



**IRCLASS**  
Indian Register of Shipping

# Guidelines on Certification of Containers



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## April 2021



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### Revision History

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## Guidelines

### Certification of Containers 2021

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## Section 1

### Certification of Containers

#### 1.1 Introduction

1.1.1 In keeping with the initiatives of the Government of India for 'Atmanirbhar Bharat', indigenous manufacturing of containers both for the Indian and international market has been identified as one of the focus areas. IRS aims to partner indigenous manufactures in their journey towards manufacturing containers of requisite quality and in keeping with international standards. Towards this, IRS has prepared these guidelines for use by stakeholders to enable certification of containers.

1.1.2 This document provides guidelines for the certification of containers in accordance with International Convention for Safe Containers, 1972 (CSC).

#### 1.2 Scope

1.2.1 The scope of these guidelines includes testing, inspection and approval of containers in accordance with the criteria established in the CSC convention.

1.2.2 These guidelines exclude certification of containers specially designed for air transport and offshore containers.

1.2.3 These guidelines are based on current knowledge and would be updated based on the experience gained during actual certification of containers, as required.

#### 1.3 Definitions

**"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
- (d) of a size such that the area enclosed by the four outer bottom corners is either:
  - (i) at least 14 m<sup>2</sup> (150 sq. ft) or
  - (ii) at least 7 m<sup>2</sup> (75 sq. ft) if it is fitted with top corner fittings.

The term "container" includes neither vehicles or packaging; however, containers when carried on chassis are included.

**"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.

**"Administration"** means the Government of a Contracting Party under whose authority containers are approved.

**"Approval"** means the decision that a design type or a container is safe within the terms of the present Convention. International Convention for Safe Containers.

**"International transport"** means transport between points of departure and destination situated in the territory of two countries to at least one of which the CSC Convention applies.

**"Cargo"** means any goods, wares, merchandise and articles of every kind whatsoever carried in the containers.

**"Owner"** means the owner as provided for under the national law of the Contracting Party or the lessee or bailee, if an agreement between the parties provides for the exercise of the owner's responsibility for maintenance and examination of the container by such lessee or bailee.

**"Type or Type series container"** means any container manufactured in accordance with the approved design type.

**"Prototype"** means a container representative of those manufactured or to be manufactured in a design type series.

**"Maximum operating gross weight"** or "rating" or "R" means the maximum allowable combined weight of the container and its cargo.

**"Tare weight"** means the weight of the empty container including permanently affixed ancillary equipment.

**"Maximum permissible payload"** or "P" means the difference between maximum operating gross weight or rating and tare weight.

## 1.4 Materials and components

1.4.1 The steel and corner fittings are to be manufactured at works approved by IRS. Other components may be accepted based on the component manufacturer's certificates and on verification of effective controls having been applied by the Container manufacturer on the component manufacturer/s.

## Section 2

### Container Approval Procedures

#### 2.1 General

2.1.1 Containers designed, manufactured, tested, and marked in compliance with the following requirements may be certified by IRS.

2.1.2 Certification consists of the following steps:

- design review
- inspection and testing of prototype
- production inspection and testing
- plating and marking
- issuance of certificates

2.1.3 An application for approval and certification is to be made to IRS by the owner/ manufacturer on the Service Request Form (SRF) available on website at [www.irclass.org](http://www.irclass.org). A copy of the SRF is placed at Appendix A for ready reference. The application is to include:

- short description of the container type(s) (size, function, special features, etc.)
- specification of standards and regulations complied with
- preferred type of approval scheme.
- place of manufacture (if applicable)
- if individual approval is sought: the number of containers to be manufactured.

2.1.4 Request towards approval can be under the following instances:

- New container approval either for type approval or for individual certification.
- Re-certification of container subsequent to modification of an approved design type / on repair / change of certification body.
- Periodical examination of each container

#### 2.2 Approval schemes

2.2.1 Approval schemes include the following:

- Individual Container Approval (Case-by-Case) or against purchase order from owner with specific request
- Approval valid for batch or series production (The firm applying for type approval)

2.2.2 The manufacturer is to take sole responsibility for conformity of the product to the applicable requirements and provide information about all places of manufacture. If a type approved container design is manufactured at different places of manufacture, prototype testing will normally be carried out at each manufacturing plant. Lifting sets for containers are to be of approved type.

#### 2.3 Documentation

2.3.1 **Documents to be submitted for approval:**

- Plans showing arrangement, dimensions, maximum gross mass, payload, scantlings of

strength members, sling angle, pad eyes and design details as well as materials to be used material standards are to be specified.

- Particulars of joining methods (welding, bolted or riveted connections). Welds to be indicated with welding symbols to a recognized standard.
- particulars of corrosion protection and painting (type, application, dry film thickness)
- plating and marking.
- Quality Assurance Plan
- Test protocol (including procedures for various NDT as per the reference standard)

### 2.3.2 Documents to be submitted for information

- Outline of manufacturing firm, e.g. organization and management structure.
- Registration certificate of the firm and legal permissions from the local authority for the intended scope of approval
- Experience of the firm in manufacturing, information related to manufacturing facility, product portfolio, product applications, production capacity
- General layout of production facility and availability of equipment to demonstrate available facilities are adequate for the intended production capacity.
- Product description and the manufacturing and testing standards including Non destructive testing (NDT) followed
- Personnel involved in production and QA/QC, documenting training and experience within the relevant area, and qualifications according to recognised national, international or industry standards, as relevant
- Quality Manual and/or documented procedures covering the requirements in 2.4.1 and all elements of ISO 9001 (latest version). In case manufacturer is certified to ISO 9001 (latest version), certificate copy is to be submitted for records.
- Occupational Health and Safety Manual and/or documented procedures covering requirements in 2.4.2 and all elements of ISO 45001 (latest version) In case manufacturer is certified to ISO 45001 (latest version), certificate copy is to be submitted for records.
  - List of measuring and testing equipment and their latest calibration certificates
  - List of lifting appliances and their latest test record
  - Raw materials used and their list of suppliers
  - List of outsourced items along with sub-contractors if any
  - Material Safety Data Sheet (MSDS) and paint specification of the paint used / intended to be used
  - Paint manufacturer's recommended procedures
  - Design calculations including lifting set calculations.
  - Other documentation as required for special purpose containers such as refrigeration and liquid cargo container etc.
  - The applicant is to state the identification symbols which will be assigned by the manufacturer to the type of container as per specific approval.
  - The application for type approval is also to be accompanied by a declaration from the manufacturer that they will:
    - (a) produce such containers of the design type concerned as may be required to be examined.
    - (b) Indicate any change in the design or specification and await its approval before affixing the Safety Approval Plate to the container.
    - (c) affix the Safety Approval Plate to each container in the design type series.
    - (d) keep a record of containers manufactured to the approved design type. This record is to at least contain the manufacture's identification numbers, dates of delivery and names and addresses of customers to whom the containers are delivered.



