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

GB/T 21421.2-2014

Replacing GB/T 20876.2-2007

**Composite string insulator units for overhead lines with a
nominal voltage greater than 1 000V -- Part 2: Dimensional and
characteristics**

标称电压高于1 000V 的架空线路用复合绝缘子串元件 第2部分：尺寸与特性
(English Translation)

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Foreword

GB/T 21421 "nominal voltage above 1000V overhead lines Composite string insulator element" is divided into two parts.

--- Part 1. Standard strength classes and end fittings;

--- Part 2. Dimensions and characteristics.

This section GB/T 21421 Part 2.

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

This Part replaces GB/T 20876.2-2007 "greater than 1000V nominal voltage overhead lines with a suspension element of composite insulators Part 2. Dimensional and electrical characteristics ", compared with the GB/T 20876.2-2007, in addition to editorial changes and technological changes outside the following main reasons.

--- GB/T 20876.2-2007 Chapter 3, "mechanical and dimensional characteristics," Chapter 4, "Electrical Characteristics" and Chapter 7, "tolerance" belong Characteristics section insulator string element, this section will merge to Chapter 5; identification string insulator element does not belong in this section Capacity, and thus remove the GB/T 20876.2-2007 of Chapter 6;

--- Order and GB/T 21421 Part 1 corresponds, is consistent with the IEC and the corresponding text, this section renumbered GB/T 21421.2;

Name --- this section was revised to "higher than 1000V nominal voltage overhead lines Composite string insulator units - Part 2. Size Inch and Characteristics ";

--- Scope of this section from a predetermined mechanical load 40kN ~ 400kN modified to 40kN ~ 530 (550) kN, standard lightning impulse Strike withstand voltage level and below to extend from 2700kV 3100kV and below;

--- Added "Chapter 3 Terms and definitions";

--- Establishment method according to JB/T 9683-2012 lists the basic model of the insulator;

--- To meet the GB/T 26218.1-2010 provisions of five unified creepage distance classification, characteristics table deleted the minimum creepage distance, Chapter 5 adds "insulator creepage distance rating in accordance with the unified GB/T 26218.1-2010 Table I.1 specified creepage Distance determination, "the statement, delete the GB/T 20876.2-2007 Appendix A." Information about the creepage distance ";

--- As one of the radio disturbance characteristics electrical characteristics of the insulator, and its value agreement by both parties;

--- Given the GB/T 21421.1-2008 earrings shaped table joins and table D.1 1 can not meet the needs of this part of the increase or repair After the change the content to be included in Tables 2 and 3 of this section of the text;

--- For ease of understanding, increase earrings shaped coupling structure illustrated;

--- Remove Appendix B;

For the same reason --- standard lightning impulse withstand voltage levels may correspond to the maximum operating voltage of several systems, in order to avoid the resulting induced Solutions difficulty, remove the informative Appendix C.

This section uses redrafted law revision using IEC 61466-2:2002 "nominal voltage above 1000V overhead lines with a composite insulation Part 2 substring elements. size and characteristics. " this section and the IEC 61466-2:2002, compared with the main technical differences are as follows, and a single vertical line in which they are involved in terms of page Margin identity.

--- Size characteristics, "the maximum diameter of the insulating member" with "maximum nominal diameter insulating member";

--- Size characteristics, an increase of about "tolerance" requirement;

--- Consider the large number of our products with 400kN and 530kN and 550kN 420kN respectively actual use of the product evaluation, Respectively after a predetermined level

of mechanical load 400kN and 530kN and 420kN listed in parentheses 550kN level;

--- Standard lightning impulse voltage reference GB 311.1-2012 included;

--- Table 1, because the narrative already expressed, remove the mechanical strength class and the minimum creepage distance columns; adds standard lightning Impulse withstand voltage 1050kV above the line.

IEC 61466-2:2002 Chapter 3, "Mechanical and dimensional characteristics," Chapter 4, "Electrical Characteristics" and Chapter 7, "tolerance" belong insulator Characteristics partial string element, this section will merge to Chapter 5; identification string insulator element does not belong to the contents of this standard, and thus deleted IEC 61466-2:2002 Chapter 6; For ease of comparison, the increase in Appendix A, this section lists the reg number and IEC 61466-2:2002 Reg number control list.

This part is proposed by the China Electrical Equipment Industrial Association.

The insulators in part by the National Standardization Technical Committee (SAC/TC80) centralized.

This part mainly drafted by. Xi'an High Voltage Apparatus Research Institute Co., Ltd., China Electric Power Research Institute, the National Insulator arrester is Quality Supervision and Inspection Center, the Guangdong Power Grid Corporation, Rugao City Health Line Equipment Co., Ltd. Guangzhou Power McLean, Xinjiang New Energy Tinian Electrical Insulation Materials Co., Dalian Insulator Group Co., Ltd., Chongqing University, China Power Engineering Consulting Group Corporation.

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1 Scope

This section GB/T 21421 specifies the string composite insulators for overhead lines and overhanging elements Tension (hereinafter referred to as insulator) ruler Inch, mechanical and electrical properties.

This section applies to a nominal voltage above 1000V, frequency not exceeding 100Hz ac overhead lines with insulators.

This section also applies to insulators power substation or traction lines use similar structures.

This section applies to the coupling structure according to GB/T 21421.1-2008 Insulators.

GB/T 19519-2014 given general definitions and test methods.

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.

GB 311.1-2012 insulation coordination - Part 1. Definitions, principles and rules (IEC 60071-1:2006, MOD) GB/T 2900.8-2009 Electrotechnical terminology insulator (IEC 60050-471:2007, IDT) GB/T 4056-2008 insulator ball and socket connection string element size (IEC 60120. 1984, IDT) GB/T 19519-2014 Insulators for overhead lines nominal voltage above 1000V ac systems Suspension and tension composite insulation Sub-definitions, test methods and acceptance criteria (IEC 61109:2008, MOD) GB/T 21421.1-2008 higher than 1000V nominal voltage overhead lines Composite string insulator units - Part 1. Standard Strong Grade and end fittings (IEC 61466-1:1997, IDT) GB/T 22079-2008 nominal voltage greater than 1000V indoor and outdoor use polymer insulators General definitions, test side Method and acceptance criteria (IEC 62217:2005, MOD) GB/T 25317-2010/IEC 60471. 1977 string insulator groove connection size by GB/T 26218.1-2010 Insulators filthy conditions selection and sizing - Part 1. Definitions, information and general principles (IEC/T S60815-1.2008, MOD) by GB/T 26218.3-2011 Insulators filthy conditions selection and sizing Part 3. Communication systems Composite insulators (IEC/T S60815-3.2008, MOD) JB/T 9683-2012 insulator Model methodology

3 Terms and Definitions

GB/T 2900.8-2009, GB/T 22079-2008, GB/T 19519-2014, JB/T 9683-2012 defined terms and definitions Meaning applicable to this document.