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**Security management systems for the  
supply chain — Electronic port clearance  
(EPC) —**

**Part 2:  
Core data elements**

*Systèmes de management de la sécurité pour la chaîne  
d'approvisionnement — Opérations portuaires assistées par systèmes  
électroniques —*

*Partie 2: Éléments de données principaux*



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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 28005-2 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*.

This first edition of ISO 28005-2 cancels and replaces ISO/PAS 28005-2:2009 which has been technically revised.

ISO 28005 consists of the following parts, under the general title *Security management systems for the supply chain — Electronic port clearance (EPC)*:

— *Part 2: Core data elements*

The following part is under preparation:

— *Part 1: Message structures*

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# Security management systems for the supply chain — Electronic port clearance (EPC) —

## Part 2: Core data elements

### 1 Scope

#### 1.1 General

This part of ISO 28005 contains technical specifications that facilitate efficient exchange of electronic information between ships and shore for coastal transit or port calls. It is intended to cover safety and security information requirements related mainly to the relationships between the ship and the port and coastal state authorities as defined in this subclause.

This part of ISO 28005 contains the definition of core data elements for use in electronic port clearance (EPC) messages. It contains definitions of core data elements for electronic messaging between ships and shore in the areas of safety, security and marine operations. It does not define any structuring of messages or provide any guidance on what information is required for a particular purpose; it is rather a general data dictionary for safety, security or operation-related maritime information.

It is intended for use in XML messages and will for that reason differ somewhat from the similar trade data elements directory (TD ED) International Standard, ISO 7872.

The core data elements defined in this part of ISO 28005 are specified so that their meaning and interpretation in general are independent of the context in which they are used.

This part of ISO 28005 does not define the message formats required to exchange information.

#### 1.2 Application of the core data elements

This part of ISO 28005 contains definitions of core data elements for electronic port clearance (EPC). These elements cover all requirements for ship-to-shore and shore-to-ship reporting as defined in the following.

- a) All FAL standard declarations (FAL 1 to 7) as defined in the FAL Convention.
- b) ISPS reporting requirements as defined in ISPS and MSC 1305.
- c) All general ship reporting requirements as defined in IMO Resolution A.851.
- d) Recommended reporting on ship-generated waste as defined in MEPC 644 (mandatory within the European Union, as described in EU/2000/59).
- e) Required reporting as defined in the bulk loading and unloading code IMO Resolution A.862.
- f) ETA reporting to pilot station as defined in IMO Resolution A.960.

Annex L gives a cross-reference between the above references and the core data elements.

This part of ISO 28005 can also be used for information exchanges between the ship and the ship agent, the port and ship operator or manager. It will not necessarily cover issues such as customs clearance of imported or exported goods or transport service provisions to goods owners.

### 1.3 Types of data elements defined by this part of ISO 28005

Figure 1 shows some of the types of elements that are defined and referenced in this part of ISO 28005. The grey boxes represent objects that are not defined in this part of ISO 28005, but which are respectively basis information and results of using this part of ISO 28005.

The top-most grey box represents standard data types as defined in XML Schema Part 2 (XSD-2). The bottom-most grey box represents an electronic XML message containing data elements defined by using this part of ISO 28005.

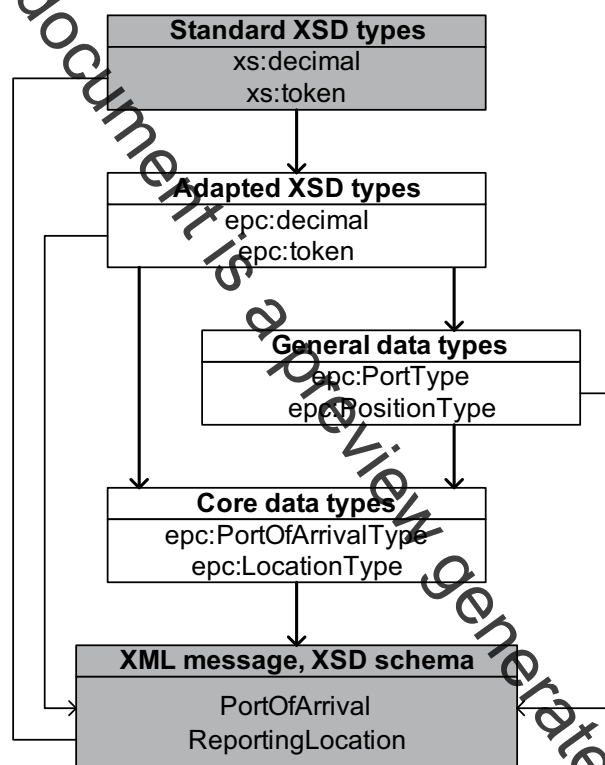


Figure 1 — Elements of this part of ISO 28005

Figure 1 does not include all elements in each group, but has selected a few from each group as examples. From the top downwards, the defined elements are as follows.

