MARINE ORDERS

Part 44

Safe Containers

Issue 4

Order No 4 of 1995

Pursuant to Section 425(1AA) of the *Navigation Act 1912*, I hereby make this Order repealing Marine Orders, Part 44 (Convention Containers), Issue 3 and Marine Orders, Part 45 (Non-Convention Containers), and issuing the attached Marine Orders, Part 44, Issue 4 to come into operation on 1 April 1995.

Patrick Hunt
Acting Chief Executive
23 March 1995

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Part 44

Issue 1, Order No. 1 of 1981
Issue 2, Order No. 9 of 1983
Issue 3, Order No. 7 of 1984

Part 45

Issue 1, Order No. 8 of 1984

1 Definitions

1.1 In this Part, unless the contrary intention appears, the following definitions apply:

AMSA means the Australian Maritime Safety Authority established by the *Australian Maritime Safety Authority Act 1990***;**

approved means approved by the Chief Marine Surveyor or, where appropriate, by an authorised organisation;

authorised organisation means an organisation authorised in writing by the Chief Marine Surveyor, subject to any conditions that officer considers appropriate:

(a) to undertake any testing or examination specified in this Part, other than a maintenance examination procedure; and

(b) to give any approval other than approval of an examination procedure or an examination programme;

> ***Note:*** *The following organisations are authorised in accordance with the above definition:*
> *American Bureau of Shipping*
> *Bureau Veritas*
> *Det norske Veritas*
> *Germanischer Lloyd*
> *Lloyd's Register of Shipping*
> *Nippon Kaiji Kentei Kyokai*
> *Nippon Kaiji Kyokai.*

cargo means any goods, wares, merchandise and articles of every kind whatsoever carried in a container;

Chief Marine Surveyor means the person occupying the position of Manager, Marine Services—Ship Inspection Programs, in AMSA or, in respect of any particular purpose under this Part, a suitable qualified person authorised by the Manager, Marine Services—Ship Inspection Programs, for that purpose;

container means an article of transport equipment:

(a) of a permanent character and accordingly strong enough to be suitable for repeated use;

(b) specially designed to facilitate the transport of goods, by one or more modes of transport, without intermediate reloading;

(c) designed to be secured and/or readily handled, having corner fittings for these purposes; and

(d) including neither vehicles nor packaging, but a container carried on a chassis is included;

Convention container means a container of a size such that the area enclosed by its 4 outer bottom corners is either:

(a) at least 14 square metres; or

(b) at least 7 square metres if it is fitted with top corner fittings;

but does not include an offshore container;

corner fittings means an arrangement of apertures and faces at the top and/or bottom of a container for the purposes of handling, stacking and/or securing;

dangerous goods has the same meaning as in section 248 of the Navigation Act;

> ***Note:*** *Section 248 of the Navigation Act reads as follows:*
> *'248(1)In this Division, 'dangerous goods' means the goods listed in the International Maritime Dangerous Goods Code.*
>
> *(2) In sub-section (1), 'International Maritime Dangerous Goods Code' means the Code of that name that is issued by the International Maritime Organization, as amended from time to time.*

date means month and year only;

g means the standard acceleration of gravity, and equals 9.8 m/s^2;

international sea transport means the transportation of a container by ship between a port in Australia and a port in a country other than Australia;

inter-State sea transport means the transportation of a container by ship between

(a) a port in a State and a port in another State;

(b) a port in a State and a port in a Territory; or

(c) a port in a Territory and a port in another Territory;

load, when used to describe a physical quantity to which units may be ascribed, signifies mass;

loaded on to a ship includes a reference to any handling incidental to the operation of loading on to a ship;

loading, as for example in "internal loading", signifies force;

maximum operating gross mass means the maximum allowable sum of the mass of a container and its cargo;

maximum permissible payload (P) means the difference between the maximum operating gross mass and the tare mass of a container;

> ***Note:*** *The letter "P" is expressed in units of mass. Where a value is based on the gravitational forces derived from P, that force, which is an inertial force, is indicated as "Pg".*

non-Convention container means a container of a size such that the area enclosed by its 4 outer bottom corners is either:

(a) less than 14 square metres; or

(b) less than 7 square metres if it is fitted with top corner fittings;

but does not include an offshore container;

offshore container means a portable unit specially designed for repeated use in the transport of goods or equipment to, from or between fixed and/or floating offshore installations, including portable tanks for dangerous goods if such tanks are intended for such use;

owner means the person who owns a container or the lessee or bailee of a container where, by agreement between the parties, the exercise of the owner's responsibility for the maintenance and examination of the container has been transferred to a lessee or bailee;

prototype means a container that is representative of those manufactured or to be manufactured in a design type series;

rating (R) has the same meaning as maximum operating gross mass;

Note: *The letter "R" is expressed in units of mass. Where a value is based on the gravitational forces derived from R, that force, which is an inertial force, is indicated as "Rg".*

tare means the mass of an empty container including permanently affixed ancillary equipment;

the Container Convention means the International Convention for Safe Containers as defined in section 187A of the Navigation Act;

type of container means an approved design type;

type-series container means any container manufactured in accordance with an approved design type;

unloaded from a ship includes a reference to any handling incidental to the operation of unloading from a ship; and

unsafe container means a container having a defect that could place any person in danger.

