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

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Nitrogen for use in aircraft

飞机用氮气

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document is modified to adopt ISO 2435:1973 "Nitrogen for Aircraft":

Compared with ISO 2435:1973, this document has made the following structural adjustments:

- a) Added Chapter 2 normative reference documents;
- b) Added Chapter 3 Terms and Definitions;
- c) Chapter 4 corresponds to Chapter 2 of ISO 2435:1973;
- d) Chapter 5 corresponds to Chapter 3 of ISO 2435:1973:

The technical differences between this document and ISO 2435:1973 and their reasons are as follows:

- a) Added onboard prepared nitrogen for fuel tank inerting to cover the range of nitrogen currently in use on aircraft (see Chapter 1);
- b) Added pressure and characteristic requirements for fuel tank inerting, the requirements are consistent with 3:7:1:3 in HB8545-2018 (see respectively Chapter 4 and 5:1, 5:2, 5:3, 5:4) to distinguish their different technical requirements;
- c) Metric units are added before the imperial units (the metric units are numerically rounded based on the imperial units) to improve the ease of use of the standards:

Usefulness (see Chapter 4):

The following editorial changes have been made to this document:

---Added references:

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies the pressures and characteristics of nitrogen for aircraft:

This document applies to compressed nitrogen for aircraft oil lubrication equipment and airborne prepared nitrogen for fuel tank inerting:

This document does not apply to nitrogen used in oxygen systems:

2 Normative reference documents

This document has no normative references:

3 Terms and definitions

There are no terms or definitions to be defined in this document:

4 Pressure

Under 20°C conditions, the compressed nitrogen supply pressure should ensure that the aircraft system can be filled up to 35MPa (343bar or 4975lbf/in²):

Under the conditions of 0°C~100°C, the maximum working pressure of airborne nitrogen preparation does not exceed 1:5MPa (15bar or 222lbf/in²):

Note: The working pressure of compressed nitrogen for aircraft is as follows:

- a) 21MPa (207bar or 3000lbf/in²);
- b) 28MPa (276bar or 4000lbf/in²);
- c) 35MPa (343bar or 4975lbf/in²):

5 Features

5.1

Purity

Purity should meet the following requirements:

- a) The purity (volume fraction) of compressed nitrogen is not less than 98.5%;
- b) The purity (volume fraction) of nitrogen prepared onboard shall not be less than 88%:

5.2

Oily vapors and particles the total amount of oily vapor and particles should meet the following requirements:

- a) Under the conditions of 15°C, 101.3kPa (1013mbar or 14.69lbf/in²), the total amount of oily vapor and particles in compressed nitrogen is not More than $5 \times 10^{-3} \text{mg/dm}^3(\text{L})$;
- b) Under the conditions of 15°C, 101.3kPa (1013mbar or 14.69lbf/in²), the oily vapor containing nitrogen prepared onboard does not exceed $1 \times 10^{-5} \text{mg/dm}^3(\text{L})$; the total amount of particles does not exceed $2.5 \times 10^{-4} \text{mg/dm}^3(\text{L})$:

5.3

Moisture content Moisture content should meet the following requirements: