INTERNATIONAL STANDARD

ISO 22742

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Packaging — Linear bar code and two-dimensional symbols for product packaging

Emballages — Code-barres linéaire et symboles bidimensionnels pour emballage de produits

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 22742 was prepared by Technical Committee ISO/TC 122, *Packaging*.

This second edition cancels and replaces the first edition (ISO 22742:2005).

Introduction

Bar code marked product package labels are in widespread use in global industries. A number of different standards exist, each designed to meet the requirements of that specific industry sector. For effective and economic use within and between industry sectors, one common multi-industry standard is a necessity.

A bar code marked product package label is designed to facilitate the automation of inventory, distribution, repair and point of purchase operations. The bar code information on the product package label can be used as a key to access the appropriate database, which contains detailed information about the product including information transmitted via electronic data interchange (EDI). In addition, a product package label can contain other information as agreed between the trading partners.

Two-dimensional symbols can be included to assist moving greater amounts of product data from sender to recipient.

Whereas ISO 15394 is intended to support the transportation function within the supply chain (e.g. from the shipping dock, through the transportation processes, and to the receiving dock), this International Standard is intended to support the logistic functions preceding and following transportation. At the origin point, this International Standard is designed for use from manufacture to storage, to picking and packing, to delivery to the shipping dock, and all associated inventory processes. At the destination point, it is designed for use from the receiving dock to order checking, to storage, to consumption, and to all associated inventory processes and reverse logistic processes.

This International Standard is based on ANSI MH10.8.6, GS1 General Specifications, and standards on product packaging (e.g. IEC 62090).

Packaging — Linear bar code and two-dimensional symbols for product packaging

1 Scope

This International Standard

a) specifies the minimum requirements for the design of labels containing a linear bar code and two-dimensional symbols on product packages to convey data between trading partners,

b) provides guidance for the formatting on the label of data presented in a linear bar code, two-dimensional symbols or human-readable form,

c) provides specific recommendations regarding the choice of linear bar code and 2D symbologies, and specifies quality requirements and classes of bar code density,

d) provides specific recommendations regarding 2D symbologies, which allow a broad choice for general use of scanning hardware (e.g. area imagers, linear imagers, single-line laser scanners, and rastering laser scanners), and

e) makes recommendations as to label placement, size and the inclusion of free text and any appropriate graphics.

This International Standard supports item identification and supply chain processes, at the product package level, such as inventory control, picking, and point of use.

NOTE 1 ISO 15394 supports the distribution and transportation business processes, so aiding the tracing and tracking of unique shipments.

NOTE 2 ISO 28219 addresses the direct part marking.

The purpose of this International Standard is to establish the machine-readable (e.g. bar code) and human-readable data content of labels applied to product packages.

Intended applications include, but are not limited to, inventory, warehouse management, maintenance and point of purchase.

While guidance is provided, specific label dimensions or marking areas and the location of the information are not defined in this International Standard. Before implementing this specification, suppliers and manufacturers are advised to review and mutually agree on these details with their trading partners.

This International Standard does not supersede or replace any applicable safety or regulatory marking or labelling requirements. It is intended to satisfy the minimum product package requirements of numerous applications and industry groups. As such, its applicability is to a wide range of industries, each of which has specific implementation guidelines. This International Standard is also applicable to any other mandated labelling requirements.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes*

ISO/IEC 15415, *Information technology — Automatic identification and data capture techniques — Bar code print quality test specification — Two-dimensional symbols*

ISO/IEC 15416, *Information technology — Automatic identification and data capture techniques — Bar code print quality test specification — Linear symbols*

ISO/IEC 15418, *Information technology — Automatic identification and data capture techniques — GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance*

ISO/IEC 15434, *Information technology — Automatic identification and data capture techniques — Syntax for high-capacity ADC media*

ISO/IEC 15438, *Information technology — Automatic identification and data capture techniques — PDF417 bar code symbology specification*

ISO/IEC 16022, *Information technology — Automatic identification and data capture techniques — International symbology specification — Data Matrix bar code symbology specification*

ISO/IEC 18004, *Information technology — Automatic identification and data capture techniques — QR Code 2005 bar code symbology specification*

ISO/IEC 19762 (all parts), *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*

ISO 21067, *Packaging — Vocabulary*

ANS MH10.8.2, *Data Application Identifier Standard*

GS1, *General Specifications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19762, ISO 21067, and the following apply.

3.1
Code 39
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discrete, variable length, bar code symbology encoding the characters 0 to 9, A to Z, and the additional characters "-" (dash), "." (period), space, "$" (dollar sign), "/" (slash), "+" (plus sign), and "%" (percent sign), as well as a special symbology character to denote the start and stop character, conventionally represented as an "*" (asterisk)

NOTE Each Code 39 symbol consists of a leading quiet zone, a start symbol pattern, symbol characters representing data, a stop pattern, and a trailing quiet zone. Each Code 39 character has three wide elements out of a total of nine elements. Each symbol consists of a series of symbol characters, each represented by five bars and four intervening spaces. Characters are separated by an intercharacter gap. Each element (bar or space) is one of two widths. The values of the X-dimension (3.13) and wide-to-narrow ratio remain constant throughout the symbol. The particular pattern of wide and narrow elements determines the character being encoded. The intercharacter gaps are spaces with a minimum nominal width of 1X. See ISO/IEC 16388 for the Code 39 symbology specification.

