

Specifications for sea freight container inspection stands

Design, construction and safe operation

Version 6.0



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1 Introduction

1.1 Scope

This specification outlines the design and maintenance requirements of support structures (stands) for sea freight containers provided by site/premises authorities at Australian ports and other premises such as Approved Arrangement sites. It is applicable to stands used by Department of Agriculture, Fisheries and Forestry (the department) biosecurity officers to inspect the undersides of freight containers for potential biosecurity risk material, that is, soil, animal and plant material and exotic pests.

This specification outlines the design, maintenance and safe use of stands to comply with statutory requirements and the department's inspection obligations, including Work Health and Safety (WHS) policies.

The scope of these specifications includes the design of new stands and the assessment of existing stands to support series 1 freight containers with the designations 1AAA, 1AA, 1A and 1AX (40ft containers) and 1CC, 1C and 1CX (20ft containers) as listed in AS 3711.1–2000.

1.2 New stands

Prior to use, new stands must be designed, constructed and certified in accordance with these specifications. Consultation with the department during the construction stage of any new stand is highly recommended.

1.3 Existing stands

Existing stands must be reviewed by a qualified engineer, as defined in these specifications (see <u>section 6</u>), to the requirements defined in these specifications. All subsequent changes to existing stands must be recertified by a qualified engineer.

2 Statutory requirements

To ensure a safe workplace environment, the *Work, Health and Safety Act 2011* (WHS Act) requires consideration of 'Safety In Design' principles. The stand should be designed with these principles in mind for the whole life cycle of the stand (design, construction, operation/maintenance and disposal).

Safe design principles must be applied to eliminate hazards or reduce risks (sections 21 to 26 of the WHS Act 2011) to as low as reasonably practical for personnel who:

- construct the structure at a workplace
- at a workplace, use the structure for a purpose for which it was designed
- carry out any reasonably foreseeable activity at a workplace in relation to demolition or disposal of the structure
- are at or in the vicinity of a workplace and are exposed to the structure.

Section 4 of the WHS Act 2011 defines 'structure' as:

'...anything that is constructed, whether fixed or moveable, temporary or permanent, and includes:

a) Buildings, masts, towers, framework, pipelines, transport infrastructure and underground works (shafts or tunnels); and

b) any component of a structure; and

c) part of a structure.'

In accordance with WHS, design and functional requirements that must be followed are:

- The design must not block the view of the underside of the container or be located in a position that could present a risk to the inspecting officer. The structure must not obstruct access to below the container nor present any trip hazard. Cross bracing is permitted, provided it does not shield any part of the container's external surface from visual inspection.
- If flooring is provided, and the change in level from the ground is 300mm or less, access may be gained without the provision of an intermediate step. Where the change of level is greater than 300mm, intermediate steps must be provided. Steps must be a standard step height from the ground (not less than 150mm and not greater than 215mm) and provide safe support. Steps must be designed to AS1657 Platforms, Walkways, Steps and Ladders. It must be a flat and level non-slip surface, free of obstacles and trip hazards. Where grated floor is used, the size of grating must be minimised to avoid a trip hazard.
- The stand must not have any protrusions or sharp edges that would present a hazard.
- Each stand must have a certification plate clearly displayed. The plate must be permanent (for example, pop-riveted or welded), non-corrosive, with an appropriate size and location ensuring it is readily visible and readable (see Figure 1). It must be large enough to contain:

- a unique stand number
- date of manufacture
- the stand's safe working limit (SWL)
- month and date of last inspection engraved or stamped.

Figure 1 Example of certification plate



3 Department requirements to facilitate the container inspection process

In order to carry out the department's inspection process:

- The vertical clearance from the floor of the stand (where personnel stand) to the underside of the container resting on the stand must be a minimum of 1.8m and maximum of 2m. The minimum 1.8m clearance is to allow for ease of movement and prevent head clashes with low members.
- The stand must provide a clear view of the underside of the container, free from obstructions and as free possible from shadows cast by adjacent structures. Cross bracing is permitted, provided it does not shield any part of the container's external surface from visual inspection.
- The stand structure must allow for easy access/egress below the supported container to minimise trips and falls and facilitate fast exit in emergency situations.
- The stand must not impede the use of any fork lifting pockets, if present, within the container. Forklift approach access to the front of the stand must not be prevented by overhang.
- To assist in the cleaning of the container underside, the floor and bracing of the stand must allow contaminants and water to flow onto the ground below using the wash-down methods available. The flooring of stands must be a flat surface.