1.2 If testing or examination is to be undertaken or approval given by an authorised organisation, references to **Chief Marine Surveyor** and **surveyor** are to be read as references to appropriate officers of that organisation.

1.3 In this Part:

(a) headings and sub-headings are part of the Part;

(b) each Appendix is part of the Part;

(c) a note included in the text and printed in italics is not part of the Part.

2 Purpose

This Part:

(a) for the purposes of section 240 of the Navigation Act, makes provision for and in relation to giving effect to the Container Convention; and

(b) for the purposes of paragraph 425(1)(c), makes provision generally for and in relation to the protection of the health and the security from injury of persons loading or unloading containers on and from ships.

3 Application

3.1 This Part applies to and in relation to containers used in international or inter-State sea transport, but does not apply to a container which remains for the entire voyage on a road or rail vehicle.

3.2 Provision 8 applies to a container for which Australian approval is requested.

3.3 Provision 9 applies to containers in the following circumstances:

(a) the owner is a natural person living in Australia or a corporation that has its head office in Australia;

(b) the owner is a natural person living in, or a corporation that has its head office in, a country the government of which has not made arrangements for prescribing or approving an examination scheme, and the owner has requested that the provisions apply in respect of the container.

3.4 Provision 10 applies to a container that:

(a) is to be, or is being, loaded on to a ship; or

(b) is on board a ship;

at a port in Australia.

3.5 Nothing in this Part precludes the application of additional structural safety requirements or tests to:

(a) a container specially designed and constructed, or adapted, for the transport of dangerous goods; or

(b) a container designed and constructed, or adapted, for the carriage of bulk liquid.

4 Exemptions and equivalents

4.1 Exemptions

4.1.1 The Chief Marine Surveyor, if satisfied that compliance with a provision of this Part would be unnecessary or unreasonable having regard to a container or type of container, may exempt that container or type of container from compliance with such provision to the extent specified and subject to such conditions as that officer thinks fit.

4.1.2 Provision 4.1.1 applies only to the extent that any exemption from a provision of this Part is not inconsistent with the Container Convention.

4.2 Equivalents

Where a provision of this Part requires a particular fitting, material or procedure, the Chief Marine Surveyor may allow any other fitting, material or procedure if that officer is satisfied that the other fitting, material or procedure is at least as effective as that required by that provision of this Part.

5 Transitional provisions

5.1 Exemptions and equivalents

An exemption or equivalent granted or continued under a provision of Marine Orders, Part 44, Issue 3, or Marine Orders, Part 45, and in force immediately before this Issue of this Part came into force, is to continue in force as if granted under this Issue of this Part.

5.2 Approvals

5.2.1 A container or type of container approved under Marine Orders, Part 44, Issues 1, 2 or 3, or Marine Orders, Part 45, and in service immediately before this Issue of this Part came into force, is deemed to be approved under this Issue of this Part.

6 Penal provisions

6.1 Penal provisions

Provisions 9.2, 9.4.2, 9.5.1, 9.5.2, 9.5.4, 9.5.5, 10.2.1, 10.3.2, 10.4, 10.5, and 10.6 are penal provisions.

6.2 Party responsible

6.2.1 Contravention of provisions 9.2, 9.4.2, 9.5.1, 9.5.2, 9.5.4, 9.5.5, 10.4, 10.5, and 10.6 constitutes an offence by the owner of the container.

6.2.2 Contravention of provisions 10.2.1 and 10.3.2 constitutes an offence by the person who is directly in control of the persons engaged in the loading or unloading.

Note: *Regulation 4 of the Navigation (Orders) Regulations provides:*
'4. A person who contravenes a provision of an order made under subsection 425(1AA) of the Act that is expressed to be a penal provision is guilty of an offence and is punishable, upon conviction—
(a) if the offender is a natural person—by a fine not exceeding $2,000; or
(b) if the offender is a body corporate—by a fine not exceeding $5,000.'

