

Implementation of
ISO 9897-1:1990

Freight containers — Container equipment data exchange (CEDEX) —

Part 1: General communication codes

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- British Industrial Truck Association
- British International Freight Association
- British Railways Board
- Chamber of Shipping
- Department of Transport (Transport Industries)
- European Portable Tank Association (British Section)
- Federation of the Electronics Industry
- Health and Safety Executive
- Institute of Logistics
- Lloyd’s Register of Shipping
- Ports’ Safety Organisation
- Road Haulage Association Ltd.
- Shipowners Refrigerated Cargo Research Association
- Society of Motor Manufacturers and Traders Limited

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National foreword

This British Standard reproduces verbatim ISO 9897-1:1990 implements it as the UK national standard.

This British Standard is published under the direction of the Consumer Products and Services Sector Board whose Technical Committee PKM/18 has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international committee any enquiries on interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

NOTE International and European Standards, as well as overseas standards, are available from Customer Services, BSI, 389 Chiswick High Road, London W4 4AL.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO title page, pages ii to iv, pages 1 to 52, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

INTERNATIONAL STANDARD

ISO
9897-1

First edition
1990-08-15

Freight containers — Container equipment data exchange (CEDEX) —

Part 1: General communication codes

*Conteneurs pour le transport de marchandises — Échange de données sur les
équipements de conteneurs (CEDEX) —*

Partie 1: Codes des communications générales



Reference number
ISO 9897-1 : 1990 (E)

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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.

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.

International Standard ISO 9897-1 was prepared by Technical Committee ISO/TC 104, *Freight containers*.

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

- *Part 1: General communication codes;*
- *Part 2: Manual for telex transmission;*
- *Part 3: Message types for electronic data interchange.*

Annex A to Annex L (except Annex J) form an integral part of this part of ISO 9897. Annex J and Annex M are for information only.

Introduction

As containers move throughout the world in domestic and foreign service, there is need to dispatch information from one office or facility to another, concerning damage repair or the replacement of worn parts. Such communications may announce, for example, the expected arrival date of a container at a certain repair depot, or describe the nature of some repair, or may be a price quotation for work about to be done. CEDEX was prepared to fill that need for a fast, efficient and cost-effective communications system.

The communication may be between any parties who wish to adopt CEDEX. However, there is an unwritten obligation on the part of all users to maintain their system up-to-date with the latest issue of the Code. Procedures for maintenance and revision are set down in the various parts of ISO 9897.

Over the years since the introduction of containerization, containers have become quite similar in design and manufacturing techniques, irrespective of manufacturer or country of origin. Thus it is now possible to identify and encode the structural elements and operating devices of all types of containers. This uniformity of construction is a prerequisite to being able to identify component parts of a container in an abbreviated (i.e. encoded) way and in such a manner that the communication becomes clear and unambiguous.

For the first time in the history of the ISO container standards project, an extensive nomenclature has been established which will aid not only in the transmission of encoded information in electronic data processing or by telex, as set forth in this part of ISO 9897, but will also be valuable for all kinds of communication (spoken or written). Its widespread use is anticipated in such fields as repair manuals, sales literature, engineering specifications, legal work, academia, training guides, customs declarations, etc. Pictorial representations of most component parts are given.

For those companies whose communications are few in number or where the nature of the messages is principally internal, no code may be required. But for those companies whose communications about containers might be frequent or where they commonly extend to unaffiliated firms outside of their management control, there needs to be a common protocol for transmitting and receiving information. CEDEX was established to provide that common protocol. Where an internal code is different from CEDEX, operators will have to provide a means of translating information to and from CEDEX.

The pressing need of CEDEX by the container industry prompted ISO/TC 104 to release this standard as quickly as possible. Because of this urgency, there may be unforeseen problems in implementing the system which could have been circumvented had a slower and more meticulous development process been used. The delay, however, would perhaps have seen the introduction of additional internal systems incompatible with CEDEX and hence retard industry-wide adoption. Therefore, the standard was accelerated and released so that early use, familiarity and experience might lead to feedback of ideas for improvement.