4 Criteria for design

New stands

New stands must be designed, constructed and certified according to the criteria in <u>section 4.1</u> to <u>section 4.6</u> of these specifications and to AS 4100–1998.

Existing stands

All existing stands must be inspected and certified that they meet the requirements of this Specification by a qualified engineer and the safe working limit (SWL) must be displayed on the stand. Consideration must be given to the current state of the stand, for example the extent of corrosion, cracking and any loss of section. If an existing stand does not meet the requirements under <u>section 4.1</u> to <u>section 4.6</u>, see <u>section 4.7</u> for specific criteria for non-compliant existing stands.

Unfixed or movable stands

For unfixed or movable stands, particular attention should be made to the stability review to prevent instability due to overturning and sliding.

4.1 Design life

Stands must have a minimum design life of 30 years.

4.2 Dimensions

Stands must be designed to provide full support to 40ft or 20ft containers with dimensions as listed in Table 2 of AS 3711.1–2000 and reproduced as Table 1.

4.3 Protective coating

New steel container stands must have surface protection in accordance with AS 2312. Where steelwork is to be galvanised, it must be done according to AS/NZS 4680–2006. Galvanising of bolts, screws, nuts and washers must conform to AS 1214–1983.

Metals from incompatible materials must be separated by concealing layers of suitable inert material of suitable thickness, for example plastic sleeves and washers for bolts.

4.4 Loading

The stands must be able to resist the loading requirements for the full container dead loads, wind loads and equipment impact loads. The SWL of a stand is the maximum dead load of a container that can be placed on the stand. The minimum SWL of new stands must be the dead load (30,480kg) as per <u>subsection 4.4.1</u>.

4.4.1 Dead load (G_F) and (G_E)

The dead load of 40ft and 20ft containers must consider both the maximum and minimum dead load cases. The maximum dead load is the maximum gross mass of a full container during operation (G_F). The minimum dead load is the tare mass of an empty container (G_E).

The maximum gross mass of a container during operation is referred to as 'rating' in AS 3711.1–2000. The values provided in AS 3711.1 – 2000 are listed in Table 1. Refer to Table 1 for the tare weight of 40 ft and 20 ft containers. The dead load of the structure (container stand) can also be considered.

4.4.2 Dynamic vertical load (D)

The dynamic vertical load (D) associated with a sudden drop of the container as it is loaded on the stand is equivalent to 1 times the maximum dead load of the container (G_F) and is a separate and distinct load to the dead load.

 $D = 1 \times (G_F)$

Where:

- D is the dynamic vertical load
- (G_F) is the maximum dead load of a full container.

Freight container External length External width External height GF, maximum GE, tare designation in mm (feet) in mm (feet) in mm (feet and gross mass in mass in kg inches) kg (pounds) 1AAA 12,192 (40') 2,438 (8') 2,896 (9' 6") 30,480 3,800 (67,200) 1AA 2,591 (8' 6") 1A 2,438 (8') 1AX <2,438 (<8') 1CC 6,058 (20') 2,438 (8') 2,591 (8' 6") 30,480**a** 2,200 (67, 200)1C 2,438 (8') 1CX <2,438 (<8')

Table 1 Series 1 freight containers

a Table 2 of AS 3711.1 – 2000 lists the dead load for 1CC, 1C and 1CX containers as 24,000kg. However, Cl 5.2.2 of AS 3711.1–2000 states that for particular traffic, higher dead load values are permissible for 1CC, 1C and 1CX containers provided they do not exceed 30,480kg. Therefore the maximum dead load for both 40ft and 20ft containers is 30,480kg.

4.4.3 Wind loads (Wu) and (Ws)

Wu is the ultimate wind load for the container and stand and Ws is the serviceability wind load for the container and stand. Wind load effect on the container and the stand must be determined in accordance with AS/NZS 1170.2–2011, using a maximum ultimate wind speed of 20m/s and the maximum service wind speed of 15m/s as governed by the operating conditions (guidelines for the safe use of stands). See <u>section 5.3</u>.