## 2.4 Document review and Design appraisal at Head Office (H.O.)

2.4.1 Quality System: The manufacturer is to have a documented system covering all elements of ISO 9001 (latest version) and the following:

- Manufacturing process
- Maintenance and calibration of measuring and testing equipment
- Procedures for maintenance and testing of lifting appliances.
- Procedure for procurement of raw materials such as steel plates, corner fittings etc. The corner fittings are to be procured from approved works
- Quality Control Measures exercised on subcontractors and raw material suppliers.
- Supervision and verification to ensure compliance with manufacturing and testing procedure - Training of workmen (Supervisor/ Staff/ work men/welders)
- Storage and preservation
- Record keeping such as material certificates, inspection reports and test data, calibration data, damage and claim records, etc.
- Identification & traceability
- Inspection & testing before, during and after manufacture
- Defect identification and rectification during product manufacturing
- Paint application process in accordance with paint manufacturer's recommendation and procedure for maintaining records
- Periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents

In case, the manufacturer is certified for latest version of ISO 9001, certificate validity is to be verified and it is to be confirmed that certificate scope covers the intended scope of approval requested from IRS.

2.4.2 Occupational Health and Safety Procedures: The manufacturer is to have a documented system covering all elements of ISO 45001 (latest version) and the following:

- Safe working practices especially related to welding, lifting, paint application etc
- Safety training to the workers
- Material handling throughout the works
- Disposal of scrap / waste material in accordance with local laws

In case, the manufacturer is certified for latest version of ISO 45001, certificate validity is to be verified and it is to be confirmed that certificate scope covers the intended scope of approval requested from IRS.

2.4.3 Design Appraisal: This involves a review of:

- strength of structure, including design details
- material specifications
- welding and other joining methods
- lifting set
- supporting structures for other permanent equipment.

Where safety hazards may arise in connection with items not covered directly by the existing requirements, overall safety standard is to be maintained.

2.4.4 Process of design review including material verification and strength estimation are described separately in Annex- I.

## 2.5 Testing and inspection

### 2.5.1 Works Assessment

2.5.1.1 During the type approval of containers for mass production, in addition to the design review, an inspection of the manufacturer's works is to be carried out to assess the manufacturing and testing facilities and process control to ensure consistency in product quality.

2.5.1.2 This includes assessment of the manufacturing facilities, quality control operations, infrastructure for testing, availability of qualified/competent resources for the declared production capability etc. Registration certificate of the manufacturing firm and legal permissions from the local authority for the intended scope of approval are to be verified.

2.5.1.3 It is to be verified that the following are implemented in practice as stated in submitted quality manual/documentated procedures:

- Manufacturing process
- It is to be ensured that the measuring and testing equipment are calibrated and maintained in accordance with OEM's recommendations. The calibration may be carried out by the OEM or at an NABL accredited laboratory / Government approved facility.
- Procedures for maintenance and testing of lifting appliances. It is to be verified that the latest test records are valid as per OEM's recommendation.
- Procedure for procurement for raw materials such as steel plates, corner fittings etc. The corner fittings are to be procured from approved works.
- Quality Control Measures exercised on subcontractors and raw material suppliers.
- Supervision and verification to ensure compliance with manufacturing and testing procedure
- Training of workmen (Supervisor/ Staff/ work men/welders)
- Procedure for Storage and preservation
- Record keeping such as inspection reports and test data, calibration data, damage and claim records, etc.
- Procedure for identification & traceability
- Quality Control Inspection & testing before, during and after manufacture including NDT
- Defect identification and rectification during product manufacturing
- Periodic review of work process procedures, complaints, corrective actions, and issuance, maintenance and control of documents

2.5.1.4 It is to be verified that manufacturer implements the health and safety measures stated in the documented procedures. These procedures include:

- Adoption of safe working practices
- Use of personal protective gears and adherence to health, safety & environment related requirements
- Safety training to the workers
- Display of various safety instructions and good practices of material handling throughout the works
- Disposal of scrap / waste material as documented
- Measures taken to minimize the risk of fire/explosion and to ensure health and safety of personnel involved in welding, lifting, painting etc.

2.5.1.5 It is to be verified that the manufacturer has got facility for application of paints in controlled condition as per paint manufacturer's recommendation.

2.5.1.6 It is to be verified that marine grade paint is used and its MSDS and paint specification recommended by paint manufacturer are to be verified.

2.5.1.7 It is to be verified that procedure exists to maintain records which demonstrate that the painting is done in accordance with paint manufacturer's recommendation. Following is also to be verified

a. Declaration from the paint manufacturer that the product is free from prohibited chemicals

b. Material Safety Data Sheet (CAS No. and Chemical Composition)

c. Recommended painting procedure including surface preparation, ambient atmospheric conditions (such as temperature, humidity) to be maintained while applying paint, application methodology drying duration etc

d. Dry Film Thickness (DFT) and the No. of Years the coating can last as per manufacturer's recommendation

2.5.1.8 Manufacturer's procedure for marking on Container Safety Approval Plate is to be verified in accordance with Annex IV of these guidelines.

2.5.1.9 It is to be verified that procedure exists in dealing with after sales services such as rectification of defects / repairs etc

2.5.1.10 It is to be verified that system exists for informing container owners regarding the requirement for periodic examinations.

2.5.1.11 Works assessment of the Container manufacturer would be carried out as per form (CONT.WA\_CL\_OA\_Rev.1), placed at Appendix B.

## **2.5.2 Prototype testing**

2.5.2.1 Prototype tests are to be carried out irrespective of whether a single container or a series of containers are planned to be built.

2.5.2.2 Certificates for raw material such as steel plates, corner fittings are to be verified. It is to be confirmed that corner fittings are procured from approved works.

2.5.2.3 Prior to conduct of prototype tests, visual examination of the container is to be carried out.

2.5.2.4 Following tests are to be performed on the prototype and witnessed by IRS Surveyors. The Test load, test procedures and acceptance criteria are to be in accordance with Annex II.

a. Dimensional Check: Prior to the start of the following structural tests the empty container is to be measured in accordance with approved plan. The dimensional check is to be repeated upon completion of the structural tests.

b Lifting Test

c. Lifting from corner fittings

d. Lifting from the bottom corner fittings

e. Lifting by any other additional methods such as lifting from fork-lift pockets, lifting from grapples-arm position or any other method

f. Stacking

g. Concentrated Load Test – on Roof and on Floor

h. Transverse racking

i. Longitudinal restraint (static test)

j. End-walls

k Side walls

l. One door off operation

m. Cargo Securing Devices (where provided)

n. Weather tightness

2.5.2.5 For tank containers, it is to be verified that pressure relief devices where fitted are set to the correct pressure.

2.5.2.6 The prototype testing for type approval of containers will be carried out as per form (TA\_CL\_OA\_CONT\_Rev.01), placed at Appendix C.

### **2.5.3 Examination during production**

2.5.3.1 The certificates for raw material such as steel plates, corner fittings are to be verified. It is to be confirmed that corner fittings are procured from approved works.

2.5.3.2 It is to be verified that the manufacturer has qualified welders for approved welding procedures and that they can manufacture the containers.

2.5.3.3 All weld procedure specifications (WPS), procedure qualification records (PQR), and welder's performance qualification records are to be in accordance with recognized standards and are to be reviewed to the satisfaction of the Surveyor.

2.5.3.4 It is to be verified that marine grade paint is used which meets the Purchase Order requirement and that painting is done in accordance with paint manufacturer's recommendations and records maintained

2.5.3.5 All nondestructive tests performed by the manufacturer are to be carried out by personnel qualified to conduct such inspections in accordance with recognized standards. Where nondestructive tests are performed, it is to be demonstrated that such testing is properly recorded by the manufacturer and found to be to the satisfaction of the Surveyor.

