

ICS 29.080.10

CCS K 48



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

GB/T 7253-2019

**Insulators for overhead lines with a nominal voltage above 1
000 V - Ceramic or glass insulator units for a.c. systems -
Characteristics of insulator units of the cap and pin type**

Issued on: December 10, 2019

Implemented on: July 1, 2020

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 terms and definitions
- 4 required characteristics

Foreword

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

This standard replaces GB/T 7253-2005 "Porcelain or glass for AC system of overhead line insulators with nominal voltage higher than 1000V

Characteristics of Insulator Disc-shaped Suspension Insulator Elements ", compared with GB/T 7253-2005, the main technical changes are as follows.

- Deleted the expression about DC insulators in the scope (see Chapter 1 of the.2005 edition);
- Updated normative references (see Chapter 2);
- Added Chapter 3 "Terms and Definitions" (see Chapter 3);
- Added "umbrella" as a characterization feature, and added Figure 1 to illustrate (see Chapter 4);
- Change the "minimum creepage distance" to "nominal creepage distance" (see Chapter 4);
- Modified the model representation (see Chapter 5);
- Modified the dimensional parameters of different umbrella products in Table 1, modified some mechanical or electrical strength grades, and added higher machine Electrical or mechanical strength rating (see Chapter 7);
- Modify and increase the size parameters of different umbrella products in Table 2 (see Chapter 7);
- Removed Appendix A (see Appendix A of the.2005 edition).

This standard uses the redrafting method to modify and adopt IEC 60305..1995

Characteristics of disc-shaped suspension insulator elements of porcelain or glass insulator

elements for flow systems.

Compared with IEC 60305..1995, this standard adds Chapter 3 "Terms and Definitions" to the structure, and the remaining chapters are numbered successively.

A picture (Figure 1).

There are technical differences between this standard and IEC 60305..1995. The clauses related to these differences have passed the margins on the outer margins.

The installed vertical single line (l) is identified, and a list of corresponding technical differences and their causes is given in Appendix A.

This standard was proposed by the China Electrical Equipment Industry Association.

This standard is under the jurisdiction of the National Insulator Standardization Technical Committee (SAC/TC80).

This standard was drafted. Xi'an High Voltage Apparatus Research Institute Co., Ltd., China Electric Power Research Institute Co., Ltd., Southern Power

Network Science Research Institute Co., Ltd., Dalian Electric Porcelain Group Transmission and Transformation Material Co., Ltd., Suzhou Electric Porcelain Factory Co., Ltd., China Energy

Construction Group Co., Ltd., State Grid Economic and Technical Research Institute Co., Ltd., NGK Tangshan Electric Porcelain Co., Ltd., Sichuan Yibin Global Group

Co., Ltd., Nanjing Electrical Insulator Co., Ltd., General Electric Power Planning and Design Institute, Inner Mongolia Jingcheng High Voltage Insulator Co., Ltd., China Electric Power

East China Electric Power Design Institute of Engineering Consulting Group, State Grid Zhejiang Electric Power Co., Ltd. Electric Power Research Institute, Sadieville Glass Insulator (Shanghai)

Co., Ltd., Chongqing University, Guangzhou Maikeling Power Equipment Co., Ltd., Pingxiang Best Electric Co., Ltd., Pingxiang Huawei Electric Porcelain Technology Co., Ltd.

Co., Ltd., Zhejiang Tailun Insulator Co., Ltd., Sanrui Technology Jiangxi Co., Ltd.

1 Scope

This standard specifies the main mechanical characteristics and main dimensions of disc-shaped suspension insulator string components.

This standard applies to AC overhead lines with a nominal voltage higher than 1000V and a frequency not exceeding 100Hz. The insulation is made of porcelain or glass.

Disc-shaped suspension insulator string elements, the connection structure of these insulator string elements is ball and socket connection or groove connection, also suitable

for substation use

Insulator of similar structure.

The disc-shaped suspension insulator string elements to which this standard applies are used for cleaning and polluted areas of overhead lines. The selection and size of these insulator

See GB/T 26218.1-2010 and GB/T 26218.2-2010.

Ceramic or glass insulator string components for DC overhead lines can refer to this standard.

This standard does not specify electrical characteristics such as power frequency, lightning impulse, and breakdown withstand voltage of disc-shaped suspension insulator string components. GB/T 1001.1-

Chapters 13, 14, 15, and 33 of 2003 set out the requirements for the electrical characteristics of insulator string components.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article

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

GB/T 1001.1-2003 Insulators for overhead lines with a nominal voltage higher than 1000V Part 1. Porcelain or glass for AC systems

Insulator component definition, test method and judgment criteria (IEC 60383-1..1993, MOD)

GB/T 2900.8-2009 Insulators for electrical terms (IEC 60050-471..2007, IDT)

GB/T 4056-2019 Ball and socket connection dimensions for insulator string components (IEC 60120. 1984, MOD)

GB/T 25317-2010 Slot connection dimensions for insulator string components (IEC 60471. 1977, IDT)

GB/T 26218.1-2010 Selection and sizing of high-voltage insulators used in contaminated conditions. Part 1. Definitions and information

And general principles (IEC /T S60815-1..2008, MOD)

GB/T 26218.2-2010 Selection and sizing of high-voltage insulators used in contaminated conditions. Part 2. For AC systems

Porcelain and glass insulators (IEC /T S60815-2..2008, MOD)

JB/T 9683-2012 Insulator Product Modeling Method

3 terms and definitions

GB/T 2900.8-2009, GB/T 1001.1-2003, GB/T 26218.1-2010, GB/T 26218.2-2010

Terms and definitions apply to this document.

4 required characteristics

The specified characteristics of the disc-shaped suspension insulator string element are characterized as follows.