# INTERNATIONAL STANDARD

ISO 3874

Fifth edition 1997-12-15 **AMENDMENT 4** 2007-07-01

## Series 1 freight containers — Handling and securing

AMENDMENT 4: 45 ft containers

Conteneurs de la série 1 — Manutention et fixation AMENDEMENT 4: Conteneurs de 45 ft



Reference number ISO 3874:1997/Amd.4:2007(E)

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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.

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.

Amendment 4 to ISO 3874:1997 was prepared by Technical Committee ISO/TC 104, *Freight containers*, Subcommittee SC 1, *General purpose containers*.

The purpose of this amendment is to include 45 foot containers in ISO 3874:1997.

## Series 1 freight containers — Handling and securing

### AMENDMENT 4: 45 ft containers

Page 5
Replace Table 1 with the following:

Table 1 — Summary of specified lifting methods

Subclause	Description	Container types A, B, C and D	Container type E at 40 ft position	Container type E at 45 ft position
6.2	Top lift spreader			
6.3	Top lift sling			
6.4	Bottom lift sling			
6.5	Side lift: method 1			
6.6	Side lift: method 2			
6.7	Side lift: method 3		Not applicable to type E (45 ft) containers	Not applicable to type E (45 ft) containers
8	End lift: method 1		Not applicable to type E (45 ft) containers	Not applicable to type E (45 ft) containers
6.9	End lift: method 2		Not applicable to type E (45 ft) containers	Not applicable to type E (45 ft) containers
6.10	Fork-lift		Not applicable to type E (45 ft) containers	Not applicable to type E (45 ft) containers

Page 6, Table 2

Replace the existing Table 2 by the following, which includes container types 1EE and 1EEE:

Table 2 — Size designation referred to in Tables 3 to 12

Nomina	l length		Externa	l height	
m	ft	< 2 438 mm (8 ft 0 in)	2 438 mm (8 ft 0 in)	2 591 mm (8 ft 6 in)	2 896 mm (9 ft 6 in)
13,716	45	_	_	1EE	1EEE
12	40	1AX	1A	1AA	1AAA
9	30	1BX	1B	1BB	1BBB
6	20	1CX	1C	1CC	_
3	10	1DX	1D	_	_
NOTE All un	its have a nomina	l width of 2 438 mm	ı (8 ft 0 in).		

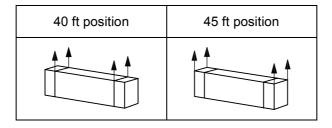
Page 6

#### Top lift spreader 6.2

Make the existing Figure 2 into Figure 2a) with the caption:

#### a) Lifting containers other than type E

Add a new part b) to Figure 2:



b) Lifting type E containers

Figure 2 — Lifting by means of a top lift spreader

Replace the existing subclause 6.2.2 by the following:

6.2.2 Lifting devices shall be properly engaged. Gathering devices shall impinge on corner or intermediate fittings only.

Page 7, Table 3

Replace the existing Table 3 by the following, which includes container types EEE and EE.

Table 3 — Applicability of top lift spreaders

Key:	Allowed	Not allowed (or not applicable)	

				Emp	ty co	ntair	ner									ISO					Load	led co	ntaiı	ner					_
EEE	EE	AAA	AA A	AX	BBB	вв	В	вх	СС	С	сх	D	DX		Container type	6346	EEE	EE	AAA	AA A	А	ввв	вв	ВВ	x c	сс	сх	D	DX
															General purpose	GP,VN													
															Open top	UT													
														В	ulk: non-pressurized/box	BU											L		
															Thermal	RE,RT													
									L							RS													
														Ta	ank for liquids and gases	TN,RT													
							Ш		L							TG									1		<u> </u>		
			Ш				Ц		L	L		L		Bulk: non	-pressurized/hopper pressurized	BK									L		╙	Ц	
															Platform	PL					1)			1			1)		1)
							П								complete and fixed ends	PF				П					T		┪	٢	
															fixed free-standing posts	PF													
															complete and folding ends, erected condition	PC													
														Platform -based	folding free-standing posts, erected condition	PC													
															complete and folding ends, folded condition	PC													
															folding free-standing posts, folded condition	PC													
														Platform-ba	ased with complete superstructure and open-sided	PS													
1)	Т	op lif	t pos	sibl	e wi	th e	exte	ens	ior	าร	onl	y.																	

