
**Freight containers — Container
equipment data exchange (CEDEX) —
Part 2:
Refrigerated containers**

*Conteneurs pour le transport de marchandises — Échange de données
sur les équipements de conteneurs (CEDEX) —
Partie 2: Les conteneurs frigorifiques*

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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 documents 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 104, *Freight containers*, Subcommittee SC 4, *Identification and communication*.

This first edition of ISO 9897-2 together with ISO 9897-1, ISO 9897-5 and ISO 9897-6, cancels and replaces ISO 9897:1997, which has been technically revised with the following change:

- It has been split into parts to simplify and relate the technical content of each part to each type of container and also to harmonize the parts of ISO 9897 with the order of container types as contained in the parts of ISO 1496.

It also incorporates the Technical Corrigendum ISO 9897:1997/Cor 1:2001.

ISO 9897 consists of the following parts, under the general title *Freight containers — Container equipment data exchange (CEDEX)*:

- *Part 1: General communication codes for general purpose containers*
- *Part 2: Refrigerated containers*
- *Part 5: General communication codes for chassis*
- *Part 6: Message sets for data transfer between local computer and host computer*

Freight containers — Container equipment data exchange (CEDEX) —

Part 2: Refrigerated containers

1 Scope

This part of ISO 9897 specifies general communication codes for container equipment data exchange (CEDEX).

It is intended for business entities for use in communications relating to freight container transactions.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 6346:1995, *Freight containers — Coding, identification and marking*

ISO 9897-6, *Freight containers — Container equipment data exchange (CEDEX) — Part 6: Message sets for data transfer between local computer and host computer*

3 Principle

In the ISO 9897 series, codes are assigned to pieces of information, called “data elements”, which are commonly used in transactions relating to freight containers. These data elements are named and defined, and each element is assigned a CEDEX alphabetical or alphanumeric code. Separate code lists for each type of information (damage, component, repair, location, etc.) are maintained. A code may be reused in several different code lists, but a code is never used for more than one data element within a single code list.

The data element may be phrased about material of construction of a container. For example, CEDEX code “ST” in material type code list ([Annex E](#)) stands for “Steel, carbon”. A code may define the component of the container that is damaged, its location, or its operating defect, depending on which data element is being defined. A selection is made from the appropriate code list to indicate which component, location, or defect, respectively, is chosen. Other coded data elements indicate essential physical characteristics of the container and information pertinent to the use and management of the container, such as names and addresses of owners.

It can be seen from these examples that the text of a message can be substantially reduced in length by using the CEDEX codes instead of plain language. Use of the CEDEX codes results in messages much reduced in length, transmission time and communication cost, yet conveying information as complete as a much longer plain-language message.

Through proper programming of a computer, a CEDEX-encoded message can be printed out in plain language for the benefit of the communicators, if so desired, or it can be left in its encoded form. The personnel using the code routinely will develop the skill of being able to read messages in coded form; in fact, experience using the code has borne out this assertion. Also, many operators will not require

use of all CEDEX codes assigned in ISO 9897, but only a portion of them due to the limited variety of containers and chassis in their domain.

Specific information about manufacturer, type and model of a container or chassis and its equipment is contained in the message (see 4.2.2).

4 Data elements and codes

4.1 Data elements

Data elements and corresponding code sets required to describe equipment components, their condition, repair methods, etc. are included in the appropriate Annex shown in Table 1.

4.2 Data assignments

4.2.1 CEDEX codes

All codes assignments of CEDEX shall be taken as obligatory. That is, an operator shall not pick and choose alternative codes unilaterally, nor depart from the established protocol, nor introduce new codes without having registered the codes in accordance with 4.3.

However, two trading partners may agree mutually to use alternative codes if necessary code are not included in this part of ISO 9897. It is strongly recommended that such code be registered in accordance with 4.3 as soon as possible after introduction.

4.2.2 Message sets

Message sets as per ISO 9897-6 are alternative interface messages used for electronic data interchange transmission. An owner or operator can pick and choose amongst other standards and the standard serves as a list of required and optional data elements.

The specific information about manufacturer, type and model of a container or chassis and its equipment is contained in the message sets.

ISO 9897-6, Annex A describes the manner in which a directory of users is developed. The directory is maintained by Bureau International des Containers et du Transport Intermodal (BIC) listed as BIC-LOCODES at www.bic-code.org.

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Table 1 — Data elements and code sets

Data elements	Code set
Message type	Annex A
Full/empty indicator (container)	Annex B
Structural condition (container)	Annex B
Repair condition (container)	Annex B
Outside coating (container)	Annex B
Inside coating (container)	Annex B
Damage location	Annex C
Damage type	Annex D
Material type	Annex E
Repair type	Annex F
Measure unit specifier	Annex G

Table 1 (continued)

Data elements	Code set
Work scale (standard time factor)	Annex G
Responsibility (for repair action)	Annex H
Component for container	Annex I

4.3 Updating data elements

The ISO Council has, in accordance with the provisions of the Directives for the technical work of ISO, designated the Bureau International des Containers et du Transport Intermodal (BIC) as the Registration authority for the data elements:

Registration authority for ISO 9897

Bureau International des Containers et du Transport Intermodal (BIC)

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Phone: +33 1 47660390

Telefax: +33 1 47660891

E-mail: bic@bic-code.org

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Additional data elements will be added to [Table 7.1](#) at the request of international organizations, ISO/TC 104 member bodies, and approval of TC 104/SC 4. The actual process of registration will be performed by the TC 104/SC 4 Secretariat in consultation with the experts of TC 104/SC 4.