Comments and suggestions are welcome. They should be sent to the secretariat of ISO/TC 104, *Freight containers*, SC 4, *Identification and communication*.

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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 standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 9897. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 9897 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3166:1988, *Codes for the representation of names of countries*.

ISO 6346:1984, *Freight containers — Coding, identification and marking*.

3 Principle

In this part of ISO 9897, codes are assigned to pieces of information (called “data elements”) which are commonly used in such transactions. These data elements are named and defined and a five-digit numerical code is assigned to each, along with a CEDEX alphabetical code.

The data element may be a phrase about the material of construction of a container. For example, numerical code 05350 means “Material is vertically laminated softwood plank”. It may describe an actual operating defect. For example, numerical code 04290 means “Motor will not function”. There are many other coded data elements that describe various physical characteristics of containers and other essential pieces of information about their movement and management.

It can be seen from these examples that the text of a message can be substantially reduced in length by using the numerical code instead of plain words. It is even possible to reduce the length further by using letters instead of digits. That is what CEDEX does. It permits the five-digit numerical code to be transmitted by alpha codes of one, two or three characters, thus reducing the overall length of messages and saving time and cost.

In the first example (05350), the CEDEX code is LS and in the second one (04290) it is MF. 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 the coded form. Also, many operators will not require use of all the CEDEX codes assigned in this part of ISO 9897, but only a portion of them due to the limited variety of containers and chassis in their domain.

4 Data elements and codes

4.1 Data elements

Data elements and their equivalent codes required to describe equipment components, their condition, repair methods, etc., are listed in Table 1.

4.2 Code assignments

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.

NOTE Annex J is at the moment merely informative; it describes the manner in which a directory of users will eventually be developed. Until the directory is issued, Annex J is not a mandatory requirement of this part of ISO 9897.

Table 1 — Data elements and code sets

Data elements	Code set; see Annex
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
Repair size dimension	Annex G
Work scale (standard time factor)	Annex G
Responsibility (for repair action)	Annex H
Party identification and location	Annex J
Component for container	Annex K
Component for chassis	Annex L

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 Secretariat of ISO/TC 104/SC 4 as the Registration Authority for the data elements:

Registration Authority for ISO 9897

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Additional data elements will be added to Table 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 this group.

Each additional data element will

- carry a serial number in correct series following the reference number of the last data element code recorded;
- be allocated an alpha code, not at present in use.

Annex A (normative)**Codes — Message type (see 4.1. and 4.2)**

Numerical code	Name	Description	CEDEX code ^a	EDIFACT code ^b	Operator code
01010	On-hire interchange	Interchange between leasing company and operator	ON	ONHIRI	
01020	Off-hire interchange	Interchange between operator and leasing company	OF	OFHIRI	
01030	Interchange	Interchange between two parties with or without damage description	IN	INTERC	
01040	Damage description	Detailed damage description	DD	DDESCR	
01050	Work estimate	Work cost quotation submitted for approval	WE	WESTIM	
01060	Third party claim	Third party, damage description and cost claim	WC	WCLAIM	
01070	Work tender request	Cost estimate request based on damage description	WR	WREQUE	
01080	Work order	Work order with detailed work description approved	WO	WORDER	
01090	Work cost invoice	Work cost invoice	WI	WINVOI	

^a To be used for telex transmission. See ISO 9897-2.

^b To be used for electronic data transmission. See ISO 9897-3.

Annex B (normative)**Codes — Structural condition, repair condition, outside coating, inside coating; full/empty indicator** (see 4.1 and 4.2)

Numerical code	Name	Description	CEDEX code	Operator code
B.1 Structural condition, repair condition, outside coating, inside coating				
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				
01160	Empty	Empty condition of equipment	E	
01170	Full	Loaded condition of equipment	F	

Annex C (normative)**Codes — Damage location** (see 4.1 and 4.2)**C.1 Location coding convention**

The location coding convention consists of three parts:

- a) For dry cargo, open top, thermal, tanks and other container types:
 - A 1 200 mm × 1 200 mm (4 ft × 4 ft) numerical square system is used to identify damage to any face of the container.
 - A component numbering system is in addition employed to identify damage to cross-members, roof bows and other similar components, which are an integral part of the container.
- b) For container ancillary equipment, which are an integral part of the container, such as reefer machinery, tank specific components, diesel generator set:
 - The location field is used to indicate the functional group to which a component belongs.
- c) For chassis:
 - (to be developed).

