

Australian Standard™

Freight containers

Part 10: Handling and securing

[Modified and containing the full text of ISO 3874:1997, including ISO/DIS 3874:1998]

This Australian Standard was prepared by Committee ME/68, Freight Containers. It was approved on behalf of the Council of Standards Australia on 31 August 1999 and published on 24 January 2000.

The following interests are represented on Committee ME/68:

Australasian Railway Association
Australian Chamber of Shipping
Australian Maritime Safety Authority
AUSTROADS
Department of Defence (Australia)
Germanischer Lloyd
National Freight Forwarders Association
National Road Transport Commission

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for the improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd. PO Box 1055, Strathfield., NSW 2135.

Australian Standard™

Freight containers

Part 10: Handling and securing

Originated as AS/NZS 3711.10:1993.
Revised and designated as AS 3711.10—2000.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd
PO Box 1055, Strathfield, NSW 2135, Australia

ISBN 0 7337 2942 8

PREFACE

This Standard was prepared by the Standards Australia Committee ME/68, Freight Containers to supersede AS/NZS 3711.10:1993. It modifies and has been reproduced from ISO 3874:1997, *Series 1 freight containers—Handling and securing* and its draft Amendment No. 1, ISO/DIS 3874:1998.

This Standard is Part 10 of the AS or AS/NZS 3711, *Freight containers* series. The series comprises—

AS 3711.1	Part 1:	Classification, dimensions and ratings
AS/NZS 3711.2	Part 2:	Terminology
AS/NZS 3711.3	Part 3:	Corner fittings
AS/NZS 3711.4	Part 4:	General purpose containers
AS 3711.5	Part 5:	Thermal containers
AS 3711.6	Part 6:	Tank containers
AS/NZS 3711.7	Part 7:	Dry bulk containers
AS 3711.8	Part 8:	Platform containers
AS 3711.9	Part 9:	Coding, identification and marking
AS 3711.10	Part 10:	Handling and securing

Changes since the last edition include the following:

- (a) Changes introduced in ISO 3874:1997.
- (b) Changes (through Appendix ZZ) to include requirements for Series R containers.
- (c) Inclusion of grappler lift.
- (d) Inclusion of straddler lift.
- (e) Inclusion of draft Amendment 1 to ISO 3874:1997/DAMI.

The number of this Standard is not reproduced on each page. Its identity is shown only on the cover and the title page.

Statements expressed in mandatory terms in the following notes to the text are deemed to be requirements of this Joint Standard: Note 2 to Table 4 of Clause 6.3.3, the note to Figure 9 of Clause 6.6.1, and the Note to Figure 13 of Clause 6.9.1.

For the purposes of this Standard, the text of ISO 3874:1997 should be modified as follows:

- (i) Substitute ‘Australian Standard’ for ‘International Standard’ wherever it occurs.
- (ii) Substitute a full point (.) for a comma (,) as a decimal marker.
- (iii) Annexes B to E from draft Amendment 1 to ISO 3874 have been added to the ISO text.
- (iv) Variations between ISO 3874 and this Standard, for application in Australia, are set out in Appendix ZZ. These variations are indicated by a marginal bar against each clause, table, figure or part thereof affected.
- (v) Replace references to other publications by references to Australian or Australian/New Zealand Standards as follows:

<i>Reference to International Standard</i>		<i>Australian or Australian/New Zealand Standard</i>	
ISO		AS	
668	Series 1 freight containers— Classification, dimensions and ratings	3711	Freight containers
		3711.1	Part 1: Classification, dimensions and ratings
ISO		AS/NZS	
830	Freight containers—Terminology	3711.2	Part 2: Terminology
1161	Series 1 freight containers—Corner fittings—Specifications	3711.3	Part 3: Corner fittings

1496	Series 1 freight containers— Specification and testing	3711.4	Part 4: General purpose containers
1496-1	Part 1: General cargo containers for general purposes		
1496-2	Part 2: Thermal containers	AS	
1496-3	Part 3: Tank containers for liquids, gases and pressurized dry bulk	3711.5	Part 5: Thermal containers
		3711.6	Part 6: Tank containers
1496-4	Part 4: Non-pressurized containers for dry bulk	AS/NZS	
		3711.7	Part 7: Dry bulk containers
1496-5	Part 5: Platform and platform-based containers	AS	
		3711.8	Part 8: Platform containers
6346	Freight containers—Coding, identification and marking	3711.9	Part 9: Coding, identification and marking

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

CONTENTS

	<i>Page</i>
1 Scope	1
2 Normative references	1
3 Definitions	2
4 Basic requirements	2
4.1 General	2
4.2 Packing, loading and emptying	3
4.3 Stowage and securing of cargo	3
5 Handling	4
5.1 Handling by specified lifting methods	4
5.2 Handling by unspecified lifting methods	4
6 Specified lifting methods	4
6.1 General	4
6.2 Top lift spreaders	6
6.3 Top lift sling	7
6.4 Bottom lift sling	9
6.5 Side lift: Method 1	10
6.6 Side lift: Method 2	11
6.7 Side lift: Method 3	13
6.8 End lift: Method 1	13
6.9 End lift: Method 2	14
6.10 Fork lifts	15
7 Landing and supporting	16
8 Stacking on the ground	17
9 Securing during transport	17
9.1 General	17
9.2 Securing on board a ship	18
9.3 Securing of container for road and rail transport	25
 Annex A Bibliography	 29
Annex B Twistlocks for securing containers—Function, dimensions, strength requirements and testing	30
Annex C Latchlocks for securing of containers—Function, dimensions, strength requirements and testing	40
Annex D Stacking fittings for securing of containers—Function, dimensions, strength requirements and testing	50
Annex E Lashing rod systems, including tension devices, for securing of containers—Function, dimensions, strength requirements and testing ...	57
 APPENDIX ZZ VARIATIONS TO ISO 3874:1997 FOR AUSTRALIA	 62

AUSTRALIAN STANDARD

Freight containers

Part 10: Handling and securing

1 Scope

This International Standard specifies methods of handling and securing series 1 freight containers built and tested to comply with the latest editions of ISO 1496-1 to ISO 1496-5.

NOTE — Freight containers built according to specifications contained in earlier editions of ISO 1496 may not possess the same capabilities.

This International Standard defines basic principles and procedures to ensure safe operation of containers in all surface modes of transport.

Methods of handling and securing are described for both loaded and empty containers. The conditions for lifting different types of loaded and empty containers are laid down in clause 6.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of the publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on the International Standard 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 668	1995	<i>Series 1 freight containers — Classification, dimensions and ratings</i>
ISO 830	1981	<i>Freight containers — Terminology</i>
ISO 830 Amd1	1984	
ISO 830 Amd2	1988	
ISO 1161	1984	<i>Series 1 freight containers — Corner fittings - Specifications</i>
ISO 1161 Corr	1990	
ISO 1496-1	1990	<i>Series 1 freight containers — Specification and testing — Part 1: General cargo containers for general purposes</i>
ISO 1496-1 Amd1	1993	
ISO 1496-2	1988	<i>Series 1 freight containers — Specification and testing — Part 2: Thermal containers</i>
ISO 1496-3	1995	<i>Series 1 freight containers — Specification and testing — Part 3: Tank containers for liquids, gases and pressurized dry bulk</i>