

ICS 25.180.10
CCS K 61



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

GB/T 5959.10-2015

**Safety in electro-heating installations -- Part 10: Particular
requirements for electrical resistance trace heating systems for
industrial and commercial applications**

电热装置的安全 第10部分：对工业和商业用电阻式伴热系统的特殊要求
(English Translation)

Issued on: December 31, 2015

Implemented on: July 1, 2016

Issued by: Standardization Administration of China

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Reference

Foreword

"Safety of electric devices" has the following 13 sections.

--- Part 1. General requirements;

--- Part 2. Particular requirements for arc furnace apparatus;

--- Part 3. Particular requirements for induction and conduction heating and induction melting apparatus means;

--- Part 4. Particular requirements for resistance heating apparatus;

--- Part 41. Particular requirements for resistance heating equipment --- glass heating and melting apparatus;

--- Part 5. Particular requirements for plasma unit;

--- Part 6. Industrial microwave heating equipment safety regulations;

--- Part 7. A device having an electron gun of special requirements;

- Part 8. Particular requirements for electroslag remelting furnaces;
- Part 9. Particular requirements for high-frequency dielectric heating apparatus;
- Part 10. Particular requirements for industrial and commercial use resistive heating system;
- Part 11. Particular requirements for liquid metal electromagnetic force device;
- Part 13. Electric apparatus for explosive atmosphere of special requirements.

In addition to this series, Part 13 standard, but are used IEC 60519 "Safety of electric devices" each part of the development of corresponding.

This section 10, in conjunction with Part 1.

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

This section identical with IEC 60519-10:2013 "Safety in electroheat installations Part 10. The industrial and commercial resistance trace heating system Particular requirements for the system "(second edition, in English).

Consistency correspondence between this part of international documents and normative references of our files are as follows.

- GB/T 32348.1-2015 industrial and commercial use - Part 1 resistive heating system. General requirements and test methods (IEC 62395-1:2013, IDT);
- GB/T 32348.2-2015 industrial and commercial resistance trace heating systems - Part 2. system design, installation and maintenance should with a guide (IEC 62395-2:2013, IDT).

For ease of use, the IEC 60519-10:2013, this section made the following editorial changes.

- International Standard Annex A reads "This annex is not applicable," it will be deleted.

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 Ltd. furnace, electric appliances factory in Wuxi City, famous, Anhui Electric Equipment Co., Ltd. Central Switzerland, BARTEC explosion-proof equipment (Shanghai) Co., Ltd., China Metallurgical Furnace Engineering Technology Center, the State Quality Supervision and Inspection Center Furnace.

Introduction

The purpose of this section is the following, the electrical heating system in normal use, should be safe under the conditions of use of its provisions run.

- a) the use of reasonable heater structure and meet the test standards IEC 62395-1

specified in detail;

b) in the design, installation and maintenance, in accordance with IEC 62395-2 to run on a safe temperature;

c) at least IEC 62395-1 and the lowest level of overcurrent and ground fault protection requirements of IEC 62395-2, as well as having a conductive Properties of the metal braid, jacket, or an equivalent conductive material.

Part 10 Electric safety devices. industrial and Commercial resistance trace heating systems
- Particular requirements

1 Scope

GB/T 5959 provisions of this part of the pipeline, container, roof, concrete slabs heating and other similar industrial and commercial applications Safety requirements for resistance trace heating systems.

This section applies to the heating system may include a factory-assembled or on-site (site) assembled units, and has been set in accordance with the manufacturer's instructions Loading and/or termination of the series and parallel heating cables, heating pad or heating plate.

Typical applications include, but are not limited to.

- a) pipes, tanks and tank containers, and including fire water system antifreeze;
- b) insulation equipment, including pipes, tanks and tank containers;
- c) geothermal storage;
- d) hot water heat;
- e) surface of the snow;
- f) roof and gutter de-icing.

This section does not include the application or do not provide any safety requirements in potentially explosive atmosphere.

This section does not involve induction, impedance or skin effect heating.

Note: The electric heating system of special requirements and testing standards and the design, installation and maintenance requirements, as detailed in IEC 62395-1 and IEC 62395-2.

This section provides general safety requirements for the installation of the heating system and a single circuit, operation and maintenance as well as heating system design.

These safety precautions related to the protection of people and the environment from harm by the electric and non-electric certain factors, applicable to all types of set

Equipment and devices.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

IEC 60519-1:2010 Safety of electric devices - Part 1. General requirements
(Safety in electroheating installations - Part 1. General requirements) IEC 62395-1 for industrial and commercial resistance trace heating systems - Part 1. General requirements and test methods (Electrical
resistance trace heating systems for industrial and commercial applications - Part 1. General and testing requirements) System design, installation and maintenance Application Guide. IEC 62395-2 industrial and commercial heating systems - Part 2 Resistance trace
(Electrical resistance trace heating systems for industrial and commercial applications - Part 2. Application guide for system design, installation and maintenance)

3 Terms and Definitions

IEC 60519-1:2010 and defined the following terms and definitions apply to this document.