INTERNATIONAL STANDARD

ISO 15394

Second edition
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Packaging — Bar code and two-dimensional symbols for shipping, transport and receiving labels

Emballage — Codes à barres et symboles bidimensionnels pour l'expédition, le transport et les étiquettes de réception

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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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 15394 was prepared by Technical Committee ISO/TC 122, *Packaging*.

This second edition cancels and replaces the first edition (ISO 15394:2000), which has been technically revised.

Introduction

The use of electronic data interchange (EDI) in association with the physical transport and handling of packages and when traceability is appropriate, such as that described in ISO 9000, requires a clear and unique identifier linking the electronic data and the transport unit.

Bar code marked transport labels are in widespread use in the global industries. A number of different standards exist, each designed to meet the requirements of the 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 transport label is designed to facilitate the automation of shipping and handling administrative operations. The bar code information on the transport label may be used as a key to access the appropriate database that contains detailed information about the transport unit, including information transmitted via EDI. In addition, a transport label may contain other information as agreed between the trading partners.

Two-dimensional symbols may be included to assist moving large amounts of shipping label or EDI data from sender to recipient and to assist the transportation carrier automated sortation and tracking systems.

This International Standard incorporates the technology, data structure and conformance standards of ISO/IEC JTC 1/SC 31, *Automatic identification and data capture techniques*, with the user requirements for shipping labels, into a single application standard.

While this International Standard provides an international shipping label standard, ISO 22742 provides an International Standard for product packaging. These two standards are complementary. ISO 17365 is an International Standard on the use of RF tags on shipping/transport units and was prepared by the ISO/TC 122/104 Joint Working Group (JWG), *Supply Chain Applications of RFID*.

Packaging — Bar code and two-dimensional symbols for shipping, transport and receiving labels

1 Scope

This International Standard:

— specifies the minimum requirements for the design of labels containing linear bar code and two-dimensional symbols on transport units to convey data between trading partners;

— provides for traceability of transported units via a unique transport unit identifier (licence plate);

— provides guidance on the formatting on the label of data presented in linear bar code, two-dimensional symbol or human readable form;

— provides specific recommendations regarding the choice of bar code symbologies, and specifies quality requirements and classes of bar code density;

— makes recommendations as to label placement, size and the inclusion of free text and any appropriate graphics;

— provides guidance on the selection of label material.

This International Standard is not applicable to the direct printing on to kraft coloured corrugated surfaces.

NOTE Guidance on the direct printing of bar code symbols on to kraft coloured corrugated surfaces can be found in texts such as *The Fibre Box Handbook* [7].

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 17365, *Supply chain applications of RFID — Transport units*

ISO 21067, *Packaging — Vocabulary*

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 15417, *Information technology — Automatic identification and data capture techniques — Code 128 bar code symbology specification*

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 15438:2006, *Information technology — Automatic identification and data capture techniques — PDF417 bar code symbology specification*

ISO/IEC 15459-1, *Information technology — Unique identifiers — Part 1: Unique identifiers of transport units*

ISO/IEC 16023:2000, *Information technology — International symbology specification — MaxiCode*

ISO/IEC 16388, *Information technology — Automatic identification and data capture techniques — Code 39 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*

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
sortation
process by which an automated material-handling system routes packages and freight in a distribution environment

4 Concepts

4.1 Principles

The purpose of a bar code label is to facilitate the automatic exchange of data among all members within a channel of distribution, for instance supplier, carrier, purchaser, other intermediaries. The amount of data, in linear bar code, two-dimensional symbols and in human readable form, is dependent on the requirements of the trading partners. Where a bar code label is used in conjunction with electronic databases and/or electronic data interchange (EDI) systems, the amount of data may be significantly reduced and may consist of only one piece of data, the unique identifier for the transport unit. If radio frequency identification (RFID) enabled labels or tags are used in conjunction with labels in conformance with this International Standard, ISO 17365 shall be used for RFID usage with transport units. Human and optically readable data for the representation of RFID applications should be in accordance with ISO/IEC TR 24729-1.

Trading partners have different information requirements. Some information may be common to two or more trading partners while other information may be specific to a single trading partner. Information for various trading partners becomes available at different times, for instance:

— product specific information at the point of manufacture or packaging;

— order processing information at the time of processing the order;

— transport information at the time of shipment.

Trading partners may find it necessary to include significant data elements dealing with the above that may be presented both in bar code/two-dimensional symbols (see Annexes A and B) and human readable form.