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

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Guidance for determination of clearances, creepage distances and requirements for solid insulation for equipment with a rated voltage above 1 000 V AC and 1 500 V DC, and up to 2 000 V AC and 3 000 V DC.

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents"

Drafting:

This document is equivalent to IEC TS62993:2017 "Determination of rated voltage above 1000V AC to:2000V, DC 1500V

Guide to the values of electrical clearances and creepage distances for equipment between 3000V and above and to the requirements for solid insulation:

The technical specifications are adjusted to become guiding technical documents for national standardization in my country:

Introduction

This document provides a smooth transition from low voltage (not exceeding 1000 V ac and 1500 V dc) as specified in IEC 60664 (all parts):

The additional insulation coordination for the transition to high voltage (IEC 60071-1 gives a range greater than 1000V, but the regulations given all start from 3600V)

The IEC 60071-1 standard does not contain provisions for personal safety requirements, and IEC 60071-1 does not provide creepage distance values:

Because many standard committees require the voltage range of AC 1000V to:2000V and DC 1500V to 3000V to be given:

This document is specially formulated to determine the electrical clearances, creepage distances and solid insulation methods for equipment within the enclosure:

This document does not intend to extend the upper limit of the low voltage range, which remains not more than 1000 V AC and 1500 V DC:

Make sure the rated voltage is above AC 1000V:

2000V, DC 1500V and above to 3000V

The values of electrical clearance and creepage distance between devices and guidance on solid insulation requirements

1 Scope

This document is a technical specification that provides technical committees with the criteria for determining rated voltages from 1000V to:2000V AC and 1500V DC:

Insulation coordination guide for equipment with rated voltage not exceeding 1000 V AC and 1500 V DC, and with higher

For insulation coordination equipment with a voltage of 100 V or lower internal voltage, see IEC 60664-1 for relevant requirements:

This document applies to equipment at altitudes up to:2000m and provides guidance for use at higher altitudes:

This document specifies the electrical clearances, creepage distances and solid insulation guidelines for equipment to meet safety requirements, including relevant electrical tests method:

NOTE: Since functional insulation requirements are not safety requirements, no corresponding provisions are made:

This document does not deal with the determination of the following distances:

---Insulation by liquid;

--- Passing gases other than air;

---By compressed air:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document:

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version

(including all amendments) applies to

This document:

GB/T 2423:2-2008 Environmental testing for electric and electronic products Part 2: Test methods Test B: High temperature (IEC 60068-2-2:

2007, IDT)

GB/T 2423:3-2016 Environmental testing Part 2: Test method Test Cab: Steady state damp heat test (IEC 60068-2-78:

2012, IDT)

GB/T 2423:22-2012 Environmental testing Part 2: Test method Test N: Temperature change (IEC 60068-2-14:

2009, IDT)

GB/T 16935:1-2023 Insulation coordination for equipment in low voltage power supply systems Part 1: Principles, requirements and tests

(IEC 60664-1:2020, IDT)

IEC 60068-2-78 Environmental testing Part 2-78: Test Cab: Steady state damp heat test (Environmenttesting-

Note: GB/T 2423:3-2016 Environmental testing Part 2: Test method Test Cab: Steady state damp heat test (IEC 60068-2-78:2012, IDT)

Note: GB/T 4207-2012 Determination of tracking resistance index and comparative tracking index of solid insulating materials (IEC 60112:2009, IDT)

IEC 61180:2016 High-voltage test technical definitions, test and procedure requirements, test equipment for low-voltage electrical equipment (High-