C.1.1 Containers

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 1 200 mm × 1 200 mm (4 ft × 4 ft) square, 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.1.1.1 First character

It shall be selected to identify the appropriate face of the container:

right side	R
left side	L
roof or top	T
bottom (floor)	B
front end	F

door end (rear)	D
understructure	U
whole container	X
container interior	I
container exterior	E

C.1.1.2 *Second character*

It shall be selected to identify the appropriate part of the container face where the damage is contained. 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 understructure) are divided into right and left halves when viewed from the door end.

The relevant codes are:

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

C.1.1.3 *Third and fourth characters*

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:

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

On all containers the right and left sides, the roof, the floor and the understructure are divided into equal sections:

- for 10 ft and 20 ft containers, five sections numbered 1 to 5
- for 30 ft and 40 ft containers, ten sections numbered 1 to 0 (1, 2, 3, ..., 9, 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.1.1.4 *Numbering system for multiple components*

In addition to the location code described in C.1.1.1 to C.1.1.3, some components are more precisely identified in numerical order.

The particular components of the door and front end such as door locking bars or front (side) posts are numbered consecutively from left to right when viewed from the door end of the container.

The particular components contained in all the other faces such as roof, bows, side posts, cross-members, are numbered consecutively from the door end of the container, with the exception of the fork-lift pockets which are numbered 1 and 2 for those designed to lift the container in the loaded condition (outer set), and 3 and 4 for those designed to lift the container in the empty condition (inner set). Numbers 1 and 3 are closest to the door end.

Such particular components are then identified by:

- the relevant location code;
- their component code;
- their numerical order which is displayed in size of repair field (see clause G.2).

EXAMPLES

NOTE LHS means left-hand side;
RHS means right-hand side.

Location field	Component field	Size of repair	Description	Reference in Figure C.1
UX1N	CMA	1	Cross-member No. 1	e)
UL12	CMA	2,3,4	LHS of cross-members Nos 2 to 4	f)
TX12	RBO	3,4,5	Roof bows Nos 3 to 5	g)
TR1N	RBH	1	RHS Roof bow holder of bow No. 1	h)
UR8N	CMA	1	RHS outrigger No. 1	i)
UX3N	FLW	4	The web or side of FLP No. 4	j)
UL4N	FLS	2	LHS strap of FLP No. 2	k)
RX1N	SBO	2	RHS side post No. 2	l)
UX15	RLA		Central intermediate rail	m)
UL80	TUA		LHS tunnel rail	n)
DX2N	LBA		LHS locking bar of LHS door	o)

C.1.1.5 General location coding

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

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

C.1.2 Ancillary equipment

The specific components of ancillary equipment which are an integral part of a container such as refrigeration machinery, diesel generator, tank fittings are identified

- firstly, by the two alpha characters selected to identify the major functional group to which the component belongs: they are the first and second characters of the location code;
- secondly, by the code NN: it forms the third and fourth characters of the location code.