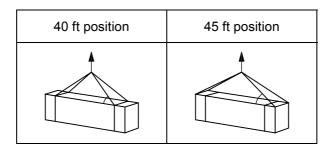
#### Page 7

#### 6.3 Top lift sling

Make the existing Figure 3 into Figure 3a) with the caption:

#### a) Lifting containers other than type E

Add a new part b) to Figure 3:



b) Lifting type E containers

Figure 3 — Lifting by means of a top lift sling

Replace the existing subclause 6.3.1 by the following (to include "intermediate"):

**6.3.1** The container is lifted by all four top corner or intermediate fittings with forces applied other than vertically.

Page 8, Table 4

Replace the existing Table 4 by the following, which includes container types EEE and EE:

Table 4 — Applicability of top slings

				•	•	_
Key:	Allowed	Not allowed	d (or not applicable)			

				E	Emp	ty co	ntai	ner	r								ISO					Lo	ade	d co	ntain	er					
EEE	EE	AAA	AA	Α	ΑX	ввв	ВВ	В	вх	CC	c	CX	D	DX		Container type	6346	EEE	EE	AAA	AA	ΑА	XX E	звв	вв	3 B)	кс	СС	сх	D	DX
																General purpose	GP,VN													2)	
																Open top	UT													2)	2)
															Ви	ılk: non-pressurized/box	BU													2)	2)
1)	1)	1)	1)	1)		1)	1)	1)		1)	1)		1)			Thermal	RE,RT RS													2)	
															Та	nk for liquids and gases	TN,RT TG													2)	2)
															Bulk: non-	pressurized/hopper pressurized	вк					ı								2)	2)
																Platform	PL														
																complete and fixed ends	PF														
																fixed free-standing posts	PF														
																complete and folding ends, erected condition	PC														
															Platform -based	folding free-standing posts, erected condition	PC														
																complete and folding ends, folded condition	PC														
																folding free-standing posts, folded condition	PC														
															Platform-ba	sed with complete superstructure and open-sided	PS														

Centre of gravity may be eccentric.

NOTE Centre of gravity may be mobile, e.g. liquid, bulk or hanging loads.

#### Page 9

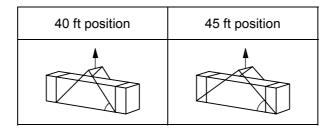
#### Bottom lift sling

Make the existing Figure 5 into Figure 5a) with the caption:

a) Lifting containers other than type E

<sup>2)</sup> For 1D and 1DX containers, the lifting forces shall be applied at an angle not less than 60° to the horizontal, see Figure 4.

Add a new part b) to Figure 5:



b) Lifting type E containers

Figure 5 — Lifting by means of a bottom lift sling

Replace the existing subclause 6.4.1 by the following (to include "intermediate"):

**6.4.1** The container is lifted from side apertures of four bottom corner or intermediate fittings by means of slings. The bottom sling attachment shall bear on the corner or intermediate fittings only and should be such to exert lifting forces not more than 38 mm away from the outer face of the corner fittings (see Figure 6).

Page 10, Table 5

Replace the existing Table 5 by the following, which includes container types EEE and EE:

## Table 5 — Applicability of bottom lift slings Key: Allowed (or not applicable)

				Е	mp	ty co	ntai	ine	r								ISO					L	oad	led co	nta	ine	r					
EEE	EE	AAA	AA	Α	AX	ввв	ВЕ	В	в	C	С	C	K D	D		Container type	6346	EEE	EE	AAA	AA	Α	ΑX	BBB	ВВ	В	вх	СС	С	сх	DΓ	ЭX
																General purpose	GP,VN															
																Open top	UT														П	
													Ī		Ві	ulk: non-pressurized/box	BU	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)	2)
1)	1)	1)	1)	1)		1)	1)	1	)	1	) 1	)	1)			Thermal	RE,RT RS	1)	1) 2)	1)	1)			1)	1)	1)		1)	11		1)	
															Ta	ank for liquids and gases	TN,RT		2)			_,		-/		_,			-/			
															Bulk: non-	pressurized/hopper pressurized	вк															
																Platform	PL															
																complete and fixed ends	PF														П	
															1	fixed free-standing posts	PF														П	
																complete and folding ends, erected condition	PC															
															Platform -based	folding free-standing posts, erected condition	PC															
																complete and folding ends, folded condition	PC															
																folding free-standing posts, folded condition	PC															
															Platform-ba	sed with complete superstructure and open-sided	PS															

<sup>1)</sup> Centre of gravity may be eccentric.

