

ICS 25.180.10
CCS K 61



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

GB/T 32348.1-2015

**Electrical resistance trace heating systems for industrial and
commercial applications -- Part 1: General and testing
requirements**

工业和商业用电阻式伴热系统 第1部分：通用和试验要求
(English Translation)

Issued on: December 31, 2015

Implemented on: July 1, 2016

Issued by: Standardization Administration of China

Table of Contents

Introduction

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 General requirements

4.1 General requirements

4.2 Conductive jacket

4.3 Branch circuit protection circuit of claim

4.4 Temperature Requirements

4.4.1 General requirements

4.4.2 Steady Design

4.4.3 Controlled Design

5 Test

5.1 General requirements for type testing ---

5.2 Type test --- 7 for all applications

5.2.1 Insulation voltage test

5.2.2 Insulation Resistance Test

5.2.3 Flammability Test

5.2.4 Impact test at room temperature

5.2.5 Minimum temperature shock test

5.2.6 Deformation test

5.2.7 13 cold bend test

5.2.8 Water Test

5.2.9 Integral member 14 water test

5.2.10 Rated output power verification

5.2.11 Thermal stability of the insulating material

5.2.12 In parallel with the heat thermal performance test

5.2.13 Determination of maximum sheath temperature

5.2.14 Starting current verification

5.2.15 Verification resistance conductive jacket

5.2.16 Connections (joints) to eliminate stress test

5.3 Type test --- the surface layer of the non-insulated outdoor exposure test additional heating device

5.3.1 Rated output power verification

5.3.2 Determination of maximum sheath temperature of

5.3.3 Enhanced moisture resistance test

5.3.4 Ultraviolet (UV) Test

5.3.5 Cutting test resistance

5.3.6 Wear Test

5.3.7 Tensile Test

5.3.8 Test peak voltage rail system

5.3.9 Rail system over-voltage test

5.4 Type test --- embedded heating additional tests and test applications amendment

5.4.1 Rated output power verification

5.4.2 Determination of maximum sheath temperature

5.4.3 Cutting test resistance

5.4.4 Flammability Test

--- 5.5 Type test tubes and pipes for internal heating applications Additional tests

5.5.1 Rated output power verification

5.5.2 Determination of maximum sheath temperature

5.5.3 Enhanced moisture resistance test

5.5.4 Tensile Test

--- 5.6 Type test of sprinkler systems additional requirements

5.6.1 Normal and abnormal operation test

5.6.2 Running test

5.6.3 Abnormal operation test

5.7 Routine tests

5.7.1 Insulation voltage test

5.7.2 Rated output power verification

6 Nameplate

29 6.1 General Requirements

6.2 Nameplate

7 Installation instructions

References

5 13 cold bend test

6 Proof test

7 16 rated output power verification

8 19 test tubes

9 20 board-mounted test

Foreword

GB/T 32348 "for industrial and commercial use resistive heating system" is divided into the following two parts.

--- Part 1. General and testing requirements;

--- Part 2. system design, installation and maintenance applications guide.

This section GB/T Part of 132,348.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section uses the translation method is equivalent to using IEC 62395-1:2013 "industrial and commercial resistance trace heating systems - Part 1. General and Test requirements. " Consistency correspondence between this part of international documents and normative references of our files are as follows.

--- GB/T 2423.24 Environmental testing - Part 2. Test methods - Test Sa. solar radiation and its test on the analogue terrestrial Guideline (GB/T 2423.24-2013, IEC 60068-2-5:2010, IDT);

--- GB 5959.1 electric safety devices - Part 1. General requirements (GB 5959.1-2005, IEC 60519-1:2003, IDT);

--- GB/T 5959.10 Part 10 security electric apparatus. Particular requirements for industrial and commercial use resistive heating system (GB/T 5959.10-2015, IEC 60519-10:2013).

For ease of use, this part of IEC 62395-1:2013 made the following editorial changes.

--- Delete foreword international standards;

--- "This standard" be replaced by "of this section." this part is proposed by the China Electrical Equipment Industrial Association.

This part of the National Electric Equipment Industry Standardization Technical Committee (SAC/TC121) centralized.

This section is drafted. Xi'an Institute Furnace Co., Pentair Thermal Control Technology (Shanghai) Co., Ltd., Wuhu Jia-hong new materials Limited, Shanghai's new crown with hot Engineering Limited, Ampang Electric Group Co., Ltd., Wuhu City Branch Shenyang Electric Materials Co., Ltd., Bo too Branch explosion-proof equipment (Shanghai) Co., Ltd.

Introduction

This section provides the basic requirements and test methods for industrial and commercial use resistive heating device suitable. While some of the content in this section Already exists in some national or international standards, but this part of the existing standards were consolidated and adds a lot of content.

GB/T 32348.2-2015 provides detailed recommendations for industrial and commercial electricity heating system design, installation and maintenance.

Objective GB/T 32348 is through the following provisions, the resistance trace heating systems in normal use, should be able to use under the conditions specified in its Safe for work.

a) the use of rational structure of the heater and meet the test criteria specified in detail in this section. This structure includes a metal sheath, braid Layer shielding conductive jacket or equivalent;

b) in the design, installation and maintenance, according to GB/T 32348.2-2015 its work on a safe temperature;

c) at least a minimum level of overcurrent and earth fault protection in this section and GB/T 32348.2-2015 requirements.

Industrial and commercial use resistive heating system Part 1. General and testing requirements

1 Scope

GB/T 32348 provisions of this part of the resistive heating system requirements, including general testing requirements.

This section applies heat tracing systems include factory-assembled or on-site (site) assembled units, it may be already set in accordance with the manufacturer's instructions Loading and/or in series and in parallel with the hot surface of the heater or terminated (with heating pads and hot plate).

This section also includes a method for terminating components and control systems with the use of heat tracing requirements.

This section provides the basic requirements and test methods for industrial and commercial use resistive heating device suitable. Under this section by the certified products Have received appropriate technical training of personnel to install, and can only be done by specially trained key personnel, such as joints and terminations the mounting member. Installation should be carried out under the supervision of highly resistive heating system additional training of qualified personnel.