2.5.3.6 Certification will be based on surveillance of the manufacturer's quality assurance system and on the basis of agreed Quality Assurance Plan in manufacturing/survey.

2.5.3.7 The manufacturer is to ensure examination/testing as per mutually agreed test protocol is carried out for each container prior to its delivery.

2.5.3.8 The tests specified at 2.5.2.4 are to be performed during production and witnessed by IRS Surveyors. The test load, test procedures and acceptance criteria are to be in accordance with Annex II. Before commencement of tests, container is to be visually examined.

2.5.3.9 For tank containers, it is to be verified that pressure relief devices where fitted are set to the correct pressure.

2.5.3.10 Upon satisfactory completion of the production testing, Safety Approval Plate with details as described in Annex IV of these guidelines is to be permanently affixed to the container at a readily visible place. The date (month and year) before which a new container is to undergo its first examination will be hard stamped on the Safety Approval Plate along with IRS logo by the Surveyor.

2.5.3.11 The Unit Certification of containers will be carried out as per form (CL-PCS-CONT-UC\_Rev.1) placed at Appendix D.

## 2.6 Issuance of certificate

2.6.1 On completion of the design review, works assessment, testing, as per protocol and satisfactory review of the test reports based on the surveyor's recommendation, a Type Approval Certificate can be issued to the manufacture for the specific design type (Refer Appendix F). The validity of the type approval certificate would be for 5 years from the date of manufacturing for the specific design of the container.

2.6.2 Along with the type approval certificate conforming to the type design requirement, each container will be issued with a container approval certificate on satisfactory completion of tests (Refer Appendix G).

2.6.3 Validity and due date for first examination (month and year), which is not to be more than 5 years from date of manufacturing, will be mentioned in the the Certificate.

## 2.7 Re-certification of pre-certified containers on modification of an approved design type/repair or change of certification

2.7.1 Re-certification of container is required after modification of an approved design type / on repair / change of certification body. Containers that have been certified by other certifying bodies due to repair and modification will not automatically be accepted as complying with the requirements & IRS reserves the right to review design, inspect and test any container before issuing the certificates.

2.7.2 All relevant documentation is to be submitted for review and approval. If the documentation is incomplete, additional requirements may be specified by IRS. This may include calculations, sampling to determine material properties and re-welding of important welds.

2.7.3 Each container is to be thoroughly inspected, including the use of NDT to the extent required by the surveyor. The lifting equipment would be tested as per the specified requirements. If the container is found not complying fully with the requirements of these guidelines, IRS may specify required modifications, de-rating or other limitations.

2.7.4 Upon completion of satisfactory tests for recertification, container approval certificate will be issued. The due date (month and year) before which the recertified container is to undergo its next examination (not exceeding 30 months) will be hard stamped on the Safety Approval Plate along with IRS logo by the Surveyor and; is to be filled in the container approval certificate

## 2.8 Renewal of Type Approval Certificate

2.8.1 Renewal of type approval certificate would be carried out based on satisfactory facility assessment, review of record pertaining to quality assurance system and sample inspection of containers prior to the date of expiry of the certificate.

2.8.2 The detailed scope of renewal of the type approval certificate is as follows:

- a. Review of type approval documentation if any change affected.
- b. Verification of satisfactory implementation of QC procedures.
- c. Assessment of the system to ensure consistent quality of the type approved products.
- d. In service product performance from the user and review of customer complaints, if any
- e. Witnessing of additional tests due to new requirements/amendments (if any) incorporated in the reference standard(s) or convention.
- f. Review of validity of quality management certificate as applicable
- g. Review of possible changes in design, materials and performance.
- h. Review changes in the organization structure.
- i. Review changes in the machinery and equipment
- j. Review status of calibration certificates for the measuring & testing equipment.
- k. Ensure traceability between manufacturer's product marking and type approval certificate.

2.8.3 The validity of such renewal of type approval certificate will be for a period of 5 years.

## 2.9 Periodical examination of each container

2.9.1 The owner is to ensure examination of the container is undertaken at an interval

- not exceeding 5 years from date of manufacture for the first examination
- not exceeding 30 months for each subsequent re-examination

2.9.2 Examination is to include a detailed visual inspection for defects or other safety-related deficiencies or damage which will render the container unsafe and include examination of all structurally significant components of the container, particularly the corner fittings.

2.9.3 A visual examination of the exterior of the container will normally be sufficient. However, an examination of the interior is also to be performed if reasonably practicable (e.g., if the container is empty at the time). Furthermore, the top and underside of the container, including the underside of the lower corner fittings, are to be examined. This may be done either with the container supported on a skeletal chassis or, if the Surveyor considers it necessary, after the container has been lifted on to other supports.

2.9.4 It is to be examined that the condition of the paint coating is satisfactory.

2.9.5 The structurally sensitive components of a container that are to be examined for serious deficiencies are detailed in Annex III of these guidelines.

2.9.6 The Surveyor may seek non-destructive testing during periodical examinations to validate the load test findings. The findings of the NDT are to be noted and if found beyond acceptable criteria, necessary actions taken to make correction are to be recorded prior to issuing the container approval certificate.

2.9.7 For tank containers, pressure relief valves, where fitted, are to be removed and tested to the set pressure marked on the valve. Rupture discs, or fusible plugs, where fitted, are to be removed and inspected for corrosion, cracking, or any other abnormality.

2.9.8 Upon satisfactory completion of the examination, the date (month and year) before which the container is to be re-examined (not more than 30 months) will be hard stamped on the Safety Approval Plate along with IRS logo by the Surveyor.

2.9.9 Upon satisfactory completion of periodic examination, each container is to be issued with a container approval certificate. Validity and due date for next examination, which is not to be more than 30 months from the date of examination done now, is to be mentioned in the certificate. The form used for periodic examination of containers (form No: PCS-CL-CONT-PE \_Rev.1) is placed at Appendix E for ready reference).

## **2.10 Records of examinations**

2.10.1 The owner is to ensure that a system is maintained where examination records are kept, which are to include the following:

- 1) the owner's unique serial number of the container;
- 2) the date on which the examination was carried out;
- 3) identification of the competent person who carried out the examination;
- 4) the name and location of the organization where the examination was carried out;
- 5) the results of the examination;

2.10.2 The records are to be auditable and made available within a reasonable time on its request. There is no requirement to keep the records of routine operating inspections

## **2.11 Publication**

2.11.1 List of IRS Type Approved products with details of the manufacturers are updated regularly on website [www.irclass.org](http://www.irclass.org).

## ANNEX I

### Procedure for Design Review

#### 1 General Requirements

1.1 Construction is to be structurally sound and when appropriate, weathertight. All fittings and appurtenances are to be within the maximum outside dimensions of the container. The main frame, corner structures, sides, and ends are to have sufficient structural strength to remain serviceable and withstand, without significant permanent deformation, the static and dynamic loads imposed by lifting the container by top or bottom corner fittings, the stacking loads, and the impact and racking loads encountered in normal service. The floor structure is to be strong enough to support the payload under dynamic loading conditions encountered in normal service and concentrated fork-lift truck axle loads. The specific design loading requirements are to be not less than those given in paragraph 7 of this annex. The manufacturer is responsible for designing the container with sufficient strength to withstand the design loads, and is to include factors of safety allowing for fatigue, normal wear and tear, manufacturing fabrication techniques, and material properties.