EXAMPLES

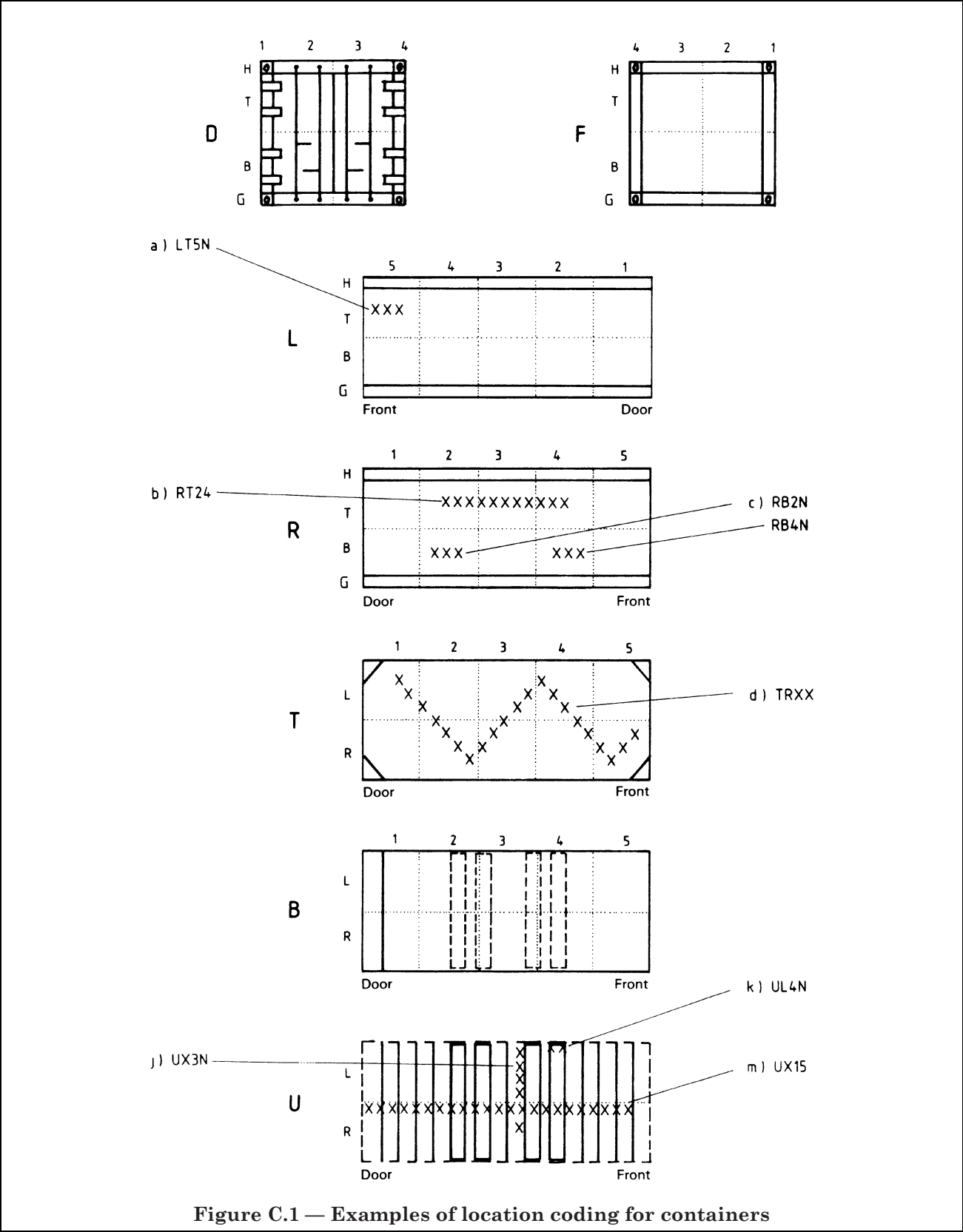
MQNN	Reefer machinery — compressor
TKNN	Tank
AENN	Other ancillary equipment

Components that occur more than once in an ancillary equipment or which are common or similar to other components are given the same component code but are differentiated by the functional group code.

EXAMPLES

Location field	Component field	Description
MKNN	MAS	Refrigeration machinery — Condenser fan motor
MVNN	MAS	Refrigeration machinery — Evaporator fan motor
MPNN	VSS	Refrigeration machinery — Suction solenoid valve
TDNN	VSF	Tank — Safety valve

C.1.3 Chassis (To be developed.)



