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

GB/T 14251-2017

Replacing GB/T 14251-1993

General technical standard for metal container of canned food

罐头食品金属容器通用技术要求

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1 Scope

GB/T 14251-2017 is the Chinese national standard on general technical standard for metal container of canned food, in the field of food technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 7 September 2017 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 October 2018.

Classification: ICS 67.250, CCS A82. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the terms and definitions, product classification, quality requirements, food safety requirements, test methods, inspection rules, markings, packaging, transportation, storage requirements for metal container of canned food. This standard applies to empty cans and full cans for canned food, which are made of tin-plated or chrome-plated sheet steel or aluminum alloy sheet.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 2828.1 Sampling procedures for inspection by attributes - Part 1. Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Laminated steel A composite material, which is formed by laminating a layer of polymer film on the surface of tin-plated or chrome-plated steel sheet, by melting method or adhesive method; has dual properties of polymer material and metal material.

3.2 Laminated aluminum A composite material, which is formed by laminating a layer of polymer film on the surface of aluminum alloy sheet, by melting method or adhesive method; has dual properties of polymer material and metal material.

3.3 Can body A container, which is formed by combining a metal can body with a top cover or a bottom cover, OR punching and drawing a whole piece of metal sheet.

3.4 Three-piece can A packaging container, which is made up of three pieces of material, combined with a metal top cover, a can body, a bottom cover.

3.5 Two-piece can A container, which is formed by the can body, whose bottom and body are made of a whole piece of metal sheet, through punching and drawing, THEN, sealed by a metal top cover.

4 Product classification

4.1 According to the type of substrate, it can be divided into tin-plated thin steel cans, chrome-plated thin steel cans, aluminum alloy thin-steel cans.

4.2 According to the characteristics of the inner wall of the can body, it is divided into plain tinplate cans, coated steel cans, coated aluminum cans, laminated steel cans, laminated aluminum cans.

4.3 According to the container structure, it is divided into three-piece cans and two-piece cans.

4.5 According to the shape of the can body, it is divided into straight-wall can, tapered can, necked-in can, expanding can, beaded can, expanded can, etc.

4.6 According to the opening method, it is divided into easy open end cans, easy peelable end cans, flat-bottom end cans, key open cans.

5.2.2 Weld quality

5.2.2.1 The welding seam is flat and smooth. The lap joint is even and consistent. The soldering joints are evenly connected. There shall be no cold welding, missing welding, pin holes, puncture. There shall be no obvious corrosion and splash.

5.2.3 Quality of stripe

5.2.3.1 The stripe of weld shall be smooth and uniform, which completely covers the weld and the uncoated part. There shall be no large blisters, browning, exposed tinplate points. The liquid stripe shall not have splash points.

5.2.4 Seam quality

5.2.4.1 The seam shall be complete AND free from obvious scratches, corrosion, internal squeezing of compound, external squeezing of compound.

5.2.5 Sealing performance The can shall have no leakage, after the pressurization test or the decompression test.

5.2.6 Compressive strength After the compressive strength test, the can body and can cover shall have no permanent deformation. The compressive strength of different can

types shall meet the requirements of Table 3.

5.2.7 Coating performance

5.2.7.5 Salt resistance After the test, there shall be no intensive corrosion points on the inner wall of the can body and can cover. The inner coating shall be free of whitening, peeling off, shedding, blistering.

5.3.2 Quality of inner wall of can

5.3.2.1 Inner wall of plain tinplate can There is free from obvious oxidation circle, pitting, abnormally rapid detinning, perforation, leaked can, swelled can, internal squeezing of compound.

6 Food safety requirements

It shall meet the requirements of the corresponding national food safety standards.

7.1.2 Test procedure

7.1.2.1 Appearance Visually inspect the appearance quality of the container.

7.1.2.2 Weld

7.1.2.3 Seam 7.1.2.3.1 Detection location The detection of the outside of the seam and the seam structure is carried out according to the sampling, as shown in Figure 17. 7.1.2.3.4 Tightness rating (TR) Use pliers, to pull off the cover of the can, along the edge of the can. Gently knock off the entire circle of the cover hook. Observe the wrinkle state of the cover hook. The degree of sagging of the cover hook, at the seam, AND the indentation of the can body are measured, as shown in Figure 10 in 3.44. The tightness rating and the wrinkle rating have a corresponding relationship, as shown in formula (2).

7.2.3 Test procedure

7.2.3.1 Appearance Visual test.

7.2.3.2 Curability Add water to the can, until the liquid level is about 3 mm away from the can opening. Seal it. Put the sample into the cooking container. Determine the heating temperature and time, according to the sterilization process of the content. Take out the sample after heating. Place it in tap water to cool it. Open the can. Pour out the water. Visually inspect the stripe.

7.3 Compressive strength

7.3.1 Instruments and equipment. The division value of the compressive strength tester shall not be greater than 10 kPa.