#### 2 Materials

2.1 Structural materials are to conform to an established specification or recognized national standard, unless specifically approved. The chemical composition, mechanical properties, heat treatment and weldability are to be suitable for the purpose.

2.2 Materials used for construction of containers are to be furnished with material test certificates and subject to test as may be required.

#### 3 Service Conditions

##### 3.1 General

3.1.1 Containers used in multimodal transport are to be serviceable under normal operation in weather conditions ranging from tropical to arctic zones. Each transport mode has its own operating load requirements which can be expressed as accelerations in the vertical, transverse or longitudinal direction.

3.1.2 Containers are often stowed in vertical stacks within the cells in a ship's hold. When stowed in this manner, containers will be restrained at the end frames against longitudinal and transverse movement by the cell structure. The reactions of the entire stack of containers are taken through the four bottom corner fittings of the lowest container. Containers may also be stowed on deck or in a hold restrained by lashings, deck fittings, or both. Containers are normally stowed with the longitudinal axis of the container parallel to that of the ship.

3.1.3 It is assumed that the combined effect of a vessel's motions and gravity results in an equivalent 1.8 times gravity for vertical acceleration, an equivalent 0.6 times gravity for transverse acceleration, and an equivalent 0.4 times gravity for longitudinal acceleration, acting individually.



## 4 Dimensions

4.1 The internal, external dimensions, tolerances, door openings, ratings, locations of corner fittings are to be in accordance with ISO 668: 2020 - Series 1 freight containers — Classification, dimensions and ratings

## 5 Design Features

### 5.1 Corner Design

5.1.1 The dimensions of the corner fittings, strength requirements are to be in accordance with ISO 1161:2016 Series 1 freight containers—Corner Fittings—Specifications.

### 5.2 Roof Clearance

5.2.1 The top corner fittings are to protrude a minimum of 6 mm ( $\frac{1}{4}$  in.) above the highest point of the roof or upper structure. The transverse and longitudinal areas adjacent to the top corner fittings may be designed with reinforcements or “doubler plates” to protect the roof from being punctured during top lifting operations. Such reinforcements may extend the full width of the container and not more than 750 mm ( $29\frac{1}{4}$  in.) from each end and may not protrude above the top surface of the corner fitting.

### 5.3 Load Transfer Area

5.3.1 The base structure of a container is to be provided with a load transfer area in accordance with Annex B of ISO 668:2020

## 6 Optional Design Features

### 6.1 Fork-Lift Pockets

6.1.1 Fork-lift pockets may be provided for handling containers in the loaded or unloaded condition. The fork-lift pockets are to meet the dimensional requirements specified in Annex C of ISO 1496:2013 and pass completely through the base structure of the container so that lifting devices may be inserted from either side. Fork-lift pockets are to be provided with a base strap or equivalent at each end.

### 6.2 Lifting Areas

6.2.1 Lifting areas may be provided for handling containers in the loaded or unloaded condition by means of grapples or similar devices. The lifting areas are to meet the location requirements specified in Figure 1

### 6.3 Gooseneck Tunnels

6.3.1 Gooseneck Tunnels may be provided in containers to accommodate chassis goosenecks. The tunnels are to meet the dimensional requirements specified in Annex C of ISO 668:2020.

### 6.4 Cargo Securing Devices

6.4.1 Cargo securing devices may be provided in containers for securing cargo and are to meet the requirements of Annex C of ISO 1496:2013.

## 7 Design Loading Specifications

7.1.1 The design load is to take into account the load described in Annex II of this guideline and the dynamic loads likely to be encountered in container operation. Factors such as characteristics of load application, load repetition, load reversal and container life are to be considered in the design of the container. Due regard is to be given to local stresses resulting from attachment devices used for handling and securing a container.

## **8 Coating and corrosion protection**

8.1.1 Containers are to be suitable for the environment by means of construction, use of suitable material and/or corrosion and paint protection. The verification of paint is to be carried out as per 2.5.1.7.

## 9 Tank Containers

### 9.1 Tank containers

9.1.1 Tank containers for liquids are to be designed and tested according to relevant parts of ISO 1496/3 and procedures described in Annex-II to these guidelines.

Note: Only containers with tanks that are intended for transport of cargo are considered to be tank containers. Other types of tanks, e.g. processing plants, storage tanks etc. that are empty during transport, are considered to be service equipment, and are not normally covered by approval and certification to this guideline.

### 9.2 Tank containers for dangerous goods

9.2.1 Tank containers for dangerous goods are to fulfil the requirements of the IMDG Code Chapter 6.7, and are to be designed according to a recognised code for pressure vessels. A tank and its supports are to be able to withstand lifting and impact loads in addition to dynamic forces as specified in the IMDG code. Also due account is to be taken of fluid surge arising from partly filled tanks.

9.2.2 Tank containers for dangerous goods are to comply with the following requirements for fork lift pockets on tank containers in the IMDG Code:

*“Forklift pockets shall be capable of being closed off. The means of closing forklift pockets shall be a permanent part of the framework or permanently attached to the framework. Single-compartment portable tanks with a length less than 3.65 m need not have closed off forklift pockets provided that:*

- .1 the shell and all the fittings are well protected from being hit by the forklift blades; and
- .2 the distance between the centers of the forklift pockets is at least half of the maximum length of the portable tank.”

#### **Note:**

The IMDG Code (Ch.4.2) does not allow portable tanks with dangerous cargo to be lifted with fork lift truck unless they are less than 3.65 m long and comply with the quoted subparagraphs.1 and .2 above.

#### *Impact protection on tank containers for dangerous cargoes*

On tank containers for dangerous cargoes, all parts of the tank and fittings shall be suitably protected from impact damage. Additionally following applies:

#### Top

The top of the tank and fittings shall be protected by beams, plates or grating. No part of the tank or fittings shall extend above a level 100 mm below the top of the framework (i.e. the top of the side or end rails).

It shall not be possible for any part of the lifting set to foul on fittings, manhole cleats or other protrusions on the tank.

#### Sides

Protective beams shall be placed at or near the location where the tank shell is nearest to the outer plane of the sides. Beams shall be spaced sufficiently close to give the necessary protection.

At maximum calculated elastic deflection of any side member, the residual clearance between this member and any part of the tank shell or fittings shall be at least 10 mm.

#### Bottom

No part of the underside of the tank shell (including sumps) and bottom valves or other fittings, shall extend below a level 150 mm above the bottom of the framework (the underside of the side or end rails). Any such part extending below 300 mm above the bottom of the framework, shall be protected by beams or plating.