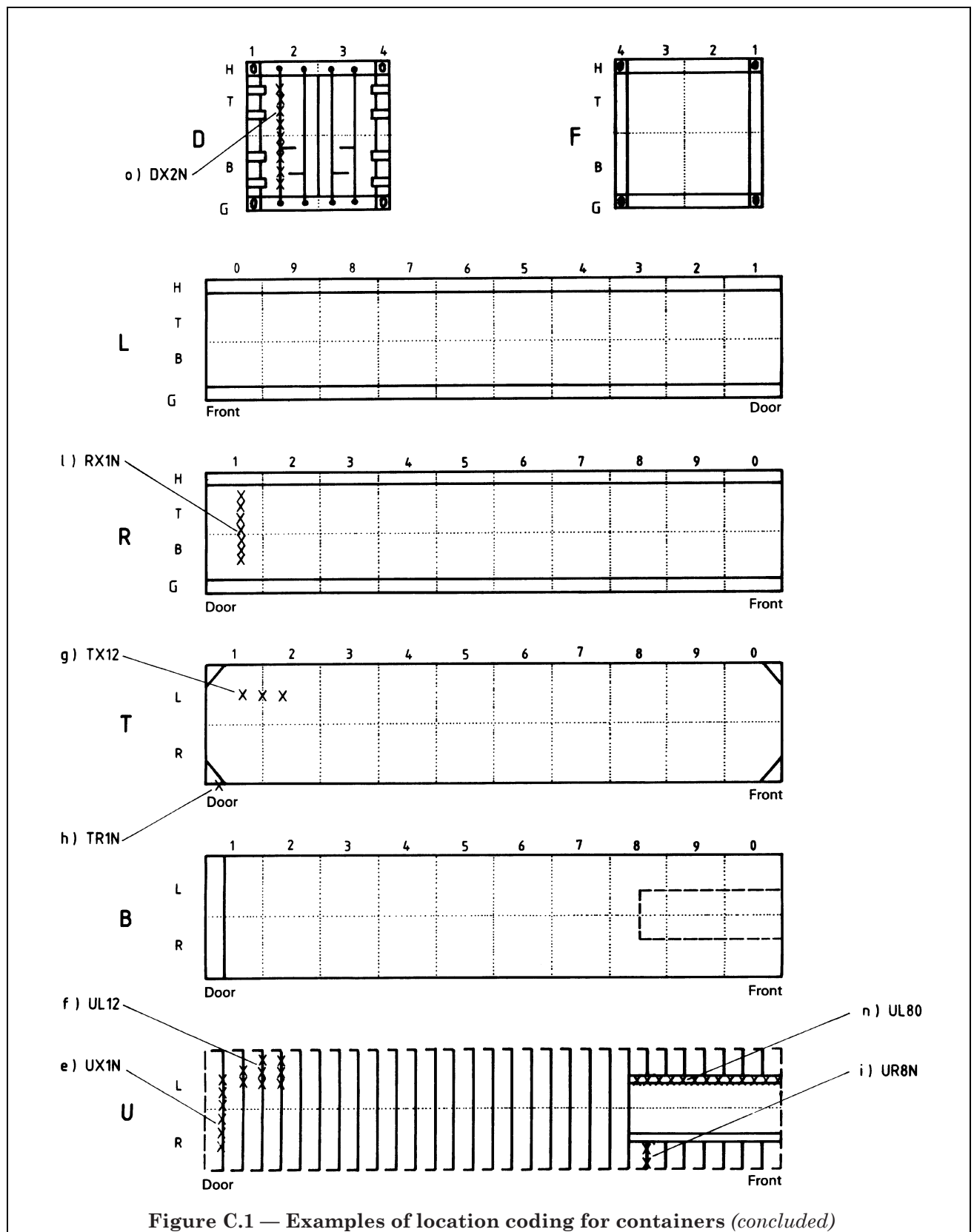


Figure C.1 — Examples of location coding for containers (concluded)

Annex D (normative)**Codes — Damage type** (see 4.1 and 4.2)