<sup>2)</sup> Centre of gravity may be mobile, e.g. liquid, bulk or hanging load.

Page 10, Table 6

Replace the existing Table 6 by the following, which includes container types 1EEE and 1EE:

Table 6 — Lifting angles for loaded containers

Container size designation	<b>Lifting angle</b> , $\alpha$ , min.
1AAA ; 1AA ; 1A ; 1AX ; 1EEE ; 1EE	30°
1BBB; 1BB; 1B; 1BX	37°
1CC; 1C; 1CX	45°
1D; 1DX	60°

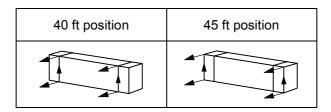
Pages 10 and 11

#### 6.5 Side lift: Method 1

Make the existing Figure 7 into Figure 7a) with the caption:

#### a) Lifting containers other than type E

Add a new part b) to Figure 7:



b) Lifting type E containers

Figure 7 — Lifting by means of a side lift (method 1)

Replace the existing subclause 6.5.1 by the following (to include "intermediate"):

**6.5.1** The container is lifted by means of a side lift frame designed to lift a container by the two bottom corner or intermediate fittings of one side and to restrain it by the two top corner or intermediate fittings of the same side.

Page 11, Table 7

Replace the existing Table 7 by the following, which includes container types EEE and EE:

Table 7 — Applicability of side lift (method 1)

Key:	Allowed	Not allowed (or not applic	cable)
•			

				Em	pty (	con	ntair	ner									•	ISO					L	oac	dec	d cor	ntai	ner						
EEE	EE	AAA	AA A	A	х ве	зв	вв	В	вх	С	С	СС	х	D	DX		Container type	6346	EEE	EE	AAA	AA	Α	AX	В	ВВ	вв	ВВ	X	СС	С	сх	D	DX
																	General purpose	GP,VN													П			
																	Open top	UT													П			
																Ві	ulk: non-pressurized/box	BU												2)	2)	2)	2)	2)
1)	1)	1)	1) 1	)	1	)	1)	1)		1	)	1)		1)			Thermal	RE,RT RS												2)			2)	
												Ī				Τε	ank for liquids and gases	TN,RT							T					2)	2)	2)	2)	2)
																Bulk: non-	-pressurized/hopper pressurized	вк												2)	2)	2)	2)	2)
																	Platform	PL																
											Ī						complete and fixed ends	PF													П			
																	fixed free-standing posts	PF																
																	complete and folding ends, erected condition	PC													П			
																Platform based	folding free-standing posts, erected condition	PC																
																	complete and folding ends, folded condition	PC																
																	folding free-standing posts, folded condition	PC																
																Platform-ba	ased with complete superstructure and open-sided	PS																

<sup>1)</sup> Centre of gravity may be eccentric.

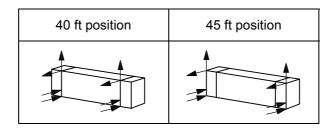
#### Pages 11 and 12

#### 6.6 Side lift: Method 2

Make the existing Figure 8 into Figure 8a) with the caption:

#### a) Lifting containers other than type E

Add a new part b) to Figure 8:



b) Lifting type E containers

Figure 8 — Lifting by means of a side lift (method 2)

<sup>2)</sup> Centre of gravity may be mobile, e.g. liquid, bulk or hanging load.

Replace the existing subclause 6.6.1 by the following (to include "intermediate"):

**6.6.1** The container is lifted by means of a side lift frame designed to lift a container by the two top corner or intermediate fittings of one side and to take the reaction forces on the bottom corner or intermediate fittings of the same side or on suitable corner post areas above those corner fittings (see Figure 9).

