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

GB/T 33588.2-2020

Replacing GB/T 33588.2-2017

**Lightning protection system components (LPSC) - Part 2:
Requirements for air-termination systems, down-conductors
and earth electrodes**

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Foreword

GB/T 33588 "Lightning Protection System Components (LPSC)" consists of the following 7 parts.

- Part 1.Requirements for connectors;
- Part 2.Requirements for air-termination, down conductor and grounding electrode;
- Part 3.Requirements for Isolation Discharge Gap (ISG);
- Part 4.Fastener requirements for conductors;
- Part 5.Requirements for grounding electrode detection box and grounding electrode sealer;
- Part 6.Requirements for Lightning Strike Counter (LSC);
- Part 7.Requirements for grounding resistance-reducing materials.

This part is Part 2 of GB/T 33588.

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

This part replaces GB/T 33588.2-2017 "Lightning Protection System Components (LPSC) Part 2.Requirements for Conductors and Earthing Electrodes",

Compared with GB/T 33588.2-2017, the main technical changes are as follows.

- Deleted the term "air-termination rod (wire, belt)" (see 3.2 in the.2017 edition);
- Added the terms "air-termination rod" and "air-termination line (band)" (see 3.2 and 3.3);
- Modified the requirements of mechanical and electrical characteristics and merged them into one table (see Table 2, Table 2 and Table 4 of the.2017 edition);
- Added the specific method of covering layer thickness test (see 5.2.2);
- Modified the environmental and electrical and tensile strength tests of the ground rod connections (see 5.4.3, 5.4.4 and 5.4.5, 5.4.3 in the.2017 edition);
- Added Appendix B "Electrical Test";
- Deleted the.2017 edition of Appendix D "Typical Examples of Conductor Resistivity Calculation" and Appendix E "Typical Tensile Strength of Overlay Materials"

Type calculation example".

The translation method used in this part is equivalent to the adoption of IEC 62561-2.2018

“Lightning Protection System Components (LPSC) Part 2. Conductor and Connection

The requirements of the earth.

The Chinese documents that have a consistent correspondence with the international documents cited in this section are as follows.

---GB/T 228.1-2010 Tensile test of metallic materials Part 1. Room temperature test method (ISO 6892-1.2009,

MOD);

---GB/T 4956-2003 Magnetic method for measuring the thickness of the non-magnetic coating on the magnetic substrate (ISO 2178.1982,

IDT);

---GB/T 21714.3-2015 Lightning Protection Part 3. Physical damage to buildings and danger to life (IEC 62305-3.

2010, IDT);

---GB/T 21714.4-2015 Lightning Protection Part 4. Electrical and Electronic Systems in Buildings (IEC 62305-4.2010,

IDT).

This section has made the following editorial changes.

--- Amend the standard name to "Lightning Protection System Components (LPSC) Part 2. Requirements for Air-termination, Down-conductor and Grounding Electrodes";

---Incorporated technical errata IEC 62561-2.2018/COR1.2019;

---Added notes in "Scope", 3.1, 3.7, 3.8, 5.1;

---According to the actual situation in our country, footnote g and footnote h in Table 3 have been deleted.

Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents.

This part was proposed and managed by the National Standardization Technical Committee for Lightning Protection (SAC/TC258).

Drafting organizations of this section. Sichuan Zhongguang Lightning Protection Technology Co., Ltd., China Academy of Information and Communications Technology, Tianjin Zhongli Lightning Protection Technology

Co., Ltd., Jiangsu Jinheyi Composite New Material Co., Ltd., Taizhou Guilong Lightning Protection Engineering Co., Ltd., China Association for Standardization.

Introduction

This part of GB/T 33588 relates to the lightning protection system (LPS) designed and installed according to the IEC 62305 series of standards.

Requirements and test methods for air-termination devices, down conductors and grounding electrodes.

Lightning Protection System Components (LPSC)

Part 2. Requirements for air-termination, down conductor and grounding electrode

1 Scope

This part of GB/T 33588 specifies the requirements and test methods for the following lightning protection system components.

---Metal conductors (non-"natural" conductors) that constitute the air-termination device and down conductor;

---The metal grounding pole that forms the grounding device.

Note. Non-"natural" conductors refer to specially designed air-termination or down conductors, rather than using natural metal parts (such as building steel bars, etc.), see 3.15 of GB/T 21714.3-2015.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

GB/T 2423.18-2012 Environmental test Part 2. Test method Test Kb. Salt spray, alternating (sodium chloride solution)

GB/T 9789-2008 Metal and other inorganic coatings, sulfur dioxide corrosion test under normal condensation conditions (ISO 6988.1985, IDT)

GB/T 33588.1-2020 Lightning Protection System Components (LPSC) Part 1. Requirements for Connectors (IEC 62561-1.2017, IDT)

ISO 2178 Non-magnetic coating layer thickness measurement on magnetic substrate magnetic method

ISO 6892-1 Tensile test of metallic materials Part 1. Room temperature test method

ISO 6957.1988 Ammonia fumigation test for stress corrosion resistance of copper alloys