4.4.4 Equipment impact loads (I_F) and (I_E)

Accidental loads from an impact to the stand or a container (on the stand) must be considered. These impact loads must be considered independently and in any horizontal direction. The equipment impact load to be considered is the container dead load, multiplied by a factor of 0.2. Similar to the container dead load, the equipment impact load must consider both the maximum and minimum dead load cases.

 $I_F = 0.2 \ge G_F$

and

 $I_E = 0.2 \ge G_E$

Where:

- I_F is the full container equipment impact loads
- I_E is the empty container equipment impact load
- G_F is the maximum dead load of a full container
- G_E is the minimum dead load of an empty container.

4.4.5 Load combinations

a) Ultimate limit state

The load combinations used to check stability are:

- 0.9G_F + I_F
- $0.9G_{\rm E} + I_{\rm E}$
- 0.9G_E + Wu.

The load combinations used to check strength are:

- 1.2G_F + D
- 1.2G_F + I_F
- $1.2G_{\rm E} + I_{\rm E}$
- 1.2G_F + Wu.

b) Serviceability limit state

The load combinations used to check serviceability are:

 $G_F + Ws + I_F$.

Where:

- G_F is the maximum dead load of a full container
- G_E is the minimum dead load of an empty container
- I_F is the full container equipment impact load
- I_E is the empty container equipment impact load
- Wu is the ultimate wind load for the container and stand (where the maximum ultimate wind speed is 20m/s)

- Ws is the serviceability wind load for the container and stand (where the maximum service wind speed is 15m/s)
- D is the dynamic vertical load.

4.4.6 Load distribution between legs of stand

Eccentricity of the vertical loading from the cargo within the container must be considered in the design of the stand's legs.

4.4.7 Robustness

The design must provide sufficient robustness:

- All structural components must be tied together in the horizontal and the vertical planes.
- Load paths to the foundations must be provided for forces generated by all types of actions from all parts of the structure.
- Alternate load paths must be provided to ensure that any damage is absorbed and failure of critical members will not result in a major collapse.
- To verify robustness, the stand must be designed to resist a lateral load of 1.5% of the maximum container dead load applied to the loaded stand at the top of the container. The direction of this lateral load must be that which produces the most critical effect in the stand. A lateral load equal to 5% of the maximum container dead load must be able to be transmitted in the connections of the stand.

4.5 Securing and locating container on stand

The container must be able to be correctly located onto the stand and be prevented from moving horizontally while on the stand under the stability load combinations. Containers are not required to be tied down to stands and instead gathering guides (Figure 2), or similar, for each of the container's corners must be used to locate the container on the stands. Stacking cones can still be used in place of, or in conjunction with, gathering guides. The design provided for locating of containers atop the stands must not impede the method used for placing and lifting containers.





Note: Based on Figure 23, AS 3711.10–2000. Dimensions shown in millimetres.

4.6 Other design requirements

Modified containers, such as modified flat racks, are not acceptable for the design and construction of new stands. Stands in current use that are modified containers must be reviewed and recertified as per <u>section 4</u> of these specifications.

The legs of stands must be either physically connected to each other or fixed to the ground as well as being braced in both directions. Therefore, A-frame trestles must not be used to support 40ft and 20ft containers unless the frames are braced in both directions and either physically connected to each other or fixed to the ground. The base of the stand must also be adequately braced.

A certification plate, as described in <u>section 2</u>, must be attached to the stand structure.

The design of the stand must conform to the statutory requirements and the department process requirements as per section 2 and section 3.

4.7 Criteria for non-compliant existing stands

Where an existing stand has failed to meet any of the criteria specified in <u>section 4.1</u> to <u>section 4.6</u>, see the appropriate subsection under <u>section 4.7</u>.

4.7.1 Design life

The remaining service life of all existing stands must be determined by a qualified engineer in accordance with the requirements of these specifications.

4.7.2 Dimensions

Existing stands cannot be used for containers that have different dimensions to the container they are designed to support. Existing stands designed for 20ft containers must be able to provide full support for 20ft containers and can only be used for 20ft containers, likewise for 40ft containers. Stands that have been designed to support either 20ft or 40ft containers can be used for either 20ft or 40ft containers.