Each additional data element will be allocated an alphabetic or alphanumeric code, not at present used within the same code list covering a type of data.

Annex A (normative)

Code — Message types

Numerical code	Name	Description	Message
01050	Damage repair estimate	Description of damages and repair methods; authorization for repair work to proceed	DESTIM ^{a,b}
01060	Damage/repair estimate	Description of damages and repair methods; authorization for repair work to proceed	WESTIM ^c WESTIMDT ^c

^a To be used for electronic data interchange transmissions. See appropriate message descriptions published by UN/C-FACT to determine messages to which the codes in this part of ISO 9897 may apply. Further message types and equivalent EDIFACT codes will be added as released by C-FACT TBG3.

^b EDIFACT codes, message standards (including the relevant message type codes) are controlled by UN/C-FACT, a subsidiary organization to UN/ECE/WP.4. ISO has assented to this arrangement via a memorandum of understanding between ISO and UN/ECE.

^c To be used for electronic data interchange transmissions. See appropriate message descriptions in ISO 9897-6. The messages of ISO 9897-6 are developed for trading partner systems that do not support EDI. These messages are also used for import and export of data between systems.

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Annex B (normative)

Structural condition, repair condition, outside coating, inside coating, full/empty indicator

B.1 Structural condition, repair condition, outside coating, inside coating

Numerical code	Name	Description	Message
01110	Bad	Inferior quality or state of structural parts, workmanship, surface treatment, etc.	B
01120	Poor	Poor quality or state of structural parts, workmanship, surface treatment, etc.	P
01130	Medium	Average or acceptable quality or state of structural parts, workmanship, surface treatment, etc.	M
01140	Good	Good quality or state of structural parts, workmanship, surface treatment, etc.	G
01150	Excellent	Excellent quality or state of structural parts, workmanship, surface treatment, etc.	X

B.2 Full/empty indicator

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Numerical code	Name	Description	Message
01160	Empty	Empty condition of equipment	E
01170	Full	Loaded condition of equipment	F

Annex C (normative)

Damage location

C.1 All container bodies and refrigeration units

The location coding convention consists of the following.

- A 1 200 mm × 1 200 mm (4 ft × 4 ft) numerical square system is used to identify damage to any face of a 20 ft or 40 ft container.
- A 600 mm × 600 mm (2 ft × 2 ft) numerical square system is used to identify damage to any face of a 10 ft container.
- A 900 mm × 900 mm (3 ft × 3 ft) numerical square system is used to identify damage to any face of a 30 ft container.

The container location coding convention locates damages within an area as large as a complete face of the container or as small as a nominal square as above, or even less for the main components located on its edges (rails, corner posts).

The location code shall consist of four characters depending upon the area to be described. It identifies the smallest area containing the entire vertical and horizontal length of the damage.

C.1.1 First character

The first character shall be selected to identify the appropriate face of the container.

door end (rear)	D
container exterior	E
front end	F
left side	L
Container interior	I
right side	R
top/roof	T
under-structure	U
bottom floor	B
<i>Others:</i>	
Refrigeration unit components	M
unspecified location or not applicable	N
container exterior and interior (whole container)	X

C.1.2 Second character

It shall be selected to identify the appropriate part of the container face where the damage is contained, when applied to a closed container. The vertical faces of the container are divided into top and bottom halves and upper and lower main components. The horizontal faces of the container (roof or top and floor or bottom and under-structure) are divided into right and left halves when viewed from the door end.

The relevant codes for containers are as follows:

both halves (i.e. top and bottom, or left and right or centre)	X
bottom half both halves (i.e. top and bottom, or left)	B
higher portion (upper)	H
left half	L
lower portion (ground)	G
right half	R
top half	T

For refrigeration units, the second character designates the major assembly of the unit in which the damage is found. See C.1.2 for examples of how these codes are used.

Compressor	Q
Condenser	K
Electrical	E
Evaporator	V
Frame	F
Miscellaneous	Z
Piping	P
Regulation/Control	C
Unspecified assembly	N
Whole unit	X

C.1.3 Third and fourth characters

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They shall be selected to identify the section of the container part in which the damage is contained.

On all containers, the front and door ends are divided into vertical sections numbered as follows when viewed from the door end from left to right:

for the left-hand side corner post	1
for the left half	2
for the right half	3
for the right-hand side corner post.	4

On all containers, the right and left sides, the roof, the floor and the under-structure are divided into equal sections as follows:

for 10 ft and 20 ft containers, five sections numbered	1 to 5
for 30 ft and 40 ft containers, 10 sections numbered	1 to 0

When the damage covers one section only, the third character indicates the appropriate section number and the fourth character shall be **N** [see Figure C.1 a)].

