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

GB/T 21001.4-2024

**Refrigerated display cabinets - Part 4: Classification,
requirements and test conditions of ice-cream freezers
(English Translation)**

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References

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 is required.

This document is Part 4 of GB/T 21001 Refrigerated Display Cabinets. GB/T 21001 has been published in the following parts.

Part 1: Terminology;-Part 2: Classification, requirements and test conditions;-Part 3: Test Assessment;-Part 4: Classification, requirements and test conditions for ice cream freezers. -this document is equivalent to ISO 22043:2020 "Ice cream freezers classification, requirements and test conditions".

The following minimal editorial changes have been made to this document.

In order to coordinate with the existing standard series, the name of the standard is changed to "Refrigerated Display Cabinets Part 4: Classification and Requirements for Ice Cream Freezers" and test conditions";

EN 60335-1 and EN 60335-2-89 are replaced by the normative references IEC 60335-1 and IEC 60335-2-89.

Introduction

The requirements of food preservation, food hygiene and food safety have attracted more attention and importance from the public. Food refrigeration display cabinets play an important role in the food circulation cycle.

GB/T 21001 aims to unify the definition and test methods of refrigeration display cabinet products in China and is planned to consist of four parts.

composition.

Part 1: Terminology. The purpose is to standardize the terms and definitions used in

refrigerated display cabinets for the sale and display of food.

Part 2: Classification, requirements and test requirements. The purpose is to standardize the structure, characteristics and performance requirements of refrigerated display cabinets and unify Requirements for test conditions, test methods, classification methods and grading methods for refrigerated display cabinets.

Part 3: Test and Assessment. The purpose is to supplement the test and assessment methods for the safety and performance of refrigerated display cases.

Part 4: Classification, requirements and test conditions of ice cream freezers. The purpose is to clarify and standardize the classification, requirements and test conditions of ice cream freezers.

Requirements and test methods.

At present, ice cream freezers are in compliance with GB/T 21001.2-2015, but ice cream freezers have different requirements in classification, technical indicators and test requirements.

The requirements of the ice cream freezer are unique, and GB/T 21001.2-2015 cannot meet the performance requirements of ice cream freezers.

The performance test of ice cream freezers is not carried out according to ISO 23953-2:2005, but according to ISO 22043:2020.

This document is developed by equivalently converting the international standard ISO 22043:2020 to the performance standard for ice cream freezers in China.

This formulation can standardize the definition of ice cream freezer, promote the research and development, production, sales, use and manage.

Refrigerated display cabinets Part 4: Classification, requirements and Test conditions

1 Scope

This document specifies the classification, requirements and test methods for horizontal closed ice cream freezers with transparent or solid doors/lids that open from the top.

This document applies to cabinets that use natural convection air cooling, wall evaporators (without evaporator fans), specifically for pre-packaged ice cream Self-contained ice cream freezers for storage and display with a net volume not exceeding 600 L.

This document is only applicable to self-contained refrigeration systems. This document is not applicable to supermarket sectional combined freezers, net volume and total display area Remote type ice cream freezers with transparent doors/lids with a ratio of less than 0.35 m and ice cream freezers using the second refrigerant.

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 latest version (including all amendments) applies to this document.

In this document.

ISO 817 Refrigerants - Designation and safety classification Note. GB/T 7778-2017 Refrigerant numbering method and safety classification (ISO 817:2014, MOD) ISO 5149-2 Refrigeration systems and heat pumps Safety and environmental requirements Part 2: Design, construction, testing, marking and documentation (Refrigerating systems and heat pumps-Safety and environmental requirements-Part 2: Design, construction, testing, marking and documentation) Note. GB/T 9237-2017 Refrigeration systems and heat pumps Safety and environmental requirements [ISO 5149:2014 (all parts), MOD] IEC 60335-1 Household and similar electrical appliances Safety Part 1: General requirements al appliances-Safety-Part 1: General requirements) Note. GB 4706.1-2005 Household and similar electrical appliances - Safety - Part 1: General requirements (IEC 60335-1:2004, IDT) IEC 60335-2-89 Household and similar electrical appliances Safety Part 2-89. Household and similar electrical appliances with built-in or remote refrigeration or electric compressors Particular requirements for commercial refrigerating appliances and ice makers (Household and similar electrical appliances-Safety-Part 2-89. Particular requirements for commercial refrigerating appliances and ice-makers with an incorporated or remote refrigerant unit or motor-compressor) Note. GB 4706.102-2010 Household and similar electrical appliances with built-in or remote refrigerant condensing units or compressors for commercial refrigeration Special requirements for (IEC 60335-2-89:2007, IDT)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 General

3.1.1

ice-cream freezer

Horizontal closed refrigerated cabinets with doors/lids (solid or transparent) that open from the top, used for the storage and/or display and sale of pre-packaged ice cream.