7 Review of decisions

7.1 Reviewable decisions

Application may be made to the Administrative Appeals Tribunal for a review of a decision:

(a) by the Chief Marine Surveyor, relating to the authorisation of an organisation for the purposes of the definition of 'authorised organisation' in 1.1

(b) by the Chief Marine Surveyor, refusing, restricting or imposing a condition on, an exemption under 4.1;

(c) by the Chief Marine Surveyor, refusing to allow under 4.2 a particular fitting, material or procedure;

(d) by the Chief Marine Surveyor, relating to data requirements under 8.2 or 8.3;

(e) by the Chief Marine Surveyor, requiring tests of type-series containers under 8.2(c)(viii);

(f) by the Chief Marine Surveyor, relating to the adequacy of production control measures under 8.4.1(b);

(g) by the Chief Marine Surveyor, refusing to approve a modified container without further tests under 8.4.3;

(h) by the Chief Marine Surveyor, refusing to extend approval to additional containers under 8.4.4;

(i) by the Chief Marine Surveyor, withdrawing approval under 8.6;

(j) by the Chief Marine Surveyor, refusing to accept a method of marking under 9.5.3;

(k) by a surveyor, requiring the determination of the mass of a container under 10.2.2;

(l) by a surveyor, refusing to authorise, or imposing conditions when authorising, the loading or unloading of a container under 10.3.1;

(m) by the Chief Marine Surveyor, relating to the approval of an offshore container under 11;

(n) by the Chief Marine Surveyor not to approve a container, design type, procedure or programme where, under a provision of the Order, a discretion to do so lies with that officer.

7.2 Statements to accompany notices

If a person making a decision referred to in 7.1 gives to a person whose interests are affected by the decision notice in writing of the decision, the notice must:

(a) include a statement to the effect that, if the person is dissatisfied with the decision, application may, subject to the *Administrative Appeals Tribunal Act 1975*, be made to the Administrative Appeals Tribunal for review of the decision;

(b) except where subsection 28 (4) of that Act applies, also include a statement to the effect that the person may request a statement under section 28 of that Act.

7.3 Validity of decisions

Failure to comply with 7.2 in relation to a decision does not affect the validity of that decision.

8 Approval of containers

8.1 Application for approval

8.1.1 Subject to 8.1.2, application for approval of a container must be made to the Chief Marine Surveyor and accompanied by 2 copies of the application data referred to in 8.2 or 8.3, as appropriate

8.1.2 Application to an authorised organisation for approval of a container must be made to that organisation.

8.1.3 If an approved container is to be modified in a manner resulting in structural changes, the owner must apply to the Chief Marine Surveyor for approval of the modification.

8.2 Application data—design type approval

An application for design type approval must be accompanied by:

(a) a design specification, drawings and such other data relating to the design type for which approval is sought, and to the manufacture of the type of container, as may be required by the Chief Marine Surveyor;

(b) details of the identification symbol that the manufacturer will assign to containers of the design type; and

(c) a written assurance signed by the manufacturer that the manufacturer will:

(i) supply to a surveyor such prototype as the surveyor may wish to examine;

(ii) upon request, ensure that a surveyor is granted all necessary facilities for the purpose of inspecting the manufacturing process and witnessing tests of a prototype;

(iii) subject a prototype to the tests specified in Appendix 2 under the supervision of a surveyor;

(iv) notify the Chief Marine Surveyor of:

(A) an intention to commence the manufacture of any type-series containers; and

(B) the identification number to be assigned to each container manufactured;

(v) affix the Safety Approval Plate or Approval Plate relating to the design type only to type-series containers;

(vi) for each type-series container keep a record that will:

(A) contain the manufacturer's identification number of the container, the date of delivery and the name and address of the customer to whom the container is delivered; and

(B) be retained for a period of not less than 15 years from the date of delivery of that container and be made available for inspection by a surveyor upon demand;

(vii) notify the Chief Marine Surveyor of any change in the design specification and await that officer's approval before affixing a Safety Approval Plate or Approval Plate to a container affected by the change; and

(viii) in addition to the tests of a prototype, subject additional type-series containers to such tests as and when the Chief Marine Surveyor may require.

8.3 Application data—individual container approval

An application for approval of an individual container must be accompanied by:

(a) a design specification, drawings and such other data relating to the container for which approval is sought and to its manufacture, as may be required by the Chief Marine Surveyor;

(b) details of the identification symbol that the manufacturer will assign to the container; and

(c) a written assurance signed by the manufacturer that the manufacturer will:

(i) notify the Chief Marine Surveyor of an intention to commence manufacture of the container;

(ii) upon request, ensure that a surveyor is granted all necessary facilities for the purpose of inspecting the manufacturing process and witnessing tests of the container; and

(iii) manufacture the container under the survey and to the satisfaction of a surveyor.

8.4 Eligibility for approval

8.4.1 A design type will be approved if:

(a) it complies with Appendix 2; and

(b) the Chief Marine Surveyor is satisfied that the manufacturer has instituted production control measures adequate to ensure that each type-series container will comply with the submitted data and the tested prototype.

Note 1: *Following examination of all submitted data and the testing of a prototype in accordance with Appendix 2, the Chief Marine Surveyor will:*
(a) if satisfied that containers manufactured in accordance with the submitted data and conforming to the prototype will comply with the provisions of this Part, issue to the applicant an approval in writing, in respect of that design type; or
(b) if not so satisfied, notify the applicant in writing.