## ANNEX – II

### Test loads and Test Procedures

Where appropriate to the design of the container, the following test loads and the test procedures are to be applied to all kinds of containers under test:

#### 1 Lifting

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

##### (A) Lifting from corner fittings

Test loadings and applied forces	Test procedures
<p><b>Internal load:</b> A uniformly distributed load such that the sum of the mass of container and test load is equal to 2R. In the case of a tank container, when the test load of the internal load plus the tare is less than 2R, a supplementary load, distributed over the length of the tank, is to be added to the container.</p> <p><b>Externally applied forces:</b> Such as to lift the sum of a mass of 2R in the manner prescribed (under the heading TEST PROCEDURES).</p>	<p><b>(i) Lifting from top corner fittings:</b> Containers greater than 3000mm(10ft)(nominal) in length are to have lifting forces applied vertically at all four top corner fittings. Containers of 3000mm(10ft)(nominal) in length or less are to have lifting forces applied at all four top corner fittings, in such a way that the angle between each lifting device and the vertical is 30°</p> <p><b>(ii) Lifting from bottom corner fittings:</b> Containers are to have lifting forces applied in such a manner that the lifting devices bear on the bottom corner fitting only. The lifting forces are to be applied at angles to the horizontal of:</p> <p>30° for containers of length 12000mm (40ft)(nominal) or greater,</p> <p>37° for containers of length 9000mm(30ft) (nominal) and up to but not including 12000mm(40ft)(nominal),</p> <p>45° for containers of length 6000mm(20ft) (nominal) and up to but not including 9000mm(30ft)(nominal),</p> <p>60° for containers of length less than 6000mm(20ft)(nominal).</p>

**(B) Lifting by any other additional methods**

Test load and applied forces	Test procedures
<p><b>Internal load:</b> A uniformly distributed load such that the sum of the mass of container and test load is equal to 1.25R.</p> <p><b>Externally applied forces:</b> Such as to lift the sum of a mass of 1.25R in the manner prescribed (under the heading TEST PROCEDURES).</p>	<p><b>(i) Lifting from fork-lift pockets:</b> The container is to be placed on bars which are in the same horizontal plane, one bar being centred within each fork-lift pocket which is used for lifting the loaded container. The bars are to be of the same width as the forks intended to be used in the handling, and are to project into the fork pocket 75% of the length of the fork pocket.</p>
<p><b>Internal load:</b> A uniformly distributed load such that the sum of the mass of container and test load is equal to 1.25R. In the case of a tank container, when the test load 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 added to the container.</p> <p><b>Externally applied forces:</b> Such as to lift the sum of a mass of 1.25R in the manner prescribed (under the heading TEST PROCEDURES).</p>	<p><b>(ii) Lifting from grapples-arm position:</b> The container is to be placed on pads in the same horizontal plane, one under each grapples-arm position. These pads are to be of the same sizes as the lifting area of the grapples arms intended to be used.</p> <p><b>(iii) Other methods:</b> Where containers are designed to be lifted in the loaded condition by any method not mentioned in (A) or (B)(i) and (ii) they are also to be tested with the internal load and externally applied forces representative of the acceleration conditions appropriate to that method.</p>

**2 Stacking**

2.1 For conditions of international transport where the maximum vertical acceleration varies significantly from 1.8 g 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.

2.2 On successful completion of this test, the container may be rated for the allowable superimposed static stacking load, which is to be indicated on the Safety Approval Plate against the heading ALLOWABLE STACKING LOAD FOR 1.8 g (kg and lbs).

Test load and applied forces	Test procedures
<p><b>Internal load:</b> A uniformly distributed load such that the combined weight of container and test load is equal to 1.8"R". Tank-containers may be tested in the tare condition.</p> <p><b>Externally applied forces:</b> 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.</p>	<p>The container, having the prescribed internal loading, is to be placed on four level pads which are in turn supported on a rigid horizontal surface, one under each bottom corner fitting or equivalent corner structure. The pads are to be centralized under the fittings and are to be of approximately the same plan dimensions as the fittings.</p> <p>Each externally applied force is to 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 is to be offset with respect to the top corner fitting of the container by 25 mm (1 in) laterally and 38 mm (1 1/2 in) longitudinally</p>

### 3 Concentrated loads

Test load and applied forces	Test procedures
<b>(a) On roof</b>	
<p><b>Internal load:</b> None.</p> <p><b>Externally applied forces:</b> A concentrated gravitational force of 300 kg (660 lbs) uniformly distributed over an area of 600 mm x 300 mm (24 in x 12 in).</p>	<p>The externally applied forces are to be applied vertically downwards to the outer surface of the weakest area of the roof of the container.</p>
<b>(b) On floor</b>	
<p><b>Internal load:</b> Two concentrated loads each of 2,730 kg (6,000 lbs) and each added to the container floor within a contact area of 142 cm<sup>2</sup> (22 sq in).</p>	<p>The test is to be carried out with the container resting on four level supports under its four bottom corners in such a manner that the base structure of the container is free to deflect.</p>
<p><b>Externally applied forces:</b> None.</p>	<p>A testing device loaded to a mass of 5,460 kg (12,000 lbs), that is, 2,730 kg (6,000 lbs) on each of two surfaces, having, when loaded, a total contact area of 284 cm<sup>2</sup> (44 sq in), that is, 142 cm<sup>2</sup> (22 sq in) on each surface, the surface width being 180 mm (7 in) spaced 760 mm (30 in) apart, centre to centre, is to be maneuvered over the entire floor area of the container.</p>

#### 4 Transverse racking

Test load and applied forces	Test procedures
<p><b>Internal load:</b> None.</p> <p><b>Externally applied forces:</b> Such as to rack the end structures of the container sideways. The forces are to be equal to those for which the container was designed.</p>	<p>The container in tare condition is to be placed on four level supports, one under each bottom corner, and is to 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.</p> <p>The externally applied forces are to 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 are to 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 asymmetric ends are to be tested.</p>

#### 5 Longitudinal restraint (static test)

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

Test load and applied forces	Test procedures
<p><b>Internal load:</b> A uniformly distributed load, such that the sum of the mass of a container and test load is equal to the maximum operating gross mass or rating R. In the case of a tank container, when the mass of the internal load plus the tare is less than the maximum gross mass or rating, R, a supplementary load is to be added to the container.</p> <p><b>Externally applied forces:</b> 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.</p>	<p>The container, having the prescribed internal loading, is to be restrained longitudinally by securing the two bottom corner fittings or equivalent corner structures at one end to suitable anchor points.</p> <p>The externally applied forces are to be applied first towards and then away from the anchor points. Each side of the container is to be tested.</p>



## 6 End-walls

The end-walls are to 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 is to be indicated on the Safety Approval Plate.

Test load and applied forces	Test procedures
<p><b>Internal load:</b> 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.</p> <p><b>Externally applied forces:</b> None.</p>	<p>The prescribed internal loading is to be applied as follows: Both ends of a container are to be tested except that where the ends are identical only one end need be tested. The end-walls of containers which do not have open sides or side doors may be tested separately or simultaneously. The end-walls of containers which do have open sides or side doors are to be tested separately. When the ends are tested separately the reactions to the forces applied to the end-wall are to be confined to the base structure of the container.</p>

## 7 Side-walls

The side-walls are to 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 force of less or greater than 0.6 times the gravitational force by maximum permissible payload, such a strength factor is to be indicated on the Safety Approval Plate.

Test load and applied forces	Test procedures
<p><b>Internal load:</b> 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.</p> <p><b>Externally applied forces:</b> None.</p>	<p>The prescribed internal loading is to be applied as follows: Both sides of a container are to be tested except that where the sides are identical only one side need be tested. Side-walls are to be tested separately and the reactions to the internal loading are to be confined to the corner fittings or equivalent corner structures. Open-top containers are to be tested in the condition in which they are designed to be operated, for example, with removable top members in position.</p>

## 8 One door off operation

a. Containers with one door removed have a significant reduction in their ability to withstand racking forces and, potentially, a reduction in stacking strength. The removal of a door on a container in operation is considered a modification of the container. Containers are to be approved for one door off operation. Such approval is to be based on test results as indicated below.

b. On successful completion of the stacking test the container may be rated for the allowable superimposed stacking load, which is to be indicated on the Safety Approval Plate immediately below line 5: ALLOWABLE STACKING LOAD FOR 1.8 g (kg and lbs) ONE DOOR OFF.

c. On successful completion of the racking test the transverse racking test force is to be indicated on the Safety Approval Plate immediately below line 6: TRANSVERSE RACKING TEST FORCE ONE DOOR OFF (newtons).

