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

GB/T 42096-2022

**Performance requirements for aircraft fire-resisting electrical
cables**

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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 was drafted with reference to ISO 2155.1974 "Performance Requirements for Aircraft Fire-resistant Cables", and the degree of consistency is non-equivalent.

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

1 Scope

This document specifies the materials, design and structure, performance, qualification inspection and type designation of aircraft fire-resistant cables.

This document applies to aircraft fire-resistant electrical appliances with a working rated voltage of 600V, a frequency not greater than 2000Hz, and an operating temperature class of 260°C.

Cable production, testing, design selection, etc.

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.

GB/T 1690 Test method for liquid resistance of vulcanized rubber or thermoplastic rubber

GB/T 4909.2-2009 Test methods for bare wires Part 2. Dimensional measurement

GB 6537 No. 3 jet fuel

GB/T 7814 Industrial isopropanol

GB/T 11019 Nickel-plated round copper wire

GB/T 33343-2016 Test methods for aviation insulated wires

HB6577 Test method for smoke density of non-metallic materials inside civil aircraft cabin

HB7066 Determination method for toxic gas produced by combustion of non-metallic materials inside civil aircraft cabin

MH/T 6040 Test method for smoke density of aviation materials

CCAR-25-R4 Airworthiness Standards for Transport Aircraft (Ministry of Transport on March 11, 2016)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1

Insulated core insulatedcore

The core wires that make up the cable.

3.2

Wire gauge number wiregauge

Generic term for standard conductor gauge numbers.

4.1 Conductors and shielding

The conductor monofilament used to manufacture nickel-plated copper conductors shall

meet the requirements of GB/T 11019, and the nickel content shall not be less than 27%.

The conductor monofilament used to manufacture the shielding layer shall meet the requirements of GB/T 11019.

The conductor monofilament used to manufacture nickel-plated copper alloy conductors shall meet the requirements in Table 1, and the nickel content shall not be less than 27%.

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