Where site/premises authorities require two 20ft stands to be used to support one 40ft container or a 40ft stand to support one or two 20ft containers, this requires a review and verification of the arrangement by a qualified engineer as the stands were not designed for this purpose.

4.7.3 Protective coating

Existing stands must be protected in accordance with AS 2312–2002.

If it is not possible to separate incompatible materials, particular attention must be paid to these areas during inspections.

4.7.4 Loading

The stands must be able to resist the loading requirements as described in <u>section 4.4</u>. The SWL must be displayed on the stand. Consideration must be given to the current state of the stand, for example the extent of corrosion, cracking and any loss of section. The stand cannot be loaded beyond its displayed SWL.

4.7.5 Securing and locating container on stand

For stands without gathering guides, the qualified engineer must verify:

- locating the container on the stand
- prevention of horizontal movement while on the stand.
- these processes under the stability load combinations.

Stacking cones can still be used in place of, or in conjunction with, gathering guides.

5 Requirements for safe use

These guidelines are provided for the site operator to ensure safe use of stands:

5.1 Location

The stand must be located:

- clear of mobile plant operations and traffic areas to lower the risk of accidental impacts
- clear of electrical power lines
- on an impervious, level and hard surface
- on a substrate sufficient to bear the required weight of a loaded container such that the stand remains level and stable.

Stands must be positioned so that the longitudinal axis of the supported container is in line with the predominant wind direction. The weather conditions must be evaluated prior to placing the container on the stand. In situations with winds over 15m/s (the maximum service wind speed) the stand must not be loaded.

5.2 Damage or faults

Following any damage (including impacts) within the tolerance levels listed in the Criteria for limiting defects and associated repair actions (see the Accident and inspection report for sea freight container inspection stand), the stand must be initially inspected and assessed by a structural inspector (and qualified engineer if required).

For any damage outside the tolerance levels the stand must be removed from use and a detailed structural inspection and assessment must be performed by a qualified engineer. Once the defect/damage has been rectified/repaired and recertified by a qualified engineer, the stand can re-enter service.

Refer to section 6 of these specifications for qualifications required for structural inspector and qualified engineer. See the Statement of certification for sea freight container inspection stand that contains all the mandatory information required for certification.

A record must be kept in accordance with the site's document procedures, for example by lodging an incident/hazard report. Department staff are also to lodge a WHS incident report if they are aware of any damage or fault as well as reporting to site staff.

5.3 Placing and removing container on stand

Mobile plant/forklift operators must act responsibly and exercise due care when loading stands to prevent unexpected loading on the stands and damage to the stands. Operators should be aware of or trained in AS 3711.10–2000 for handling of containers when placing and removing from the stand.

Operators must watch the moving load at all times and provide a signal person, if required by either the Code of Practice of that premises or the operating environment. Personnel must be

aware of the movement, contents, swing and stability of containers during transport, loading and unloading.

Personnel must be a minimum of 3m away from the area where the container is being loaded or unloaded onto a stand.

Forklifts must be disengaged and at a safe distance from the inspection stand prior to inspections commencing. Note: safe working distance can be defined and agreed upon by the site operator and the biosecurity officer.

Containers or other loads must not be carried over people.

5.4 Use during container inspection

Stands must be used as intended. Stands designed for 20ft containers and 40ft containers must only be used for 20ft containers and for 40ft containers. Stands that have been designed (or verified by a qualified engineer, see <u>subsection 4.7.2</u>) to support either 20ft or 40ft containers can be used for either 20ft or 40ft containers. Loading of a stand must not exceed the SWL marked on the stand.

The underside of the container must be checked by site/premises' staff and department inspectors for damage and excessive sagging before personnel can enter below the container for inspection.

5.5 Moving a stand

No attempt is to be made to move the stand while a container is on the stand.

If a stand is moved for any purpose, for example, in and out of a wash bay, from one wharf berth to another, the stand must be visually inspected by on site industry personnel familiar with the stand. This is a general inspection to confirm no obvious faults have resulted from the movement and the stand is located as per section 5.1.

