

HJ

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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**Technical requirement for environmental labeling products.
Electrical wire and cable**

环境标志产品技术要求 电线电缆

(English Translation)

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Table of Contents

Foreword

1 Scope of application

2 Normative references

3 Terms and definitions

3.1 Wire and cable wire and cable

3.2 Halogen free halogen free

3.3 Low smoke low smoke

4 Basic requirements

5 Technical content

5.1 Requirements for toxic and hazardous substances in products

5.2 Halogen free requirements for the product

5.3 Low smoke requirements for the product

5.4 Toxicity requirements of the product

5.5 Product's combustion characteristics requirements

6 Test methods

Foreword

In order to implement the Environmental Protection Law of the People's Republic of China, guide wire and cable to protect the environment during design, production process and use.

To protect human health, this standard has been formulated.

This standard specifies the requirements for harmful substances, halogen-free, low-smoke, toxicity, and combustion of wires and cables.

This standard is the first release.

This standard applies to China Environmental Labeling Product Certification.

This standard was formulated by the Science and Technology Standards Department of the Ministry of Environmental Protection.

This standard is mainly drafted by. Environmental Development Center of the Ministry of Environmental Protection, National Wire and Cable Quality Supervision and Inspection Center, Jiangsu Middle Coal Cable Co., Ltd., Wuxi Jiangnan Cable Co., Ltd., Qingdao Han Cable Co., Ltd., Tianjin Plastic Cable Group Co., Ltd.

Company, Ningbo Ball Crown Cable Manufacturing Co., Ltd., Zhongyong Cable Electric Group Co., Ltd., Shanghai Sirui Polymer Technology Co., Ltd.

Shandong Luqiang Cable (Group) Co., Ltd., Xingle Group Co., Ltd.

This standard was approved by the Ministry of Environmental Protection on December 22, 2010.

This standard has been implemented since February 1, 2011.

This standard is explained by the Ministry of Environmental Protection.

Environmental Labeling Products Technical Requirements Wire and Cable

1 Scope of application

This standard specifies the terms and definitions, basic requirements, technical content and test methods for wire and cable environmental labeling products.

This standard applies to all types of wire and cable products.

2 Normative references

The contents of this standard refer to the terms in the following documents. For undated references, the valid version applies to this standard.

GB/T 12706.1-2008 rated voltage 1kV ($U_m=1.2kV$) to 35kV ($U_m=40.5kV$) extruded insulated power cable and Annex Part 1. Rated voltages 1kV ($U_m=1.2kV$) and 3kV ($U_m=3.6kV$) cables GB/T 17650.1-1998 Test methods for gases emitted from burning of cables or cables - Part 1 Measure GB/T 17650.2-1998 Test methods for gases emitted from burning of cables or cables - Part 2. Measuring pH Value and conductivity to determine the acidity of the gas GB/T 17651.2-1998.Determination of the density of smoke burning in certain conditions - Part 2. Test procedures and requirements GB/T 18380.12-2008 Burning tests for cables and cables under fire conditions - Part 12. Single insulated wire and cable flames Vertical spread combustion method 1kW premixed flame test method GB/T 18380.22-2008 Burning tests for cables and cables under fire conditions - Part 22. Single insulated wire and cable fire Flame vertical propagation combustion method diffusion type flame test method GB/T 19666-2005 General rules for fire-retardant and fire-resistant wires and cables GB/T 20285-2006 Material toxicity classification SJ/T 11365-2006 Methods for the detection of toxic and hazardous substances in electronic information products

3 Terms and definitions

The following terms and definitions apply to this standard.

3.1 Wire and cable wire and cable

A wire product used to transmit electrical energy or communication signals. Usually a collection of one or more lines Cores, as well as cladding, insulating, total protective and outer sheaths that they may each have.

3.2 Halogen free halogen free

Wire and cable are halogen-free and the combustion products are less corrosive. (GB/T 19666-2005)

3.3 Low smoke low smoke

When the wire and cable are burned, less smoke is generated, that is, the light transmittance (visibility) is high. (GB/T 19666-2005)

4 Basic requirements

4.1

Product quality should meet the requirements of the corresponding product quality standards.

4.2

Pollutant emissions from product manufacturing enterprises shall comply with the requirements of national or local pollutant discharge standards.

4.3

Product manufacturers should strengthen clean production in the production process.

5.1 Requirements for toxic and hazardous substances in products

5.1.1

Asbestos fibers shall not be included in the filler material used in the product.

5.1.2

The limits for toxic and hazardous substances in non-metallic materials (including paints for painted steel strips) used in products shall comply with the requirements of Table 1.

Table 1 Limits of toxic and hazardous substances in products. mg/kg

Species limit

Lead (Pb) ≤ 1000

Mercury (Hg) ≤ 1000

Separate (Cd) ≤ 100

Hexavalent chromium (Cr 6) ≤ 1000 Polybrominated biphenyl (PBB) ≤ 1000

Polybrominated diphenyl ethers (PBDEs, excluding decabromodiphenyl ether) ≤ 1000

5.2.1 Acid gas content

The bromine and chlorine content (expressed as HCl) must not exceed 0.5%.

5.2.2 Fluorine content

The fluorine content should not exceed 0.1%.

5.2.3 PH and conductivity

5.2.3.1

The gas pH of the product when burning shall not be less than 4.3.

5.2.3.2

The gas conductivity of the product during combustion shall not exceed 10 $\mu\text{S}/\text{mm}$.

5.3 Low smoke requirements for the product

When the product is burned to produce flue gas, the minimum light transmittance of the flue gas shall not be less than 60%.

5.4 Toxicity requirements of the product

When the product is burned to produce flue gas, the smoke toxicity should meet the requirements of Table 2.

Table 2 Product smoke toxicity requirements

Project Requirements Note 1 no anesthesia in the anesthetized experimental mice during the 30min exposure period (including within 1 hour after exposure) Immune experimental mice recovered their average body weight 3 days after exposure

Note 1: When the material combustion smoke concentration is greater than or equal to 12.4mg/L

5.5 Product's combustion characteristics requirements

The vertical burning performance of a single wire and cable shall be in the range of 50mm ~ 540mm at the lower edge of the upper clamp when the burnt portion is burned.

within.