Note 2: *Production control measures that comply with the ASO 3900 series standards on quality control systems will be considered adequate.*

8.4.2 An individual container will be approved if it complies with Appendix 2.

Note: *Following examination of all submitted data and the testing of the container in accordance with Appendix 2, the Chief Marine Surveyor will:*
(a) if satisfied that the container complies with the provisions of this Part, issue to the applicant an approval in writing, in respect of that container; or
(b) if not so satisfied, notify the applicant in writing.

8.4.3 A modified container may be approved without further test if the modifications are to an approved design type and the Chief Marine Surveyor is satisfied that the modifications do not affect the validity of tests conducted in the course of design type approval.

8.4.4 The Chief Marine Surveyor may, upon application and subject to any conditions that officer considers appropriate, extend the approval issued in respect of an individual container to additional containers identical to the approved container, and 8.5.2 extends to any such additional container.

8.5 Safety Approval Plate and Approval Plate

8.5.1 When a design type has been approved under 8.4.1, the applicant is entitled to affix:

(a) if the container is a Convention container, a Safety Approval Plate; or

(b) if the container is a non-Convention container, an Approval Plate,

to each type-series container manufactured, each such container being deemed to be approved

8.5.2 When a container has been approved under 8.4.2, the applicant is entitled to affix:

*(a)*if the container is a Convention container, a Safety Approval Plate; or

(b) if the container is a non-Convention container, an Approval Plate,

to the approved container.

8.5.3 A Safety Approval Plate or Approval Plate must:

(a) comply with Appendix 1;

(b) be permanently affixed

(i) in a readily visible place;

(ii) adjacent to any other plate relating to an approval issued for official purposes; and

(iii) in a place where it will not be easily damaged.

Note: *A Safety Approval Plate or Approval Plate affixed to a container does not remove the necessity to display such labels or other information as may otherwise be required to be displayed on the container.*

8.6 Withdrawal of approval

8.6.1 If the Chief Marine Surveyor considers that an approved container does not comply with the provisions of this Part, that officer may, in addition to any other action considered appropriate, withdraw the approval issued in respect of that container.

8.6.2 Written notification of withdrawal under 8.6.1 must be given to the applicant to whom the approval was issued and, where the approval was issued by an authorised organisation, to that organisation.

8.6.3 If an authorised organisation considers that an approved container does not comply with the provisions of this Part, it may, in addition to any other action, withdraw the approval issued in respect of that container.

8.6.4 Written notification of withdrawal under 8.6.3 must be given to the applicant to whom the approval was given and to the Chief Marine Surveyor.

9 Maintenance and examination

9.1 Maintenance

The owner is responsible for maintaining a container in a safe condition.

9.2 Responsibility for examination

The owner must arrange for a container to be examined at the intervals or at the times specified in 9.3:

(a) in accordance with the procedure specified in Appendix 3; or

(b) in accordance with an otherwise approved procedure,

for the purpose of determining whether the container has any defect that could place any person in danger.

9.3 When examination required

9.3.1 Subject to 9.3.2, a container must be examined:

(a) initially, not later than 5 years after the date of manufacture and, subsequently, at intervals of not more than 30 months; or

(b) in accordance with an approved continuous examination program.

9.3.2 A container must be examined:

(a) after the repair of any defect in the container that could have placed any person in danger and before the container is loaded on to a ship following that repair;

(b) after any modification of the container and before the container is loaded on to a ship following that modification;

and in the case of a container in respect of which there is an approved continuous examination programme:

(c) after refurbishment of the container and before the container is loaded on to a ship following that refurbishment; and

(d) during an on-hire/off-hire interchange of the container and before the container is loaded on to a ship following that interchange.

9.3.3 A container that has been examined under 9.3.2 must be re-examined:

(a) not later than the date when, but for the circumstance giving rise to the examination under 9.3.2, the container would have been due for examination in accordance with 9.3.1; or

(b) a date that is not more than 30 months after the date of the examination under 9.3.2.

9.4 Report of examination

9.4.1 The person who has examined a container for the purpose of this Part, being satisfied that the container is not an unsafe container, must make and sign a written report that:

(a) identifies the container;

(b) states the date of the examination; and

(c) states that. in his or her opinion, the container is not an unsafe container.

9.4.2 The owner of the container must retain the report, in legible form, until receipt of a report in respect of a subsequent examination.

9.5 Marking of container

9.5.1 The owner must ensure that the date by which a container must undergo its initial examination is clearly marked on its Safety Approval Plate or Approval Plate in accordance with 9.5.3.

9.5.2 Except in the case of a container in respect of which there is an approved continuous examination programme, the owner must ensure that the date by which a container is to be next re-examined is clearly marked on its Safety Approval Plate or Approval Plate, or on the container as near as practicable to the Safety Approval Plate or Approval Plate, in accordance with 9.5.3.

9.5.3 An examination or re-examination date must be marked permanently and legibly by stamping, embossing, engraving, applying a decal or other method acceptable to the Chief Marine Surveyor.

