ICS 35.040
CCS A24

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 18348-2022

Replacing GB/T 18348-2008

Bar code for commodity - Bar code symbol print quality verification

商品条码 条码符号印制质量的检验

Issued on: March 9, 2022 **Implemented on: October 1, 2022**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

Table of Contents

1 Scope

GB/T 18348-2022 is the Chinese national standard on bar code for commodity - bar code symbol print quality verification, in the field of information 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 9 March 2022 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 October 2022. Classification: ICS 35.040, CCS A24. 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 document specifies the determination of sampling plan, verification conditions, verification items, verification methods, verification data processing, comprehensive determination of symbol quality, and verification report for bar code symbol print quality verification. This document applies to the quality verification of printed bar code symbol for commodity.

2 Normative references

The contents of the following documents, through normative references in this text, constitute indispensable provisions of this document. Among them, for dated references, only the edition corresponding to that date applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

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

GB/T 2828.4 Sampling procedures for inspection by attributes - Part 4: Procedures for assessment of declared quality levels

GB/T 2828.11 Sampling procedures for inspection by attributes - Part 11: Procedures for assessment of declared quality levels for small population

GB/T 2829 Sampling procedures and tables for periodic inspection by attributes (apply to inspection of process stability)

GB 12904-2008 Bar code for commodity - Retail commodity numbering and bar code marking

GB/T 12905-2019 Bar code terminology

GB/T 13262 Single sampling procedures and tables for inspection having desired operating characteristics by attributes for percent nonconforming

GB/T 14257 Commodity bar code symbol location

GB/T 14258 Information technology - Automatic identification and data capture techniques - Verification of print quality of bar code symbols

GB/T 15425 Commodity bar code - 128 bar code

GB/T 16306 Re-inspection and re-test procedures for assessment of declared quality levels

GB/T 16830 Bar code for commodity - Dispatch commodity numbering and bar code marking

GB/T 26228.1 Information technology - Automatic identification and data capture techniques - Bar code verifier conformance specification - Part 1: Linear symbols ISO/

3 Terms and definitions

The terms and definitions defined in GB 12904-2008 and GB/T 12905-2019 and the following ones apply to this document.

3.1 Bar code for commodity A universal bar code symbol used to identify commodities and their attributes, including the numbering and bar code marking of retail commodities, dispatch commodities, logistics units, assets, service relationships, and locations of participants, etc. [Source: GB/T 12905-2019, 2.70, modified]

3.2 Element reflectance nonuniformity; ERN The difference between the highest peak and the lowest valley of reflectance corrected by the algorithm in an element (including clear area) on the scan reflectance profile. [Source: GB/T 12905-2019, 6.30, modified]

3.3 Defects Z dimension The arithmetic mean of measured values of narrow element or module size. [Source: GB/T 14258-2003, 3.24, modified]

3.10 Encoded data The data to be represented in the bar code symbol.

4 Determination of sampling plan

In the verification of commodity bar code print quality, the sampling plan shall be determined according to the verification category and applicable sampling standards:

a) For successive batches of purchase inspections with several manufacturers to choose from and exit-factory verifications with definite users, use GB/T 2828.1 to determine the sampling plan;

b) For the purchase, process, and exit-factory verification of a single batch, use GB/T 13262 to determine the sampling plan;

c) For the inspection of the stability of production process, use GB/T 2829 to determine the sampling plan;

d) For quality supervision and verification, where the total amount of supervision is large, use GB/T 2828.4 to determine the sampling plan;

e) For quality supervision and verification, where the total amount of supervision is small, use GB/T 2828.11 to determine the sampling plan;

f) For quality supervision and re-inspection, use GB/T 16306 to determine the sampling plan;

g) For the acceptance verification of both the supplier and the purchaser, if there is a sampling agreement in the contract, it shall determine the sampling plan according to the agreement.

5.1.1 Temperature and humidity

5.2.1.5 Measuring optical path The measuring optical path shall comply with the regulations in GB/T 14258.

5.2.1.6 Reflectance benchmark Use magnesium oxide (MgO) or barium sulfate (BaSO4) as the benchmark for 100% reflectance.

5.2.2 Length measuring instruments

5.2.2.1 Measuring instrument for clear area A length measuring instrument with a minimum division value of not more than

0.1 mm OR a bar code verifier with a minimum division value of not more than

0.01 mm.

5.2.2.2 Measuring instrument for bar height and printing location A length measuring instrument with a minimum division value not greater than

0.5 mm, which is suitable for manual measurement.

5.2.2.3 Measuring instrument for the width of bearer bar and the physical length of bar code symbol A length measuring instrument with a minimum division value not greater than

0.1 mm, which is suitable for manual measurement.

5.3 Samples under verification As far as possible, the bar code symbol under verification shall be in the state of being scanned when it is applied, that is, the state of physical packaging. For samples that cannot be verified in the form of physical packaging, as well as samples of bar code symbols on labels, stickers, and packaging materials: - Appropriate processing can be carried out, so that the sample is flat; and the size is suitable for verification. Sufficient fixed size shall be retained around the bar code symbol; - For the symbol print carrier with opacity less than 0.85, during verification, a dark plane with reflectance less than 5% shall be lined at the bottom of the symbol. For the measurement of opacity, see GB/T 14258.

6 Verification items

The verification items are shown in Table 2. in each bar area is defined as the reflectance (Rb) of this bar. 7.2.2.3.2 Determine element edges The edge is the boundary between two