Test load and applied forces	Test procedures
<b>Stacking</b>	
<p><b>Internal load:</b> A uniformly distributed load such that the sum of the mass of container and test load is equal to 1.8R.</p> <p><b>Externally applied forces:</b> 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.</p>	The test procedures are to be as specified under <b>2 STACKING</b>
<b>Transverse racking</b>	
<p><b>Internal load:</b> None.</p> <p><b>Externally applied forces:</b> Such as to rack the end structures of the container sideways. The forces are to be equal to those for which the container was designed.</p>	The test procedures are to be as specified under <b>4 TRANSVERSE RACKING</b>

## 9 Cargo Securing Devices (where provided)

Cargo securing devices are to be proof tested with a tensile force equal to 1.5 times the reference load using a shackle or hook having a maximum diameter of 10 mm. The reference load for an anchor point securing device installed in the floor or base structure is not to be less than 10 kN (2200 lbf).

The reference load for a lashing point securing device installed on the interior sides or at ceiling level is 5 kN (1100 lbf). The force is to be applied as indicated below and held for five (5) minutes and released. Each type of cargo securing device is to be tested.

- Location: Direction of forces:
- Floor Perpendicularly to the axis of the container structural members 45° to the horizontal plane.
- Interior sides 45° upwards and downwards
- Ceiling level 45° downwards

## 10 Weather tightness Test

The container is to be tested for weather tightness by applying a stream of water over all exterior surfaces. The character of the stream of water is to satisfy the Surveyor that the test is reasonable and effective. An example of acceptable parameters controlling the test include: 1 kgf/cm<sup>2</sup> (15 psi) pressure in conjunction with the use of a 12.5 mm inside diameter nozzle held at a distance of 1.5 m (5 ft) from the part under test with a rate of movement over the exterior of approximately 100 mm (4 in.) per second. Upon completion of this test, the container is considered to be satisfactory if the interior is free from the penetration of water.

## ANNEX-III

### Structurally sensitive components and serious structural deficiencies

The structurally sensitive components of a container that are to be examined for serious deficiencies are:

- .1 top rail;
- .2 bottom rail;
- .3 header;
- .4 sill;
- .5 corner posts;
- .6 corner and intermediate fittings;
- .7 understructure; and
- .8 locking rods.

(Refer **Figure 1** and **2** at the end of the annex for guidance)

The following criteria are to be used to make immediate out-of-service determinations by Surveyor.

Structurally sensitive component	Serious structural deficiency
Top rail	Local deformation to the rail in excess of 60 mm or separation or cracks or tears in the rail material in excess of 45 mm in length. <b>Note:</b> On some designs of tank containers the top rail is not a structurally significant component.
Bottom rail	Local deformation perpendicular to the rail in excess of 100 mm or separation or cracks or tears in the rail's material in excess of 75 mm in length.
Header	Local deformation to the header in excess of 80 mm or cracks or tears in excess of 80 mm in length.
Sill	Local deformation to the sill in excess of 100 mm or cracks or tears in excess of 100 mm in length.
Corner posts	Local deformation to the post exceeding 50 mm or tears or cracks in excess of 50 mm in length.
Corner and intermediate fittings (Castings)	Missing corner fittings, any through cracks or tears in the fitting, any deformation of the fitting that precludes full engagement of securing or lifting fittings, any deformation of the fitting beyond 5 mm from its original plane, any aperture width greater than 66.0 mm, any aperture length greater than 127.0 mm, any reduction in thickness of the plate containing the top aperture that makes it less than 23.0 mm thick or any weld separation of adjoining components in excess of 50 mm in length.
Understructure	Two or more adjacent cross members missing or detached from the bottom rails. 20% or more of the total number of cross members missing or detached. <b>Note:</b> If onward transportation is permitted, it is essential that detached cross members are precluded from falling free.
Locking rods	One or more inner locking rods are non-functional. <b>Note:</b> Some containers are designed and approved (and so recorded on the Safety Approval Plate) to operate with one door open or removed



Structurally sensitive components and definition of serious structural deficiencies

The following components are structurally sensitive and are to be examined for deficiencies in accordance with following table

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Structurally sensitive component	Serious deficiency requiring immediate out-of-service determination	Deficiency requiring advice to owner and restrictions for transport	Restrictions to be applied in case of deficiencies according to column (iii)			
			Empty container		Loaded container	
			Sea transport	Other modes	Sea transport	Other modes
Top rail	Local deformation to the rail in excess of 60 mm or separation or cracks or tears in the rail material in excess of 45 mm in length (see Note 1)	Local deformation to the rail in excess of 40 mm or separation or cracks or tears in the rail material in excess of 10 mm in length (see Note 1)	No restriction	No restriction	Bottom lifting not allowed. Top lifting allowed only by use of spreaders without chains	Bottom lifting not allowed. Top lifting allowed only by use of spreaders without chains
Note 1: On some designs of tank containers the top rail is not a structurally significant component.						
Bottom rail	Local deformation perpendicular to the rail in excess of 100 mm or separation cracks or tears in the rail's material in excess of 75 mm in length (see Note 2)	Local deformation perpendicular to the rail in excess of 60 mm or separation cracks or tears in the rail's material in excess of 25 mm in length in the upper flange; or b) of web in any length (see Note2)	No restriction	No restriction	Lifting at (any) corner fitting not allowed	Lifting at (any) corner fitting not allowed
Note 2: The rails material does not include the rail's bottom flange.						