9.5.4 The owner of a container must not permit a re-examination date to be marked on a container under 9.5.2 unless a report of examination has been issued in respect of the container under 9.4.1.

9.5.5 A container in respect of which there is an approved continuous examination programme must be marked permanently and legibly by stamping, embossing, engraving or other method acceptable to the Chief Marine Surveyor, with the letters 'ACEP (AUS)'.

9.5.6 A decal referred to in 9.5.3 must comply with the colour code specified in Table 1 and the relevant date must be shown in the English language or in Arabic figures on the decal or on the Safety Approval Plate or Approval Plate.

Table 1

Colour	*Year*			
Brown		1998	2004	2010
Blue		1999	2005	2011
Yellow	1994	2000	2006	2012
Red	1995	2001	2007	2013
Black	1996	2002	2008	2014
Green	1997	2003	2009	2015

Note: *In accordance with the Container Convention, examination and re-examination dates are specified by month and year only.*

10 Control

10.1 Validity of Safety Approval Plate or Approval Plate

10.1.1 A Safety Approval Plate or Approval Plate affixed to a container remains valid until the approval under which it was affixed is withdrawn.

10.1.2 A Safety Approval Plate affixed to a container by or under the authority of a government that is a party to the Container Convention has, for the purposes of 10, the same validity as if it were affixed in accordance with this Part.

10.2 Certain containers not to be loaded or unloaded

10.2.1 Subject to 10.3, a person must not load a container on to, or unload a container from, a ship if:

(a) the person has reason to believe that the container is an unsafe container; or

(b) the container does not have a valid Safety Approval Plate or Approval Plate is affixed to it; or

(c) the date indicated on the Safety Approval Plate or Approval Plate for the container to be re-examined has passed; or

(d) no date is indicated on the Safety Approval Plate or Approval Plate for the container to be re-examined and the letters 'ACEP' and identification of the approving government are not marked on or near the Safety Approval Plate or Approval Plate of the container; or

(e) the mass of the container (including its contents and any affixed ancillary equipment) exceeds the maximum operating gross mass of the container.

10.2.2 If a surveyor has reason to believe that a container is to be, has been, or is being loaded on to or unloaded from a ship in contravention of 10.2.1(e), the surveyor may require the person who is directly in control of the persons engaged in the loading or unloading to have the mass of the container, including its contents and any affixed ancillary equipment, determined without any undue delay by a weighing instrument nominated by the surveyor for the purpose.

10.2.3 In a prosecution for an offence against 10.2.1(e), a certificate issued by the person responsible for or operating the weighing instrument referred to in 10.2.2, stating that a container, its contents and affixed ancillary equipment has, by that person, been weighed and found to be of the mass stated in the certificate, is to be evidence of the facts stated in the certificate.

10.3 Surveyor may authorise loading or unloading

10.3.1 If a surveyor considers that it is reasonable and proper in the circumstances of the case to allow a container referred to in 10.2.1 to be loaded

on to, or unloaded from, a ship, the surveyor may authorise, subject to such conditions as the surveyor specifies, the loading or loading of that container.

10.3.2 A person must comply with any condition imposed by a surveyor under 10.3.1.

10.4 Unauthorised affixture of Safety Approval Plate or Approval Plate

A person must not affix, or order to be affixed, a Safety Approval Plate or Approval Plate to a container in Australia except in accordance with this Part or, in the case of a Safety Approval Plate, by or under the authority of a government that is a party to the Container Convention.

10.5 Removal of Safety Approval Plate or Approval Plate when no longer valid

The owner of a container must remove the Safety Approval Plate or Approval Plate on a container if:

(a) the container has been modified in a manner which would void the original approval and the information found on the Safety Approval Plate or Approval Plate; or

(b) the container is removed from service and is not being maintained in accordance with this Part; or

(c) approval has been withdrawn under 8.6.

10.6 Unauthorised examination date

A person must not mark, or order to be marked, an examination date on a container or on a Safety Approval Plate or Approval Plate affixed to a container except in accordance with this Part or, in the case of a Safety Approval Plate, by or under the authority of a government that is a party to the Container Convention.

10.7 Maximum gross mass markings

All maximum operating gross mass markings on a container must be consistent with the maximum operating gross mass indicated on the Safety Approval Plate or Approval Plate.

10.8 Maximum mass to be placed on container

A container on a ship must not have placed upon it a mass exceeding the allowable stacking mass for 1.8g indicated on the Safety Approval Plate or Approval Plate affixed to the container.

11 Offshore containers

The Chief Marine Surveyor may approve a container as an offshore container. In doing so, the Chief Marine Surveyor will require to be satisfied that, in addition to other requirements of this Part, the offshore container can pass the tests specified in IMO Circular MSC/Circ.613.