Page 12, Table 8

Replace the existing Table 8 by the following, which includes container types EEE and EE:

#### Table 8 — Applicability of side lift (method 2)

				Е	mp	ty co	ntai	ine	r							O- whole and the c	ISO					L	oad	led (	cont	tain	er					
EEE	EE	AAA	AA	Α	ΑХ	ввв	ВЕ	В	В	( C	С	С	χI	ם	x	Container type	6346	EEE	EE	AAA	AA	Α	ΑX	вв	ВВ	вВ	в вх	C	СС	C	X C	DX
																General purpose	GP,VN															
																Open top	UT											ı				
															E	Bulk: non-pressurized/box	BU											2	2) 2	) 2)	) 2	) 2)
1)	1)	1)	1)	1)		1)	1)	1)	)	1	) 1	)	1	1)		Thermal	RE,RT											2	2) 2	)	2	)
															1	Fank for liquids and gases	TN,RT TG											2	2) 2	) 2)	) 2	) 2)
															Bulk: no	n-pressurized/hopper pressurized	ВК											2	2) 2	) 2)	) 2	) 2)
																Platform	PL															
																complete and fixed ends	PF															
																fixed free-standing posts	PF															
																complete and folding ends, erected condition	d PC															
															Platform -based	folding free-standing posts, erecter	d PC															
																complete and folding ends, folded	PC															
																folding free-standing posts, folded condition	PC															
															Platform-b	pased with complete superstructure	PS															

<sup>1)</sup> Centre of gravity may be eccentric.

NOTE When using this method, care should be taken to ensure that under dynamic conditions the container is not subjected to undue deflection or damage.

Page 13

#### 6.7 Side lift: Method 3

Insert a new paragraph in 6.7.1:

Side lift (method 3) is not allowed for EE and EEE containers.

<sup>2)</sup> Centre of gravity may be mobile, e.g. liquid, bulk or hanging loads.

Page 13, Table 9

Replace the existing Table 9 by the following, which includes container types EEE and EE:

#### Table 9 — Applicability of side lift (method 3)

Key:	Allowed	Not allowed (or not applicable)
,.		

	Empty container																ISO					L	oad	ed co	ntair	ner						٦
EEE	EE	AAA	AA	Α	ΑX	ввв	ВВ	В	вх	C	c	c	( D	General purpose  Open top				EEE	EE	AAA	AA	Α	АХ	ввв	вв	ВЕ	зх	СС	С	СХ	D D	X
																General purpose	GP,VN															
				Ħ							Ť	Г	T			Open top	UT									Ī			П		T	
															Ві	ulk: non-pressurized/box	BU									T			T		T	
		1)	1)	1)		1)	1)	1)		1)	1	)	1)			RE,RT RS														Ī		
															Τε	TN,RT TG																
															Bulk: non-	ВК																
																PL																
																complete and fixed ends	PF															
																fixed free-standing posts	PF												П		T	
																complete and folding ends, erected condition	PC															
															Platform -based	folding free-standing posts, erected condition	PC															
																complete and folding ends, folded condition	PC															
																folding free-standing posts, folded condition	PC															
															Platform-based with complete superstructure and open-sided																	

Centre of gravity may be eccentric.

Side lift (method 3) is not allowed for EE and EEE containers.

NOTE The use of piggybackers has never been recognized by ISO and may cause damage due to excessive stresses to containers operated in such a way.

#### Page 14

#### 6.8 End lift: Method 1

Insert a new paragraph in 6.8.1:

End lift (method 1) is not allowed for EE and EEE containers.

Page 14, Table 10

Replace the existing Table 10 by the following, which includes container types EEE and EE:

### Table 10 — Applicability of end lift (method 1)

Key:	Allowed	Not allowed (or not applicable)
Key:	Allowed	Not allowed (or not applicable)

	Empty container															Container type							L	.oad	led o	conta	ine	er				
EEE	EE	AAA	AA	Α	ΑX	ВЕ	вв	вв	В	вх	СС	С	сх	D	DX		Container type	6346	EEE	EE	AAA	AA	Α	ΑX	вв	ВВ	в	вх	СС	С	сх	D DX
																	General purpose	GP,VN														
																	Open top	UT														
																В	ulk: non-pressurized/box	BU												П		
									I								Thermal	RE,RT RS														
																Ta	ank for liquids and gases	TN,RT TG														
																Bulk: non-	-pressurized/hopper pressurized	вк														
																	Platform	PL												П		
																	complete and fixed ends	PF														
																	fixed free-standing posts	PF												П		
																	complete and folding ends, erected	PC														
									I							Platform -based	folding free-standing posts, erected condition	PC														
																	complete and folding ends, folded condition	PC														
																	folding free-standing posts, folded condition	PC														
																Platform-ba	ased with complete superstructure and open-sided	PS														

End lift (method 1) is not allowed for EE and EEE containers.

