/T 8734.5-2012

Replacing JB/T 8734.5-1998

**Polyvinyl chloride insulated cables and wires and cords of
rated voltages up to and including 450/750V - Part 5: Screened
wires**

额定电压450/750V 及以下聚氯乙烯绝缘电缆电线和软线 第5部分：屏蔽电线
(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 screened wires and cables.

This Part applies to copper core polyvinyl chloride insulated screened wires that are used in 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 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

The rated voltage U_0/U of wires and cables is 300/300V.

3.2

Allowable long-term working temperature of AVP-90, RVP-90 type wires and cables 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.

6.2 Conductor

Core-number and structure of conductor shall comply with the provisions in Table 3 - Table 7.

6.3 Insulation

The insulation wrapped on the conductor shall be polyvinyl chloride compound with the following codes:

- PVC/E: AVP-90, RVP-90-type wires;
- PVC/C: AVP-type wires;
- PVC/D: Other models of wires and cables.

Insulation thickness shall comply with the values specified in Table 3 - Table 7.

Insulation resistance shall not be less than the values specified in Table 3 - Table 7.

6.4 Insulated core cabling

An insulated core of 2-core-and-above round wires shall be twisted into cable. The outermost layer is twisted to right direction.

Finished cable's interspace can be separately filled or filled with sheath, but any filler shall not adhere to the insulation cores.

6.5.1

AVP, RVP and AVP-90, RVP-90 type wires are windingly-screened with tinned flexible round copper wires. Diameter of tinned round copper wires shall comply with provisions in Table 3 and Table 4.

6.5.2

RVVP and RVVPS type cables are windingly-screened with flexible round copper wires or tinned flexible round copper wires. RVVP1 type cables are windingly-screened with flexible round copper wires or tinned flexible round copper wires. Diameter of flexible round copper wires or tinned flexible round copper wires shall comply with the provisions of Table 5, 6 and

7.

The winding-screening of single-core wire adopts single-layer and right-direction uniform winding. For wires with 2-core-or-above, its winding screening shall be double-layers and reverse-direction (first left, then right) uniform winding.

6.5.3

Before and after applying the screening, it is allowed to wrap the thin film tape.

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

Flame non-propagation test

T T T T GB/T18380.12-2008

10

Mark - rubbing resistance inspection

T, S T, S T, S T, S GB/T5023.2-2008 1.8

11 Thermal stability test - - - T GB/T2951.32-2008 Chapter 9

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