> ***Note:*** *A copy of IMO Circular MSC/Circ.613 is obtainable from AMSA.*

* * * * * *

Appendix 1

Safety Approval Plate & Approval Plate

1 Definitions

For the purposes of this Appendix, the following definitions apply:

fireproof means capable of withstanding and remaining legible after not less than 5 minutes exposure to a temperature of 500°C, when mounted on the specified material of construction of the container;

non-corroding means capable of resisting the effects of the marine environment both at sea and ashore, so as to remain legible for the working life of the container;

P means maximum permissible payload; and

permanent means having a legible life expectancy equal to or greater than the life expectancy of the container to which the plate is affixed.

2 Requirements

2.1 A Safety Approval Plate or Approval Plate must be a permanent, non-corroding, fireproof rectangular plate measuring not less than 200 mm by 100 mm. The letters and words 'CSC Safety Approval' (in the case of a Safety Approval Plate) or 'C of A Approval' (in the case of an Approval Plate) must be of a minimum letter height of 8 mm. All other words and numbers must be of a minimum height of 5 mm. Words and numbers must be stamped into, embossed on or indicated on a surface of the plate in any other permanent and legible way.

2.2 An examination date may be indicated by use of a colour coded decal complying with 9.5.5.

2.3 An ISO alpha numeric identification code may only be used if the owner of a container maintains a record correlating the code identification number with the manufacturer's serial number and such record is available, upon request, to the Chief Marine Surveyor.

2.4 A Safety Approval Plate or Approval Plate must conform to the model reproduced in Figure 1 or Figure 2 respectively, and must contain the following

information in English or, in the case of a Safety Approval Plate, either English or French:

Line 1: the name of the organisation issuing the approval, followed by the approval reference and year in which the approval was issued and preceded, in the case of a Safety Approval Plate, by the letters AUS.

Line 2: the date of manufacture, being the month and year in which the container was manufactured.

Line 3: the manufacturer's identification number of the container or, in the case of a container for which the owner wishes to use an ISO alpha numeric identification code, a number appropriate to that code.

Line 4: the maximum operating gross mass of the container expressed in both kilograms and pounds.

Line 5: the allowable stacking load for 1.8g expressed in both kilograms and pounds.

Line 6: the transverse racking test force expressed in Newtons.

Line 7: the end wall strength value, but only if the end walls are designed to withstand a load of less or greater than 0.4 times the gravitational force by maximum permissible payload, i.e. 0.4Pg.

Note: *For example: 'End wall strength 0.5P'.*

Line 8: the side wall strength value, but only if the side walls are designed to withstand a load of less or greater than 0.6 times the gravitational force by maximum permissible payload, i.e. 0.6Pg.

Note: *For example: 'Side wall strength 0.8P'.*

2.5 If the information required by 2.4 of this Appendix for lines 7 or 8 is not required in respect of any Safety Approval Plate or Approval Plate, those lines or either of them may be used for marking examination dates.

	CSC SAFETY APPROVAL
Line 1	(AUS—)
Line 2	DATE MANUFACTURED .....
Line 3	IDENTIFICATION No. .....
Line 4	MAXIMUM OPERATING GROSS MASS .....kg .....lb
Line 5	ALLOWABLE STACKING LOAD FOR 1.8g .....kg .....lb
Line 6	TRANSVERSE RACKING TEST FORCE .....Newtons
Line 7	
Line 8	

Figure 1: Safety Approval Plate

	APPROVAL
Line 1	( )
Line 2	DATE MANUFACTURED .....
Line 3	IDENTIFICATION No. .....
Line 4	MAXIMUM OPERATING GROSS MASS .....kg .....lb
Line 5	ALLOWABLE STACKING LOAD FOR 1.8g .....kg .....lb
Line 6	TRANSVERSE RACKING TEST FORCE .....Newtons
Line 7	
Line 8	

Figure 2: Approval Plate

Appendix 2

Structural safety requirements and tests

1 Introduction

In setting the requirements of this Appendix it is implicit that in all phases of the operation of a container the forces as a result of motion, location, stacking and gravitational effects of the loaded container and external forces will not exceed the design strength of the container. In particular, the following assumptions have been made:

(a) the container will so be restrained that it is not subjected to forces in excess of those for which it has been designed; and

(b) the container will have its cargo stowed in accordance with the recommended practices of the trade so that the cargo does not impose upon the container forces in excess of those for which it has been designed.

2 Application

The test loads and test procedures specified in this Appendix are to be applied to every kind of container under test, so far as is appropriate to the design of the container.

3 Construction

A container made from any material is to be considered safe if it satisfactorily withstands the tests referred to in 4 and 5 of this Appendix, appropriate to the design of the container, without sustaining any permanent deformation or abnormality that would render it incapable of being used for its designed purpose.

4 Requirements

The dimensions, positioning and associated tolerances of corner fittings must be checked and tested having regard to the lifting and securing systems in which they will function.