When using this method, care should be taken to ensure that under dynamic conditions the container is not subjected to undue deflection or damage

#### Pages 14 and 15

#### End lift: Method 2

Insert a new paragraph in 6.9.1:

End lift (method 2) is not allowed for EE and EEE containers.

Page 15, Table 11

Replace the existing Table 11 by the following, which includes container types EEE and EE:

#### Table 11 — Applicability of end lift (method 2)

Key:	Allowed	Not allowed (or not applicable)
------	---------	---------------------------------

				E	mp	ty co	ntai	ner								Ot-lines to	ISO					Lo	ade	ed co	ntaiı	ner					
EEE	EE	AAA	AA	Α	AX	ввв	ВЕ	В	вх	CC	c	c	( D	DX		Container type	6346	EEE	EE	AAA	AA	AA	٩X	ввв	вв	ввх	СС	С	сх	DI	ΣC
																General purpose	GP,VN													T	
																Open top	UT					Ī								T	
															Вι	ılk: non-pressurized/box	BU											П		Ī	
																Thermal	RE,RT RS														
															Та	nk for liquids and gases	TN,RT TG														
											I				Bulk: non-	pressurized/hopper pressurized	вк														
											Ī					Platform	PL														
											Ī					complete and fixed ends	PF														
											Ī					fixed free-standing posts	PF														
																complete and folding ends, erected condition	PC														
															Platform -based	folding free-standing posts, erected condition	PC														
																complete and folding ends, folded condition	PC														
																folding free-standing posts, folded condition	PC														
															Platform-ba	sed with complete superstructure and open-sided	PS														

End lift (method 2) is not allowed for EE and EEE containers.

NOTE When using this method, care should be taken to ensure that under dynamic conditions the container is not subjected to undue deflection or damage.

Pages 15 and 16

#### 6.10 Fork lifts

Insert a new paragraph in 6.10.1:

The use of fork lifts is not allowed for EE and EEE containers.

#### Page 16, Table 12

Replace the existing Table 12 by the following, which includes container types EEE and EE:

#### Table 12 — Applicability of fork lifts

Key:	Allowed	Not allowed (or not applicable)
Key:	Allowed	Not allowed (or not applicable

	Empty container  E EE AAA AA A AX BBB BB B BX CC C C																ISO					L	oad	led co	ntaiı	nei	r					
EEE	EE	AAA	AA	Α	AX	BBB	ВЕ	в	вх	cc	С	СХ	D	DX		Container type	6346	EEE	EE	AAA	AA	Α	AX	BBB	вв	В	вх	СС	С	сх	D	DX
																General purpose	GP,VN															
								T		Г						Open top	UT															
								T		Г	T				Bi	ulk: non-pressurized/box	BU											2)	2)	2)	2)	2)
										1)	1)		1)			RE,RT											2)			2)	_,	
															Ta	ank for liquids and gases	TN,RT TG															
											l				Bulk: non-	-pressurized/hopper pressurized	вк															
																Platform	PL															
																complete and fixed ends	PF															
																fixed free-standing posts	PF															_
																complete and folding ends, erected condition	PC															
															Platform -based	folding free-standing posts, erected condition	PC															
																PC																
																PC																
1)															Platform-ba	ased with complete superstructure and open-sided	PS															

Centre of gravity may be eccentric.

Fork lifts are not allowed for EE and EEE containers.

<sup>2)</sup> Centre of gravity may be mobile, e.g. liquid, bulk or hanging loads.

Add the following figure before Annex A:

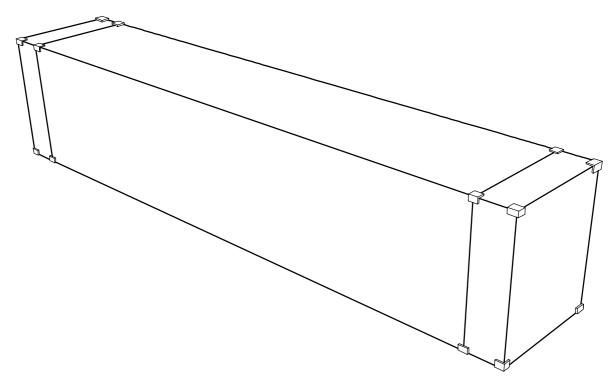


Figure 30 — 45 ft container with corner and intermediate fittings



ICS 55.180.10

Price based on 13 pages