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

GB/T 15166.5-2022

Replacing GB/T 15166.5-2008

**High-voltage alternating-current fuse - Part 5: Application
directives for high-voltage fuse-links for motor circuit**

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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 part 5 of GB/T 15166 "High Voltage AC Fuses". GB/T 15166 has published the following parts.

- Part 1. Terminology;
- Part 2. Current-limiting fuses;
- Part 3. Spray fuses;
- Part 4. Fuses for external protection of shunt capacitors;
- Part 5. Guidelines for the selection of fuses for high-voltage fuses used in motor circuits;
- Part 6. Guidelines for the selection of fuses for high-voltage fuses for transformer circuits.

This document replaces GB/T 15166.5-2008 "High Voltage AC Fuses Part 5. Specifications for High Voltage Fuses Used in Motor Circuits"

Compared with GB/T 15166.5-2008, except for structural adjustment and editorial changes, the main technical changes in "Guidelines for Selection of Fuse Links" are as follows.

---Changed the relevant requirements in the case of "the intermediate rated current value specifies a higher K value than that determined by the interpolation method". (See

5.4, 3.1.3 of the.2008 edition);

---Changed the content in "Selection of fuses for motor circuits and correlation of fuse characteristics with characteristics of other components of the circuit"

Allow. (See Chapter 7, Chapter 4 of the.2008 edition)

This document is modified to adopt IEC 60644.2019 "Specification for High-Voltage Fuses for Motor Circuits".

Compared with IEC 60644.2019, this document has made the following structural adjustments.

--- The chapter "Terms and Definitions" has been added;

---Chapter 4 "Technical Requirements" has been added, and Chapter 3 "Time-Current Characteristics of Fuses" and Chapter 4 "K of IEC 60644.2019

Factor" and Chapter 5 "Tolerance Requirements" were adjusted to 4.1, 4.2, and 4.3 respectively, and the numbers of subsequent chapters were postponed.

The technical differences between this document and IEC 60644.2019 and their reasons are as follows.

--- According to the situation of my country's power grid, the applicable frequency range is modified from 50Hz and 60Hz to 50Hz (see Chapter 1).

The following editorial changes have been made to this document.

--- In order to coordinate with my country's technical standards, the name of the standard was changed to "High Voltage AC Fuses Part 5.High-voltage AC Fuses for Motor Circuits

"Guidelines for Selection of Fuse Elements for Pressure Fuse".

Please note that some contents of this document may refer to patents. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

High-voltage AC fuse products are widely used in power transmission and distribution systems with a nominal voltage of 3kV and above in my country, as well as in factories, mines, and small residents.

In the area, and as a protection device for lines, motors, transformers, fuses and other

equipment. In this regard, my country has issued GB/T 15166

"High Voltage AC Fuse" standard. GB/T 15166 aims to establish the design, rating, test and special use of high-voltage AC fuses

The criteria for occasion selection are proposed to be composed of 8 parts.

--- Part 1.Terminology. The purpose is to provide common terminology for the standards within the system.

--- Part 2.Current-limiting fuses. The purpose is to put forward normative requirements for high-voltage AC current-limiting fuses.

--- Part 3.Jet fuses. The purpose is to put forward normative requirements for high-voltage AC jet fuses.

--- Part 4.Fuses for external protection of shunt capacitors. The purpose is to provide the special work of the fuse for the external protection of shunt capacitors.

specific additional requirements.

--- Part 5.Guidelines for the selection of fuses for high-voltage fuses for motor circuits. The purpose is to protect the motor circuit

The special case of fuses imposes special additional requirements.

--- Part 6.Guidelines for the selection of fuses for high-voltage fuses for transformer circuits. The purpose is to protect the transformer circuit

The special case of fuses imposes special additional requirements.

--- Part 7.Guidelines for the selection of fuses for high-voltage fuses for voltage transformers. The purpose is to protect the voltage transformer

The special case of fuses imposes special additional requirements.

--- Part 8.Tutorials and application guidelines. The purpose is to guide the selection of fuses under different operating conditions.

High Voltage AC Fuses

Part 5.for motor circuits

Guidelines for Selection of Fuse Elements for High Voltage Fuses

1 Scope

This document specifies the technical requirements, type tests, information provided to users, etc.

content.

This document is mainly applicable to the fuses of the fuses used in the direct starting motors of 3kV and above, 50Hz AC system.

Note. This document is also applicable when the motor used has auxiliary starting, but attention should be paid to the selection of the rated current of the fuse, see IEC TR62655.2013

5.2.3, and consult the manufacturer of the fuse.

Fuses conforming to this document apply to IEC 60282-1 and are intended to withstand normal operating conditions and motor starting pulses.

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text. Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document.

IEC 60282-1.2014 High-voltage fuses Part 1.Current-limiting fuses (High-voltagefuses-Part 1.Current-

Note. GB/T 15166.2-2008 High-voltage AC fuses Part 2.Current-limiting fuses (IEC 60282-1.2005, MOD)
agefuses)

3 Terms and Definitions

This document does not have terms and definitions that need to be defined.

4.1 Time-current characteristics of fuses

Compared with fuses used for power distribution system protection, fuses used for motor circuit protection should have.

---The fuse with a large melting current (slow action) should be within the 10s range of the pre-arc time-current characteristic as much as possible to obtain the correct motor

The maximum withstand (capacity) of starting current;

---Fuse elements with a small melting current (fast action) should be within the range of the pre-arc time-current characteristic below 0.1s as much as possible, and the relevant

Maximum short-circuit protection for switchgear, cables and motors and their terminal