5 Test loads and test procedures

5.1 Lifting

The container, having the prescribed internal loading, must be lifted in such a way that no significant acceleration forces are applied. After lifting, the container must be suspended or supported for 5 minutes and then lowered to the ground.

5.1.1 Lifting from corner fittings

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES
(i) Lifting from top corner fittings	
Internal load A uniformly distributed load such that the combined mass of container and test load is equal to 2R. In the case of a tank-container, when the sum of the internal load plus the tare is less than 2R, a supplementary load distributed over the length of the tank is to be applied to the container. **Externally applied forces** Such as to lift the combined mass of 2R in the manner prescribed (under the heading 'TEST PROCEDURES')	Containers greater than 3,000 mm (nominal) in length must have lifting forces applied vertically at all 4 top corner fittings. Containers of 3,000 mm (nominal) in length or less must have lifting forces applied at all 4 top corner fittings, in such a way that the angle between each lifting device and the vertical is 30°.
(ii) Lifting from bottom corner fittings	
Internal load A uniformly distributed load such that the combined mass of container and test load is equal to 2R.	Containers shall have lifting forces applied in such a manner that the lifting devices bear on the bottom

In the case of a tank-container, when the sum of the internal load plus the tare is less than 2R, a supplementary load distributed over the length of the tank is to be applied to the container. **Externally applied forces** Such as to lift the combined mass of 2R in the manner prescribed (under the heading 'TEST PROCEDURES')	corner fittings only. The lifting forces shall be applied at angles to the horizontal of: 30° for containers of length 12,000 mm (nominal) or greater; 37° for containers of length 9,000 mm (nominal) and up to but not including 12,000 mm (nominal); 45° for containers of length 6,000 mm (nominal) and up to but not including 9,000 mm (nominal); 60° for containers of less than 6,000 mm (nominal).

5.1.2 Lifting by any other additional methods

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES
(i) Lifting from fork lift pockets:	
Internal load A uniformly distributed load such that the combined mass of container and test load is equal to 1.25R. In the case of a tank-container, when the sum of the internal load plus the tare is less than 1.25R, a supplementary load distributed over the length of the tank is to be applied to the container. **Externally applied forces** Such as to lift the combined mass of 1.25R in the manner prescribed (under the heading 'TEST PROCEDURES')	The container must be placed on bars that are in the same horizontal plane, one bar centred within each fork lift pocket that is used for lifting the loaded container. The bars must be of the same width as the forks intended to be used in the handling, and must project into the fork pocket 75 per cent of the length of the fork pocket.

(ii) Lifting from grappler arm positions

Internal load

A uniformly distributed load such that the combined mass of container and test load is equal to 1.25R.

In the case of a tank-container, when the sum of the internal load plus the tare is less than 1.25R, a supplementary load distributed over the length of the tank is to be applied to the container.

Externally applied forces

Such as to lift the combined mass of 1.25R in the manner prescribed (under the heading 'TEST PROCEDURES')

The container must be placed on pads in the same horizontal plane, one under each grappler arm position.

These pads must be of the same sizes as the lifting area of the grappler arms intended to be used.

(iii) Other methods (i.e. any method not mentioned in 5.1.1(i), 5.1.1(ii), 5.1.2(i) or 5.1.2(ii)

Internal load

A load such that the combined mass of container and test load is equal to R. Load to be distributed in a manner representative of the conditions appropriate to the lifting method.

Externally applied forces

Force representative of the acceleration conditions appropriate to the lifting method.

As appropriate to the lifting method.

5.2 Stacking

5.2.1 For conditions of international transport where the maximum vertical acceleration varies significantly from 1.8g and when the container is reliably and effectively limited to such conditions of transport, the stacking load may be varied by the appropriate ratio of acceleration.

5.2.2 On successful completion of this test the container may be rated for the allowable superimposed static stacking load, which should be indicated on the

Safety Approval Plate against the heading 'ALLOWABLE STACKING LOAD FOR 1.8 g (kg and lb)'.

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES
Internal load	
A uniformly distributed load such that the combined mass of container and test load is equal to 1.8R. Tank containers may be tested in tare condition.	The container, having the prescribed internal loading, must be placed on 4 level pads that are in turn supported on a rigid horizontal surface, one under each bottom corner fitting or equivalent corner structure. The pads must be centralised under the fittings and must be of approximately the same plan dimensions as the fittings.
Externally applied forces:	
Such as to subject each of the four top corner fittings to a vertical downward force equal to 0.25 x 1.8 x the gravitational force of the allowable superimposed static stacking load.	Each externally applied force must be applied to each of the corner fittings through a corresponding test corner fitting or through a pad of the same plan dimensions. The test corner fitting or pad must be offset with respect to the top corner fitting of the container by 25mm laterally and 38 mm longitudinally.

5.3 Concentrated loads

5.3.1 On roof

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES
Internal load:	
None.	The externally applied forces shall be applied vertically downwards to the outer surface of the weakest area of the roof of the container.
Externally applied forces:	
A concentrated gravitational force of 300 kg uniformly distributed over an area of 600 mm x 300 mm.	