6 Inspection and maintenance

6.1 Qualifications, competencies and requirements6.1.1 Structural inspectors

Structural inspectors are not required to be an independent worker to the site/premises authorities. Structural inspectors must have competency in steel structures. Competency can be obtained by meeting one of these 3 criteria:

- successful completion of Transport and Logistics training packages: TLIB2086 (Apply awareness of structures fundamentals) and TLIB3088 (Examine Steel Structures) with 5-years' experience in the inspection of steel structures
- welding Inspector Certificate as recognised by the Welding Technology Institute of Australia (WTIA)
- more than 15-years' experience in the inspection or fabrication of steel structures in addition to approval by a qualified engineer or a Chartered Professional Engineer (structural) with a membership of Engineers Australia (CPEng).

Structural inspectors must apply to be recognised by Engineers Australia as per <u>subsection 6.1.3</u> before conducting inspections.

6.1.2 Qualified engineers

Requirements to become a qualified engineer are:

- Registered on the National Engineering Register (NER) in the Occupational Category of Professional Engineer
- A minimum of 5 years demonstrable experience in the design and inspection of steel stands of a similar nature to sea freight container stands.

Qualified engineers are required to:

- Have valid state certification where required
- Be an independent worker to the site/premises authorities.

Qualified engineers must apply to be recognised by Engineers Australia as per <u>subsection 6.1.3</u> before conducting inspections.

6.1.3 Application to be a qualified engineer or structural inspector

To request recognition as a qualified engineer or structural inspector, submit your application to seafreight@engineersaustralia.org.au.

For qualified engineers the application must include:

- up-to-date CV
- contact details including email and mobile phone
- details of similar works completed in the last 5 years, including:
 - the scope of work

- the dates when the work was undertaken
- calculations and analysis of 3 similar structures from the past 5 years
- the company the engineer worked for at the time
- the client for the works.

To be relevant these projects must involve the design or fabrication of steel structures similar to sea freight container stands.

A numbered letter certifying that the applicant meets the requirements for qualified engineer will be issued at the completion of the assessment and on payment of the fee. The letter will be issued to the applicant with a copy provided to the department's representative.

For structural inspectors the application must include:

- up-to-date CV
- contact details including email and mobile phone
- copies of qualifications
- support letter as defined in <u>subsection 6.1.1</u> if required.

A numbered letter certifying that the applicant meets the requirements for structural inspector will be issued at the completion of the assessment and on payment of the fee. The letter will be issued to the applicant with a copy provided to the department's representative and if required, the employer.

6.2 Inspection and maintenance schedule

The inspection and maintenance schedule (see Table 2) is applicable to all purpose-built stands, and does not include existing modified containers currently used as stands. Existing modified containers stands must follow a separate inspection schedule (see <u>subsection 6.2.2</u>).

6.2.1 Inspection schedule for purpose-built stands

Following the initial certification by a qualified engineer, inspections are to be carried out at 2yearly intervals alternating between inspections conducted by a structural inspector and qualified engineer (see Table 2). The first scheduled inspection by a structural inspector should be conducted 2 years after the stand's initial certification.

Structural inspectors are to conduct visual inspections. The inspection must record the condition of the structural elements, including legs, connections (welding), bracing members, gussets, any cracks, surface condition and corrosion. The structural inspector must record section loss in the Accident and inspection report for sea freight container inspection stand.

Qualified engineers are to conduct detailed structural inspections and assessments (certification) alternately as scheduled in Table 2. To ensure all the required information is captured in the certification, the qualified engineer must complete a Statement of certification for sea freight container inspection stand. This statement includes all the mandatory information that is required for certification. Note that the certification plate on the stand is to be engraved or stamped with the month and date of each inspection conducted by a qualified engineer or structural inspector. Additionally, as per section 7, if the results of the visual inspection by structural inspectors are at or beyond the limiting criteria listed in the Accident and inspection report for sea freight container inspection stand, the stand must be removed from use and a detailed structural inspection and assessment (certification) must be performed by a qualified engineer.

Beyond the stand's 30-year design life, the visual inspections and detailed structural inspections and assessment must be carried out at a reduced inspection interval. Additional visual inspections must also be carried out after an accident or impact affecting structural integrity or where recertification by a qualified engineer is required per the Criteria for limiting defects and associated repair actions (see Accident and inspection report for sea freight container inspection stand).

In its 31st year the stand must be inspected by a qualified engineer and in the following year by a structural inspector. This yearly alternating arrangement between the structural inspector and qualified engineer will continue for the remainder of the stand's use.

