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Freight containers — RFID cargo shipment tag system

Conteneurs pour le transport de marchandises — Système de tag d'expédition de fret par radiofréquence

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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.

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;

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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order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn.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again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.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/PAS 18186 was prepared by Technical Committee ISO/TC 104, *Freight containers*, Subcommittee SC 4, *Identification and communication*.

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Introduction

This Publicly Available Specification describes the composition, application requirements and operational procedures of an RFID cargo shipment tag and its relevant system used for improving transparency of the freight container transportation process. It identifies data content and format as well as operational characteristics of an RFID cargo shipment tag. It also provides a solution for electronic transfer of relevant information between an RFID cargo shipment tag and its associated information system platform.

The overall purpose of this Publicly Available Specification is to improve freight container logistic transparency and efficiency by using an RFID cargo shipment tag and an associated, Internet-based information management system.

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Freight containers — RFID cargo shipment tag system

1 Scope

This Publicly Available Specification specifies how freight container logistic transparency and efficiency can be improved through use of an RFID cargo shipment tag system and an Internet-based software package. Such an RFID cargo shipment tag system can co-exist with, but is separate from, a container security and identification RFID framework using container "license plate" tags, as specified in ISO 10374 and ISO/TS 10891, and electronic seals ("e-seals"), as specified in ISO 18185. In all cases, operation of and information from ISO/TS 10891 and ISO 18185 devices must be independent from the operation and information of the cargo shipment tag and information from these devices must be passed in discrete messages that are not routed via the RFID cargo shipment tag.

This Publicly Available Specification is applicable to freight containers as defined in ISO 668 as well as other associated containers and transport equipment.

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 668, *Series 1 freight containers — Classification, dimensions and ratings*

ISO 10374, *Freight containers — Automatic identification*

ISO/TS 10891, *Freight containers — RF automatic identification (RFID) — Licence plate tag*

ISO 6346, *Freight containers — Coding, identification and marking*

ISO/TS 14816, *Road transport and traffic telematics — Automatic vehicle and equipment identification — Numbering and data structure*

ISO/IEC 15963, *Information technology — Radio frequency identification for item management — Unique identification for RF tags*

ISO 18185-3:2006, *Freight containers — Electronic seals — Part 3: Environmental characteristics*

IEC 60068-2:2007, *Environmental testing — Part 2: Tests*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
RFID cargo shipment tag
read-write tag into which data specific to a containerized cargo shipment can be stored

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