5.3.2 On floor

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES
Internal load:	
Two concentrated loads each of 2,730 kg and each added to the container floor through a contact area of 142 cm².	The test should be made with the container resting on 4 level supports under its 4 bottom corners in such a manner that the base structure of the container is free to deflect. A testing device loaded to a mass of 5,460 kg, that is 2,730 kg on each of two surfaces having, when loaded, a total contact area of 284 cm², that is 142 cm² on each surface, the surface width being 180 mm spaced 760 mm apart, centre to centre, should be manoeuvred over the entire floor area of the container.
Externally applied forces:	
None.	

5.4 Transverse racking

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES
Internal load:	
None.	The container in tare condition must be placed on 4 level supports, one under each bottom corner, and must be restrained against lateral and vertical movement by means of anchor devices so arranged that the lateral restraint is provided only at the bottom corners diagonally opposite to those at which the forces are applied.

Externally applied forces:

Such as to rack the end structures of the container sideways. The forces must be equal to those for which the container was designed.	The externally applied forces must be applied either separately or simultaneously to each of the top corner fittings on one side of the container in lines parallel both to the base and to the planes of the ends of the container. The forces must be applied first towards and then away from the top corner fittings. In the case of containers in which each end is symmetrical about its own vertical centreline, one side only need be tested, but both sides of containers with asymmetrical ends must be tested.

5.5 Longitudinal restraint (static test)

When designing and constructing containers, it must be borne in mind that containers, when carried by inland modes of transport, may sustain accelerations of 2g applied horizontally in a longitudinal direction.

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES
Internal load:	
A uniformly distributed load, such that the combined mass of a container and test load is equal to R. In the case of a tank container, when the mass of the internal load plus the tare is less than R, a supplementary load is to be applied to the container.	The container having the prescribed internal loading shall be restrained longitudinally by securing the two bottom corner fittings or equivalent corner structures at one end to suitable anchor points.
Externally applied forces:	
Such as to subject each side of the container to longitudinal compressive and tensile forces of magnitude Rg, that is, a combined force of 2Rg on the base of the container as a whole.	The externally applied forces must be applied first towards and then away from the anchor points. Each side of the container must be tested.

5.6 End walls

Each end wall should be capable of withstanding a force of not less than 0.4 times the force equal to gravitational force by maximum permissible payload. If, however, the end walls are designed to withstand a force of less or greater than 0.4 times the gravitational force by maximum permissible payload, such a strength factor must be indicated on the Safety Approval Plate in accordance with Appendix 1.

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES
Internal load: Such as to subject the inside of an end wall to a uniformly distributed force of 0.4Pg or such other force for which the container may be designed. **Externally applied forces:** None.	The prescribed internal loading shall be applied as follows: Both ends of a container shall be tested except, where the ends are identical, only one end need be tested. The end walls of containers that do not have open sides or side doors may be tested separately or simultaneously. The end walls of containers that have open sides or side doors should be tested separately. When the ends are tested separately, the reactions to the forces applied to the end wall shall be confined to the base structure of the container.

5.7 Side walls

The side walls should be capable of withstanding a force of not less than 0.6 times the force equal to the gravitational force by maximum permissible payload. If, however, the side walls are designed to withstand a load of less or greater than 0.6 times the gravitational force by maximum permissible payload, such a strength factor must be indicated on the Safety Approval Plate in accordance with Appendix 1.

TEST LOAD AND APPLIED FORCES	TEST PROCEDURES

Internal load: Such as to subject the inside of a side wall to a uniformly distributed force of 0.6Pg or such other force for which the container may be designed.	The prescribed internal loading must be applied as follows: Both sides of a container must be tested except, where the sides are identical, only one side need be tested. Side walls must be tested separately and the reactions to the internal loading shall be confined to the corner fittings or equivalent corner structures. Open topped containers shall be tested in the condition in which they are designed to be operated, for example, with removable top members in position.
Externally applied forces: None.	

Appendix 3

Examination of containers

1 Each examination of a container that is required by this Part must be performed by a person trained and experienced in the detection of container structural damage.

2 An examination of a container must take into account the particular characteristics of the type of container and the materials of its construction and must include a detailed visual inspection:

(a) for defects that could place any person in danger; and

(b) of all load-bearing components.

3 An examination of a container must take place only when:

(a) sufficient time is available for a thorough examination;

(b) the container is cleaned and prepared to the extent required by the person undertaking the examination;

(c) means of lifting and supporting the container are provided to the extent required by the person undertaking the examination to ensure that the whole of the underside is accessible, and

(d) there is provided safe means of access and egress, sufficient lighting and all other facilities necessary to allow the examination to be carried out safely and effectively.

4 A person undertaking an examination of a container may require the use of any appropriate test in accordance with Appendix 2 or method of non-destructive testing.

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