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

**GB/T 43951-2024**

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**General quality requirements for laminated steel and laminated  
aluminum of food containers**

食品容器用覆膜铁、覆膜铝质量通则

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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 specifies the quality-related technical requirements: For food safety-related requirements, please refer to relevant laws, regulations, policies and food safety standards: Please note that some of the contents of this document may involve patents: The issuing organization of this document does not assume the responsibility for identifying patents: This document is proposed and coordinated by the National Food Industry Standardization Technical Committee (SAC/TC64): This document was drafted by: Oregon Technology Co., Ltd., Baosteel Co., Ltd., Zhuhai New Generation Composite Materials Co., Ltd: Co., Ltd., China Food Fermentation Industry Research Institute Co., Ltd., Yuehai Zhongyue (Zhongshan) Tinplate Industry Co., Ltd., Shanghai Donghexin New Materials Group Co., Ltd., Shanghai Sijiang New Materials Technology Co., Ltd., Jiangyin Ruixing Technology Co., Ltd., Yiwu Yikai Cap Industrial Co., Ltd., Suzhou Hua Yuan Holdings Co., Ltd., Shengxing Group Co., Ltd., Guangdong Yinglian Packaging Co., Ltd., Hangzhou COFCO Can Co., Ltd., Shanghai Haibao Steel Packaging Co., Ltd., Fujian Biaoxin Easy-Open End Group Co., Ltd., Jiamei Food Packaging (Chuzhou) Co., Ltd., Zhejiang Ying Yi Metal Materials Technology Co., Ltd., Wuxi Lane Technology Co., Ltd., Guangzhou Zhuocheng Intelligent Equipment Co., Ltd., Hebei Worunda Metal Packaging Products Co., Ltd., Fujian Fuzhen Metal Packaging Co., Ltd., Hesteel Group Hengshui Plate Industry Co., Ltd., Zhejiang Donglai Packaging Co., Ltd., Jiangsu Su Xun New Materials Technology Co., Ltd., Shanwei Wufeng Marine Biotechnology Co., Ltd., Henan Airuihai New Materials Co., Ltd., Liaocheng Fude Food Processing Co., Ltd., Xiamen Quality and Technical Review Service Center, Shanghai Huace Pinbiao Testing Technology

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## 1 Scope

GB/T 43951-2024 sets the general quality requirements for the laminated steel and laminated aluminium used to make food containers. Laminating a polymer film onto the metal before the can is formed replaces the sprayed organic coating that has been standard for decades, and it does so for a reason that is regulatory as much as technical: there is no solvent to evaporate and no bisphenol-based lacquer, and the film thickness is uniform in a way a spray cannot be. The trade-off is that the film has to survive drawing, ironing and seaming without cracking, and then survive retorting in contact with the food. The standard sets the classification and coding by substrate, film type, single or double-sided lamination, surface treatment, purpose and grade, the order content, and the quality requirements - raw and auxiliary materials, dimensions, shape and mass, appearance, and the physical and chemical indicators - together with the test methods, inspection rules and the packaging, marking, transport and storage provisions. It took effect on 1 November 2024.

This document specifies the classification and code, terms and definitions, requirements, test methods, inspection rules, standards, etc: of coated iron and coated aluminum for food containers: Labeling, packaging, transportation and storage: This document is applicable to coated iron and coated aluminum used to manufacture food containers:

## 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 708 Dimensions, shapes, weights and tolerances of cold-rolled steel sheets and strips

GB/T 1732 Determination of impact resistance of paint films

GB/T 2520 Cold-rolled tin-plated steel sheets and strips

GB/T 6672 Plastic film and sheet thickness determination mechanical measurement method

GB/T 9753 Cupping test for paints and varnishes

GB/T 10003 Biaxially oriented polypropylene (BOPP) film for general use

GB/T 16958 Biaxially oriented polyester film for packaging

GB/T 24180 Cold-rolled chrome-plated steel sheets and strips

GB/T 40319 Aluminum alloy sheets, strips and foils for deep-drawn cans

### 3 Terms and definitions

The terms and definitions defined in GB/T 24180 and GB/T 40319 and the following apply to this document: 3:

1 Laminated steel A kind of high molecular weight composite material is made by bonding a layer of high molecular film on the surface of tin-plated or chrome-plated thin steel plates by melting method, gluing method, etc: A composite material with dual properties of electronic materials and metal materials: [Source: GB/T 14251-2017, 3:1, modified] 3:

2 Laminated aluminum A kind of material that combines polymer materials and A composite material with dual properties of metal materials: [Source: GB/T 14251-2017, 3:2, modified] 3:

3 Film shrinkage The difference between the film width and the substrate width:

Note: When the width of the coating layer is smaller than the width of the substrate, the film indentation is positive (it can also be represented by the amount of exposed iron); when the width of the coating layer is larger than the width of the substrate, the film indentation is positive: The amount is negative (it can also be represented by the amount of film exposure):