International Standard

ISO 22742

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

This third edition cancels and replaces the second edition (ISO 22742:2010), which has been technically revised.

The main changes are as follows:

— added URL formats;

— preference on formats with concatenated fields;

— preference on 2D matrix symbologies.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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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.

Labelers can include a code containing a URL on product package for marketing and information purposes by the labeler to enable direct access via smart phone.

Whereas ISO 15394[2] 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) and ISO 28219[9] handles marking of the product itself, this document is intended to support the logistic functions preceding and following transportation. At the origin point, this document 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.

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

1 Scope

This document:

a) specifies the minimum requirements for the design of labels containing a linear bar code and two dimensional (2D) 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, 2D 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 both linear and 2D symbologies, which allow a broad choice for general use of scanning hardware (e.g. area imagers, linear imagers, single line laser scanners, and raster laser scanners);

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

This document 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[2] 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 document 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 document. Before implementing this specification, suppliers and manufacturers are advised to review and mutually agree on these details with their trading partners.

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 code*

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

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

ISO/IEC 15459-3, *Information technology — Automatic identification and data capture techniques — Unique identification — Part 3: Common rules*

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 — Data Matrix bar code symbology specification*

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

ISO/IEC 18975, *Information technology — Automatic identification and data capture techniques — Encoding and resolving identifiers over HTTP*

ISO/IEC 19762, *Information technology — Automatic identification and data capture (AIDC) techniques — Vocabulary*

IEC 61406-1, *Identification Link - Part 1: General requirements*

IEC 61406-2, *Identification link Part 2: Types/models, lots/batches, items and characteristics*

ANSI MH10.8.2, *Data Application Identifier Standard*

DIN 16598, *Syntax keyboard and Web compatible encoding of data elements in machine readable symbols applied with ASC Data Identifiers*

GS1, *GS1 General Specifications*

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Bibliography

[1] ISO/IEC 646, *Information technology — ISO 7 bit coded character set for information interchange*

[2] ISO 15394, *Packaging — Bar code and two-dimensional symbols for shipping, transport and receiving labels*

[3] ISO/IEC 15417, *Information technology — Automatic identification and data capture techniques — Code 128 bar code symbology specification*

[4] ISO/IEC 15420, *Information technology — Automatic identification and data capture techniques — EAN/UPC bar code symbology specification*

[5] ISO/IEC 24724, *Information technology — Automatic identification and data capture techniques — GS1 DataBar bar code symbology specification*

[6] ISO/IEC 15424, *Information technology — Automatic identification and data capture techniques — Data carrier identifiers (including symbology identifiers)*

[7] ISO/IEC 16388, *Information technology — Automatic identification and data capture techniques — Code 39 bar code symbology specification*

[8] ISO/IEC 15459-2, *Information technology — Automatic identification and data capture techniques — Unique identification — Part 2: Registration procedures*

[9] ISO/IEC 21471, *Information technology — Automatic identification and data capture techniques — Data Matrix Rectangular Extension (DMRE) bar code symbology specification*

[10] ISO/IEC 23941, *Information technology — Automatic identification and data capture techniques — Rectangular Micro QR Code (rMQR) bar code symbology specification*

[11] IEC 62090, *Product package labels for electronic components using bar code and two dimensional symbologies*

[12] ANSI/HIBC 2, *Health Industry Supplier Labeler Standard*

[13] GS1, *GS1 Digital Link URI standard*

[14] ISO/IEC 8859-1, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*

[15] ISO 7000, *Graphical symbols for use on equipment — Registered symbols*

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