- Adapted XSD types: These are basic XSD types with additional restrictions that apply for the use of these elements in this part of ISO 28005.
- General data types: These are data types that represent common concepts like a port description or a certificate which normally need to be specialized more to be given a context-specific meaning.
- Core data types: These are data types that also contain a contextual meaning to the more generic concept, such as an arrival port instead of a general port or a reporting location instead of a general location.



This part of ISO 28005 does not prohibit the use of data types other than the EPC Core Elements when messages are defined (this is indicated with the thin arrows in Figure 1). However, such data elements will be given a specific semantic meaning in the specification of the message format.

## 1.4 Structure of the data element descriptions

Figure 2 gives an outline of the structure of this part of ISO 28005. The two rectangles at the top represent the general data types outlined in the previous clause while the row of rectangles at the bottom represents the EPC core elements.

Adapted XSD types (Clause 5)								
General data types (Clause 6)								
Ship ID 7.2	Cargo 7.3	Crew and passenger 7.4	Class and certificates 7.5	Security 7.6	Service related 7.7	Ship particulars 7.8	Vessel operation 7.9	Waste and environment 7.10

Figure 2 Overview of the structure of this part of ISO 28005

The groups are loosely based on the order in which they appear on typical FAL forms:

- Ship ID: ship identification and contact details.
- Cargo: data related to cargo and cargo types.
- Crew and passenger: crew- and passenger-related data.
- Class and certificates: data related to class and certificates kept on board.
- Security: mainly ISPS-related data.
- Service-related: data related to services requested by the ship, including message headers and clearance request and status.
- Ship particulars: static data about the ship.
- Vessel operation: data that is dependent on current operation or voyage; also physical data that changes, e.g. with loading such as draught.
- Waste and environment: currently, this section contains information about waste.

The grouping of core elements is for convenience only and need not result in any particular structuring of EPC messages. Additionally, the data elements, when defined in an XSD file, will not use any formal grouping; all data elements will have the same name space.

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

ISO 9711-1, *Freight containers — Information related to containers on board vessels — Part 1: Bay plan system*

ISO/IEC 10646:2003, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

IETF RFC 3986, *Uniform Resource Identifier (URI): Generic Syntax*

*International Maritime Dangerous Goods (IMDG) Gde*, IMO

MEPC.1/Circ.644, *Standard Format for the Advance Notification Form for Waste Delivery of Port Reception Facilities*

UNECE R21 (UNECE Recommendation No. 21), *Codes for Passengers, Types of Cargo, Packages and Packaging Materials (with Complementary Codes for Package Names)*

UNTDD, *United Nations Directories for Electronic Data Interchange for Administration, Commerce and Transport*

### 3 Terms, definitions and abbreviated terms

#### 3.1 Terms and definitions

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

##### 3.1.1

##### **character**

atomic unit of text as specified by ISO/IEC 10646:2003

NOTE Legal characters include: tab, carriage return, line feed, and the legal characters of The Unicode Standard and ISO/IEC 10646. The editions cited in this part of ISO 28005 were current at the time of publication; new characters could be added to The Unicode Standard or ISO/IEC 10646 by amendments or future editions.

##### 3.1.2

##### **core data element**

data object of a type defined in Clause 7 of this part of ISO 28005:2010.

NOTE The core data element will be represented as the contents between XML start and end tags, where the tags have the same name as the core data type with the trailing string “Type” omitted.

##### 3.1.3

##### **core data type**

data type defined in Clause 7 of this part of ISO 28005:2010.

NOTE All core data types will have a trailing “Type” in their name which will be removed when the data type is instantiated as a core data element.

##### 3.1.4

##### **data type**

**core data type** (3.1.3) or another data type defined in Clauses 5 or 6 of this part of ISO 28005:2010.

NOTE All data types will have a name ending with “Type”.