The inspection schedule (see Table 2) continues until the qualified engineer deems the stand unsuitable for further use. At this point if the site/premises authorities decide not to repair the stand, it is decommissioned.

Structural inspectors can conduct visual inspections and record their finding in the Accident and inspection report for sea freight container inspection stand. However, this does not constitute an initial certification of a new or existing stand. Visual inspections are to be conducted in accordance with section 6.2 in reference to Table 2 and Table 3.

Inspection interval	Inspection schedule		
0	Initial certification by a qualified engineer		
2	Visual inspections by a structural inspector		
4	Detailed structural inspections and assessments by a qualified engineer		
6	Visual inspections by a structural inspector		
8	Detailed structural inspections and assessments by a qualified engineer		
10	Visual inspections by a structural inspector		
>10 <30	Continue inspection intervals as described for inspection years 0 to 10) until stand design life reaches 30 years		
30	Visual inspections by a structural inspector		
31	Detailed structural inspections and assessments by a qualified engineer		
32	Visual inspections by a structural inspector		
33	Detailed structural inspections and assessments by a qualified engineer		
>36	Continue inspection intervals (as described for inspection years 30 to 33) until stand decommissioned		

Table 2 Inspection schedule for purpose-built container stands

Table 2 is indicative of the sequence of inspections. The first inspection after certification is to be by a structural inspector, within 2 years of certification.

6.2.2 Inspection schedule for existing modified containers used as stands

Inspections are to be carried out at yearly intervals alternating between inspections conducted by a structural inspector and qualified engineer, as shown in Table 3. The first scheduled

inspection by a structural inspector should be conducted 1 year after the stand's initial certification by a qualified engineer.

The inspection schedule (see Table 3) continues until the qualified engineer deems the stand unsuitable for further use. At this point if the site/premises authorities decide not to repair the stand, it is decommissioned.

Inspection interval	Inspection schedule
0	Initial certification by a qualified engineer
1	Visual inspections by a structural inspector
2	Detailed structural inspections and assessments by a qualified engineer
3	Visual inspections by a structural inspector
4	Detailed structural inspections and assessments by a qualified engineer
5	Visual inspections by a structural inspector
>5	Continue inspections in intervals as described from 1–5, until stand repaired or decommissioned.

Table 3 Inspection schedule for existing modified containers used as stands

Table 3 is indicative of the sequence of inspections. The first inspection after certification is to be by a structural inspector, within the year following certification.

6.2.3 Inspection requirements after accidents or impacts to stands

After an accident or impact to stand, the stand must be inspected by a structural inspector.

An Accident and Inspection Report for use by the structural inspector is supplied. As per <u>section 7</u>, if the results of the visual inspection are at or beyond the limiting criteria listed in the Accident and Inspection Report, the stand must be removed from use and a detailed structural inspection and assessment must be performed by a qualified engineer. See <u>subsection 6.2.4</u>.

6.2.4 Register or log of maintenance, inspections/certification and impact reports

All details of maintenance, impact reports and repair work must be recorded, in a register or log in accordance with the site's document procedure. All maintenance, impact reports and repair work must be provided to the department. This advice must include whether the damage and repair requires the stand to be taken out of use.

A regular maintenance plan must be prepared and carried out to ensure continued compliance with inspection schedules.

7 Criteria for limiting defects and repair actions

The criteria for limiting defects are in place to ensure the safe and continual use of the container stands. The criteria listed in this section are to be used as a guide only and are not exhaustive. Since the design of stands can be different, this section aims to provide a guide covering common defects anticipated in typical stands.

During all inspections, photographs of the stand as a whole and of noted defects must be taken and appended to records, see Accident and inspection report for sea freight container inspection stand.

The Accident and inspection report specifies defect limits and associated responses, which are intended to be observed by structural inspector/maintenance personnel during scheduled inspections or after reported impact damage. It provides guidelines for the safe operation of the stands in terms of:

- time for repairs to observed defects/deterioration
- maximum allowable defects/deterioration for operation
- defect criteria requiring a qualified engineer's recertification for continued safe usage.

If the results of the visual inspection are at or beyond the limiting criteria listed in the Accident and inspection report for sea freight container inspection stand, the stand must be removed from use and a detailed structural inspection and assessment must be performed by a qualified engineer. Once the defect has been rectified and recertified by a qualified engineer, the stand can re-enter service.