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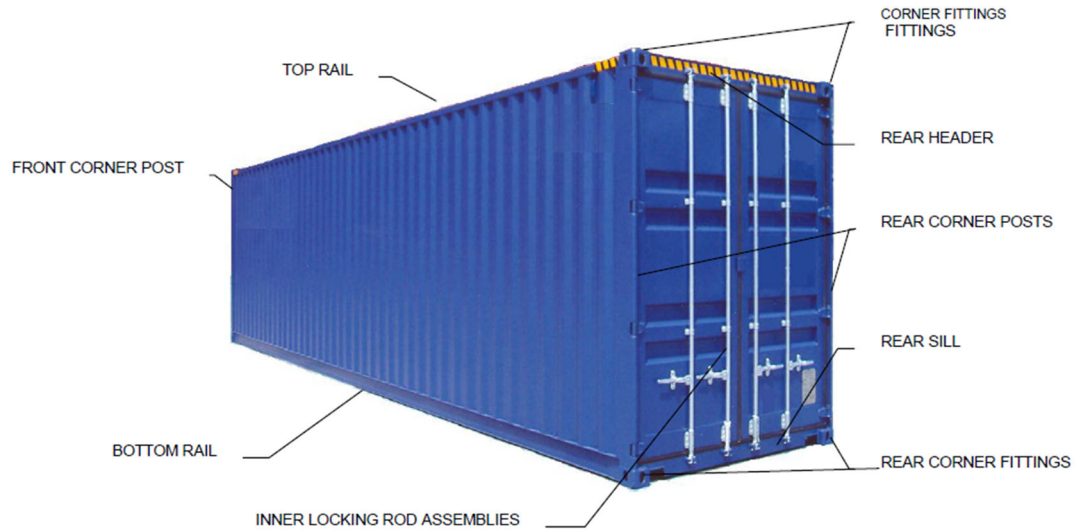
Header	Local deformation to the header in excess of 80 mm or cracks or tears in excess of 80 mm in length	Local deformation to the header in excess of 50 mm or cracks or tears in excess of 10 mm in length	Container shall not be overstowed	No restriction	Container shall not be overstowed	No restriction
Sill	Local deformation to the sill in excess of 100 mm or cracks or tears in excess of 100 mm in length.	Local deformation to the sill in excess of 60 mm or cracks or tears in excess of 10 mm in length.	Container shall not be overstowed	No restriction	Container shall not be overstowed	No restriction
Corner posts	Local deformation to the post in excess of 50 mm or cracks or tears in excess of 50 mm in length.	Local deformation to the post in excess of 30 mm or cracks or tears of any length.	Container shall not be overstowed	No restriction	Container shall not be overstowed	No restriction
Corner and intermediate fittings	Missing corner fittings, any through cracks or tears in the fitting, any deformation of the fitting that precludes full	Weld separation of adjoining components of 50 mm or less	Container shall not be lifted on board a ship if the damaged fittings prevent safe	Container shall be lifted and handled with special care	Container shall not be loaded on board a ship.	Container shall be lifted and handled with special care.

Corner and intermediate fittings (cont)	engagement of the securing or lifting fittings (see Note 3) or any weld separation of adjoining components in excess of 50 mm in length		lifting or securing			
		Any reduction in the thickness of the plate containing the top aperture that makes it less than 25 mm thick.	Container shall be lifted and handled with special care. Container shall not be overstowed when twistlocks have to be used	Container shall be lifted and handled with special care.	Container shall not be lifted by the top corner fittings.	Container shall be lifted and handled with special care.
		Any reduction in the thickness of the plate containing the top aperture that makes it less than 26 mm thick.	Container shall not be overstowed when fully automatic twistlocks are to be used.	Container shall be lifted and handled with special care.	Container shall not be used with fully automatic twistlocks.	Container shall be lifted and handled with special care.
Note 3: The full engagement of securing or lifting fittings is precluded if there is any deformation of the fitting beyond 5 mm from its original plane, any aperture width greater than 66 mm, any aperture length greater than 127 mm or any reduction in thickness of the plate containing the top aperture that makes it less than 23 mm thick.						
Understructure	Two or more adjacent cross members missing or detached from the bottom rails. 20% or more of the total number of cross members missing or detached. (see Note 4)	One or two cross members missing or detached (see Note 4)	No restrictions	No restrictions	No restrictions	No restrictions
		More than two cross members missing or detached (see Note 4 and 5)	No restrictions	No restrictions	Maximum payload shall be restricted to 0.5 *P	Maximum payload shall be restricted to 0.5 *P
<p>Note 4: If onward transport is permitted, it is essential that detached cross members are precluded from falling free.</p> <p>Note 5: Careful cargo discharge is required as forklift capability of the understructure might be limited.</p>						

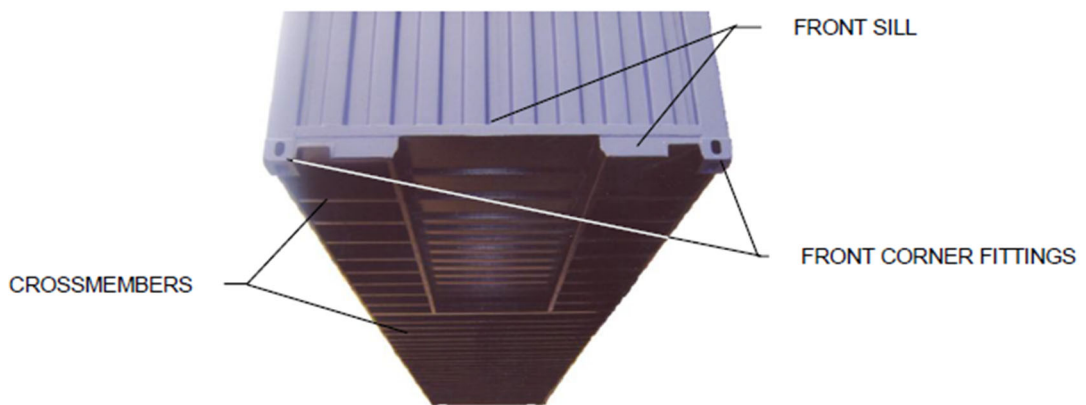


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Locking rods	One or more inner locking rods are non-functional (see Note 6)	One or more outer locking rods are non-functional (see Note 6)	Container shall not be overstowed.	No restriction	Container shall not be overstowed. Cargo shall be secured against the container frame and the door shall not be used to absorb acceleration forces - otherwise maximum payload shall be restricted to 0.5 P	Cargo shall be secured against the container frame and the door shall not be used to absorb acceleration forces - otherwise maximum payload shall be restricted to 0.5 P
Locking rods (cont.)					load shall be restricted to 0.5 P	
Note 6 : Some containers are designed and approved (and so recorded on the CSC Plate) to operate with one door open or removed.						



**Figure 1**



**Figure 2**

## Annex IV

### Container Markings

#### 1.1 Safety Approval Plate

1.1.1 A Safety Approval Plate conforming to the specifications is to be permanently affixed to every approved container at a readily visible place, adjacent to any other approval plate issued for official purposes, where it would not be easily damaged. The plate is to contain the following information in English

"CSC SAFETY APPROVAL"

- Country of approval and approval reference
- Date (month and year) of manufacture
- Manufacturer's identification number of the container or, in the case of existing containers for which that number is unknown, the number allotted by the Administration
- Maximum operating gross mass (kg and lbs)
- Allowable stacking load for 1.8 g (kg and lbs)
- Transverse racking test force (newtons);

1.1.2 A blank space is to be reserved on the plate for :

- i. Insertion of end-wall and/or side-wall strength values (factors).
- ii. One door off stacking strength (Stacking load and Transverse racking test force) to be indicated on plate (if the container is approved for one door off operation).
- iii. The first and subsequent maintenance examination dates (month and year) when used.

1.1.3 Where it is considered that a new container satisfies the requirements of the Convention in respect of safety and if, for such container, the end-wall and/or side-wall strength values (factors) are designed to be greater or less than those stipulated in annex II, such values are to be indicated on the Safety Approval Plate. Where the stacking or racking values are less than 192,000 kg or 150 kN, respectively, the container shall be considered as having limited stacking or racking capacity and are to be conspicuously marked, as required under the relevant standard (ISO 6346 - Freight containers - Coding, identification and marking) .

1.1.4 The presence of the Safety Approval Plate does not remove the necessity of displaying labels or other information as may be required by other regulations which may be in force. A container may retain the Safety Approval Plate as permitted by the Convention prior to that date as long as no structural modifications occur to that container.

1.1.5 The Safety Approval Plate, is to take the form of a permanent, non-corrosive, fireproof rectangular plate measuring not less than 200 mm x 100 mm. The words CSC SAFETY APPROVAL, of a minimum letter height of 8 mm, and all other words and numbers of a minimum height of 5 mm are to be stamped into, embossed on or indicated on the surface of the plate in any other permanent and legible way.

