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Freight containers — Radio frequency identification (RFID) — Licence plate tag

Conteneurs pour le transport de marchandises — Identification par radiofréquence (RFID) — Étiquette de plaque de licence

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Foreword

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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.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

— an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;

— an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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/TS 10891 was prepared by Technical Committee ISO/TC 104, *Freight containers*, Subcommittee SC 4, *Identification and communication*.

Introduction

This Technical Specification has been developed to be compatible with ISO 18185, *Freight containers — Electronic seals.* Due to differences in data structures and air interface parameters, equipment manufactured in compliance with these International Standards and this Technical Specification is not interchangeable and might not be interoperable. However, assurance is given that equipment compliant with ISO 17363, ISO 18185 or this Technical Specification is non-interfering and therefore operable in close proximity to each other.

With regard to ISO 18185 and this Technical Specification:

⎯ supported air interface and communication protocol are specified in ISO/IEC 18000;

⎯ supported commands and messages are specified in ISO/IEC 15961 and ISO/IEC 15962;

⎯ semantics are defined in ISO/IEC 15418;

⎯ syntax is defined in ISO/IEC 15434.

Though not used in this Technical Specification, recognition is given to the standardization work of

⎯ ISO/IEC JTC 1/SC 31 in the area related to air interface, data semantic and syntax construction, and conformance;

⎯ ISO/TC 104 in the area of freight container security, including electronic seals [(e-seals) ISO 18185], and container identification. This work is relevant and highly important since electronic seals are RF devices with their own air interface. Such International Standards ensure that electronic seals are compatible, or at least non-interfering, with tags described in this Technical Specification.

This Technical Specification provides a systemic approach for automatic identification and supply chain applications of RFID for freight containers. Each can be applied to a freight container independently of the other. They describe two different tag types with respectively different tag and application requirements. These are as follows.

a) Permanent container "license-plate" tag:

This tag, hereinafter referred to as the "container tag", fully described in this Technical Specification, is a permanently affixed, read-only [write once read many (WORM)] tag containing limited data relating only to physical identification and description of the container to which it is affixed. This Technical Specification describes the use of two tags, permanently affixed by, or on behalf of, the container owner. These tags are permanently affixed to and should last the lifetime of their associated container (except possibly in situations where the container changes ownership or equipment ID or the tag is damaged).

b) Cargo shipment-specific tag:

This tag, hereinafter referred to as the "shipment tag", is a read-write tag into which data specific to a containerized cargo shipment can be stored. Use of this type of tag and the data stored within it is at the discretion of the shipper. The tag may be affixed to the container by the shipper or, per the shipper's instructions, by the party that physically performs the loading ("stuffing") of the container. Data capabilities are flexible and may, at the shipper's discretion, include destination, routing, conveyance or other transportation information, cargo information (including hazardous material information, where applicable) or other trip-specific information. A compliant tag performs reliably from the point of stuffing of the container to the container's final delivery to the consignee; it is removed by the consignee upon final delivery. The tag may be reusable.

This Technical Specification is one part of a three-part approach within the ISO system for the use of RFID applications on containers. The other related standards apply to e-seals (ISO 18185) and cargo shipment tags. ISO/TS 10891 replaces ISO 10374. ISO 10374 was used as a foundation for ISO 18185 and this Technical Specification [as well as for other (industrial) standards] and will remain active some years in order to provide additional support.