When the damage covers several adjacent sections, the first and last section numbers are used [see Figure C.1 b)].

When the damage covers several non-adjacent sections or if damage repair details are not the same, then separate line items shall be used [see Figure C.1 c)].

When the damage covers the entire length of the container face, the third and fourth characters shall each be X [see Figure C.1 d)].

C.1.4 General location coding

When the damage/action covers several faces of the inside of the container such as steam cleaning, inside refurbishment, reaffixing or sealing of panels, then the code **IXXX** shall be used.

When the damage/action covers several faces of the outside of the container such as outside refurbishment, reaffixing or sealing of panels, removing of cargo stickers, then the code **EXXX** shall be used.

When the damage/action covers several inside and outside faces of the container such as examinations, handling/transport, complete refurbishing, and then the code **XXXX** shall be used.

C.1.5 Examples of location coding for containers

Examples of location coding of components of typical containers are shown below. A diagram showing the components is shown in Figure C.1.

Figure C.1 Reference	Location code	Component code	Description
a	LT5N	PAA	Side panel, LHS, upper half, within the 5th 1 200 mm (4 ft) section from rear
b	RT24	PAA	Side panel, RHS, upper half, extending through 2nd to 4th sections from rear
c	RB2N	PAA	Side panel, RHS, lower half, within the second section from the door
c	RB4N	PAA	Side panel, RHS, lower half, within the fourth section from rear
d	TXXX	PAA	Roof panel, both sides, extending through all sections
e	UX1N	CMA	Cross-member, both sides, within first section from door
f	UR12	CMA	Several cross-members, RHS, extending through first two sections*
g	TL12	RBO	Roof bows, both sides, extending through first two sections*
h	TR1N	RBH	Roof bow holder, RHS, within first section (bow holder number will be defined in separate free-text field)
i	UL8N	CMA	Outrigger, LHS, within the eighth section from door (40 ft) (outrigger number will be defined in separate free-text field)
j	UX3N	FLW	Web (side) of fork-lift pocket, both sides, within third section from door (pocket number will be defined in separate free-text field)
k	UR4N	FLS	Fork-lift pocket strap, RHS, within fourth section from door (pocket number will be defined in separate free-text field)
l	RX1N	SBO	Side post, RHS, both halves, within the first section from door (post number will be defined in separate free-text field)

LHS left-hand side
 RHS right-hand side

^a Specific sequential number of component will be defined in separate free-text field.

NOTE Specific sequential number of component will be defined in separate free-text field as follows: Roof bows, crossmembers, outriggers and forklift pocket sides are to be numbered from rear (door) end to front. Locking bars are to be numbered from left to right.

Figure C.1 Reference	Location code	Component code	Description
m	UL15	RLA	Centre spacer rail, extending through sections 1 to 5 from door
n	UR89	RLA	Tunnel rail, extending through sections 8 to 10 from door
o	DX2N	LBA	Locking bar, LH door, both halves (locking bar number will be defined in separate free-text field)
<p>LHS left-hand side RHS right-hand side ^a Specific sequential number of component will be defined in separate free-text field. NOTE Specific sequential number of component will be defined in separate free-text field as follows: Roof bows, crossmembers, outriggers and forklift pocket sides are to be numbered from rear (door) end to front. Locking bars are to be numbered from left to right.</p>			

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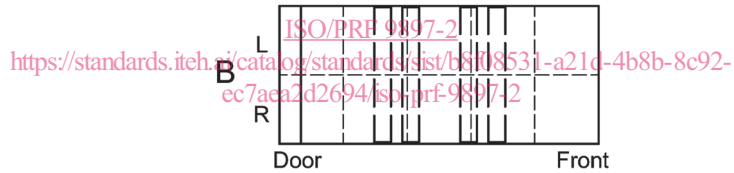
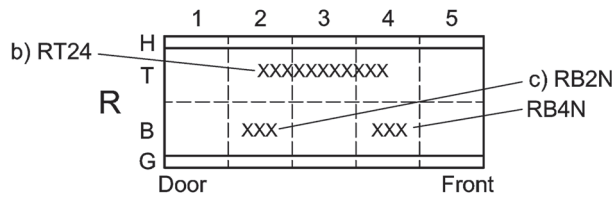
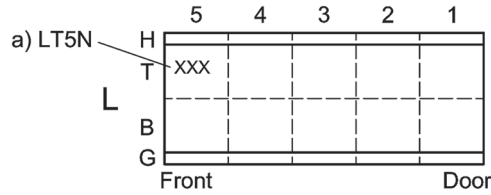
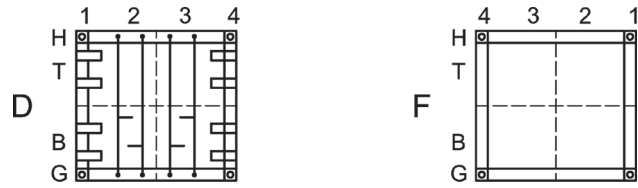
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