Numerical code	Name	Description	CEDEX code	Operator code
04010	Bald	Tyre is bald or worn to less than legal tread depth remaining	WB	
04020	Bent	Component is damaged by being bent	BT	
04030	Bowed	Component is damaged by being bowed. Usually damage is gradual over the length of the component	BW	
04040	Blocked	Drain, tube, outlet, etc., is blocked	BK	
04050	Blowout	Tyre is unusable due to a blowout	BL	
04060	Broken/split	Component is damaged by being broken or split	BR	
04070	Burned out	Electrical component is burned out	BO	
04080	Casing/tread separation	Casing or tread has separated from the carcass of the tyre	TS	
04090	Compression line	A series of dents in a straight line that decreases the strength of a component when it is placed in compression	CL	
04100	Contaminated	Equipment is rendered unsuitable for cargo because of contamination by chemicals or other cargo products, or by infestation	CT	
04110	Corroded/rusty	Component is corroded or rusty	CO	
04120	Cut	Component is damaged by being cut	CU	
04130	Curbing	Tyre is rendered unusable by being damaged in the shoulder area by running up on the curb	CB	
04140	Debris/dunnage	Equipment is unusable due to cargo residue or dunnage left inside	DB	
04150	Delaminated	Component, usually of wood, is damaged due to separation of laminations	DL	
04160	Dent	Component is damaged by being dented	DT	
04170	Flat/puncture	Tyre is deflated due to being punctured	FP	
04180	Flat spots	Tyre has spots or areas where tread is worn below legal limits for tread depth remaining	FS	
04190	Frozen	Component is inoperable by being frozen or corroded	FZ	
04200	Gouged	Component is damaged by being gouged	GD	
04210	GRP surface crack	GRP panel is cracked through the glass and gelcoat only	GO	
04220	GRP surface and plywood crack	GRP pannel is cracked through the glass, gelcoat and plywood	GP	
04230	Holed	Component is damaged by being holed	HO	
04240	Improper repair	A repair that does not conform to owner's requirements or industry standards	IR	
04250	Leak	Equipment or component leaks	LK	
04260	Loose	Component is loose	LO	
04270	Low fluid level	Component or system has less than the required amount of fluid	LF	
04280	Markings/labels	Labels, marks, logos and graffiti, etc., not required by owner	ML	
04290	Motor failure	Motor will not function	MF	
04300	Misaligned	Component, usually chassis tandem, is misaligned	MA	

Numerical code	Name	Description	CEDEX code	Operator code
04310	Mismatched	Two adjacent tyres have different diameters and are, therefore, not acceptable as a matched pair	MM	
04320	Missing/lost	Component is missing or lost	MS	
04330	Nails	Equipment is rendered unsuitable for cargo due to nails, usually in flooring	NL	
04340	Not within ISO dimensions	Equipment is not usable because it is no longer within the ISO dimensional envelope	NI	
04350	Not to TIR requirements	Equipment or component no longer complies with TIR regulations	NT	
04360	Not as required by owner	Equipment or component no longer complies with owner's requirements	NO	
04370	Odour	Equipment is rendered unsuitable for cargo because of odour	OR	
04380	Oil saturated	Component, usually flooring, is damaged by being heavily contaminated with oil	OL	
04390	Oil stains	Component, usually flooring, is damaged by being spotted with oil	OS	
04400	Other unacceptable repairs	Any repair deemed unacceptable by the owner or for reasons not specifically covered	OU	
04410	Out-of-date	Renewal of a periodic inspection, test or document is overdue	OD	
04420	Over-inflated	Tyre is damaged by being run while over-inflated	OI	
04430	Under-inflated	Tyre is damaged by being run while under-inflated	UI	
04440	Pin holes	Component is damaged with minute holes	PH	
04450	Run flat	Tyre is damaged by being run flat	RF	
04460	Separated	Brake lining has separated from the brake shoe	SP	
04470	Short/open circuit	Electrical system is inoperable due to a short or open circuit	SH	
04480	Shrunk	Component, usually tarpaulin, cover, tilt or flooring is damaged by shrinkage	SR	
04490	Stretched	Component, usually tarpaulin, cover or tilt is damaged by stretching	SD	
04500	Switched	Tyre is not original and is not comparable to the other tyres on the chassis	SW	
04510	Uneven tread	Adjacent tyres have different tread depth remaining	TU	
04520	Paint failure	Component suffers from a breakdown of the paint system	PF	
04540	Warped	Component is damaged by being warped	WA	
04550	Weathered	Tyre is rendered unusable due to long exposure	WV	
04560	Wear and tear	The unavoidable deterioration of a component during usage under proper operating conditions	WT	
04570	Worn	Component is rendered unusable by being worn. Tyre is worn to below legal tread depth remaining	WN	
04580	Wrong material	Previous repair or replacement was carried out using the wrong material	WM	