The details of any removal from service must be recorded and provided to the site/premises and the department.

8 Version history

Version	Date	Amendment details
1.0	March 2014	First publication
2.0	June 2014	Amended to include mechanical engineers in engineer qualifications, inclusion of sample Statement of certification and clarification of other issues.
3.0	September 2014	Amended to include changes to section 4 Criteria for design, subsection 4.4 loading, to accommodate the requirements of the container loading values and wind speeds for use of container stands for empty container inspections.
4.0	June 2016	Minor amendments to include: department name change, references to quarantine removed.
5.0	April 2020	Amended to include Engineers Australia role in assessing qualifications and experience of engineers and inspectors, consolidation of safe use information into section 5, new forms created for certification and inspection, clarification on A-frame trestles and note added on unfixed or movable stands.
6.0	September 2022	Amended to clarify: certification plate requirements in section 2 Statutory requirements and section 6 subsection 6.2; requirement for both structural inspectors and qualified engineers to be recognised by Engineers Australia in section 6 subsection 6.1 Qualifications, competencies and requirements. Minor amendment to include department name change.

References

In 2014 when these specifications were originally published, the below references were the current versions available (Note: updated versions of some references may now be available):

- Structural design actions, Part 0: General Principles (AS/NZS 1170.0–2002)
- Structural design actions, Part 1: Permanent, imposed and other actions (AS/NZS 1170.1–2002)
- Structural design actions, Part 2: Wind actions (AS/NZS 1170.2–2011)
- Hot-dip galvanized coatings on threaded fasteners (ISO metric coarse thread series) (AS 1214–1983)
- Structural steel welding, Part 1: Welding of steel structures (AS/NZS 1554.1–2011)
- Fixed platforms, walkways, stairways and ladders Design, construction and installation (AS 1657–1992)
- Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings (AS 2312–2002)
- Freight containers, Part 1: Classification, dimensions and ratings (AS 3711.1–2000)
- Freight containers, Part 10: Handling and securing (AS 3711.10–2000)
- Steel structures (AS 4100–1998)
- Hot-dip galvanized (zinc) coatings on fabricated ferrous articles (AS/NZS 4680–2006)

There are no standards specifically addressing stands. For reference purposes these Australian Standards addressing containers, most of which are based on or are technically equivalent to ISO Standards, have been consulted in preparation of these specifications.

- Freight containers Automatic identification Operating parameters (AS 2361–1990)
- Freight containers, Part 1: Classification, dimensions and ratings (AS 3711.1–2000)
- Freight containers, Part 2: Terminology (AS/NZS 3711.2–1993)
- Freight containers, Part 2: Terminology (AS/NZS 3711.2–1993/Amendment 1–2000)
- Freight containers, Part 3: Corner fittings (AS/NZS 3711.3–1993)
- Freight containers, Part 4: General purpose containers (AS/NZS 3711.4–1993)
- Freight containers, Part4: General purpose containers (AS/NZS 3711.4–1993/Amendment 1–2000)
- Freight containers, Part 5: Thermal containers (AS 3711.5–2000)
- Freight containers, Part 6: Tank containers (AS 3711.6–2000)
- Freight containers, Part 7: Dry bulk containers (AS/NZS 3711.7–1993)
- Freight containers, Part 7: Dry bulk containers (AS/NZS 3711.7–1993/Amendment 1 2000)

- Freight containers, Part 8: Platform containers (AS 3711.8–2000)
- Freight containers, Part 9: Coding, identification and marking (AS 3711.9–2000)
- Freight containers, Part 10: Handling and securing (AS 3711.10–2000)
- Bulk solids containers Safety requirements (AS 3773–1990)
- Bulk solids containers Safety requirements (AS 3773–1990/Amendment 1–1992)
- Loads on bulk solids containers (AS 3774–1996)
- Loads on bulk solids containers (AS 3774–1996/Amendment 1–1998)
- Loads on bulk solids containers (AS 3774–1996/Amdt 2–1998)
- Series R freight containers Requirements for container compliance (AS 4615.1–2000)
- Series R freight containers Platform and platform-based containers (AS 4615.2–2000)