1.1.6 When containers are certified by IRS, the inspection plate is to contain the following information:

- a) owner's container number
- b) owner's name
- c) date of last inspection.

“IRS Logo” & Sr. NO. with date / year of certificate issue is to be indicated.

## References

1. International Convention for Safe Containers, 1972 CSC, as amended
2. ISO 1496 - Series 1 freight containers — Specification and testing — Part 1: General cargo containers for general purposes
3. ISO 668 Series 1 freight containers — Classification, dimensions and ratings.
4. ISO 1161 Series 1 freight containers — Corner and intermediate fittings — Specifications
5. ISO 6346 Freight containers - Coding, identification and marking



## SERVICE REQUEST FORM FOR CONTAINER APPROVAL

**To: Indian Register of Shipping**

**We hereby request your services for approval of container(s) in accordance with International Convention for Safe Containers, 1972 (CSC)**

- Type Approval of Container Model.....**
- Container Approval upon initial manufacturing / periodic examination with details as mentioned below**

### 1. Container Details:

<b>Type</b>	
<b>Size</b>	
<b>Quantity</b>	
<b>Manufacturing, Testing Standard</b>	
<b>Tare weight (kg)</b>	
<b>Payload (kg)</b>	
<b>Gross Mass (kg)</b>	

### 2. Applicant Details

Name of the company	
Address	
Country	
Phone Number	
Email	
Fax	
Contact Person (s) in the company	Name: Designation: Email ID: Telephone Number: Mobile Number:
Details required for Invoice	Name (As printed on PAN): Address: Pin Code: PAN No: TAN No: GST No:

**SERVICE REQUEST FORM FOR IMO DATA COLLECTION SYSTEM AS PER MARPOL  
ANNEX VI Regulation 22A**

**3. Declaration by the Company**

We agree to give the IRS Surveyors necessary facility & access to carry out their duties at manufacturer premises and as appropriate at works of suppliers of materials, subcontractors. We agree to pay the established fee or any variation there from which has been duly notified, and in addition any traveling and other expenses and applicable taxes, which may be incurred by the Surveyors in connection with the Survey.

**4. Other Terms and Conditions**

- Whilst Indian Register of Shipping, a Classification Society, along with its subsidiaries and associates (hereinafter referred to as the Society) and its Board/Committees use their best endeavors to ensure that the functions of the Society are properly carried out, in providing services, information or advice neither the Society nor any of its servants or agents warrants the accuracy of any information or advice supplied.
- Except as set out herein neither the Society nor any of its servants or agents (on behalf of each of whom the Society has agreed this clause) shall be liable for any loss damage or expense whatever sustained by any person due to any act or omission or error of whatsoever nature and however caused of the Society, its servants or agents or due to any inaccuracy of whatsoever nature and howsoever caused in any information or advice given in any way whatsoever by or on behalf of the Society, even if held to amount to a breach of warranty.
- Nevertheless, if any person uses services of the Society, or relies on any information or advice given by or on behalf of the Society and suffers loss damage or expenses thereby which is proved to have been due to any negligent act omission or error of the Society, its servants or agents or any negligent inaccuracy in information or advice given by or on behalf of the Society then the Society will pay compensation to such person for his proved loss up to but not exceeding the amount of the fee charged by the Society for that particular service, information or advice.
- Any notice of claim for loss, damage or expense, as referred to above, shall be made in writing to the Society's Head Office within six months of the date when the service, information or advice was first provided, failing which all the rights to any such claim shall be forfeited and the Society shall be relieved and discharged from all liabilities.

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**Signature for and on behalf of the Company**  
**Place:**  
**Date:**

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**Signature for and on behalf of IRS**  
**Place:**  
**Date:**

Report No.:

## WORKS ASSESSMENT – CONTAINER MANUFACTURER

Sr. No.	Document/Information	Verification Compliance (Yes/No/NA)	State what was used for objective evidence (Such as Procedure No. / Certificate No./ Document No.)	Remarks
<b>A.</b>	<b>Company information</b>			
	i) Name:			
	ii) Address:			
	iii) Registration Document: <i>Copy to be attached</i>			
	iv) Any statutory requirement specified by the registering authority. <i>Same be provided.</i>			
	v) Existing Accreditation/Certification, if any <i>Same be specified and certificate forwarded</i>			
	vi) Size and type being manufactured for which approval is being requested <i>To be verified with SRF submitted</i>			
<b>B.</b>	<b>Manufacturer's Quality Management System</b> (If the manufacturer is certified to ISO 9001:2015, then section B need not be answered. A copy of the 9001:2015 and any other standard such as ISO 45001: .....OHSAS be attached)			
1.	Verified that the Manufacturer has identified the scope of the quality management system in the documentation			
2.	Verified that all the processes have been identified for manufacturing of the product and process based			



	approach and risk based thinking has been used while documenting the procedures			
3.	Verified that the top management of the manufacturer has established, implemented and maintained a quality policy that is a) appropriate to the purpose and context of the organization and supports its strategic direction; b) provides a framework for setting quality objectives; c) includes a commitment to satisfy applicable requirements; d) includes a commitment to continual improvement of the quality management system.			
4.	Verified that the policy been communicated to all <i>State the means of communication</i>			
5.	Verified that the Top management of the manufacturer has assigned the roles & responsibilities at all levels and communicated to all which has been understood by all within the organization.			
6.	Verified that the top management of the manufacturer has identified resources, people, infrastructure and Environment for the operation of the various processes			
7.	Verified that the documented procedure exists towards control of documented information			
8.	Verified that the system established indicates effective Operational planning and control			
9.	Does the manufacturer undertakes design and development of products on its own or is it subcontracted			
10.	For manufacturers undertaking design and development activity on its own, verified that documented procedures exist for application of controls on design inputs, development, output and any changes			

11.	If the design and development is subcontracted to a subcontractor, what controls are applied <i>(Controls could be that the subcontractor is certified to ISO 9001:2015 standard and the manufacturer has evaluated the subcontractor on the basis of the documented procedure)</i>			
12.	Has the manufacturer established a system of Monitoring, measurement, analysis and evaluation and data so available arising from monitoring and measurement being used for analysis and evaluation			
13.	Verified that the manufacturer has established a documented system to conduct internal audits at defined intervals to provide information on state of implementation of quality management system			
14.	Verified that the manufacturer has established and documented a procedure whereby the top management reviews the quality management system, at planned intervals, to ensure its continuing suitability and alignment with the strategic direction of the organization			
15.	Verified that the manufacturer has established a documented system to determine and select opportunities for improvement and to take any necessary actions to meet customer requirements and enhance customer satisfaction			
16.	Verified that the manufacturer has established a documented system of resolution of Nonconformity and corrective action towards Continual improvement			
<b>C.</b>	<b>Manufacturing Facility</b>			
1.	Infrastructure and Resources: (To be documented in Quality management system Manual) i) Availability of installed and portable machinery ii) Infrastructure for testing including NDT, if any iii) Availability of qualified/competent personnel employed for manufacturing			

	<p>and testing</p> <p>iv) Availability of system for supply of subcontracted items</p> <p>v) Quality control system for the declared production capability.</p> <p><i>Provide details for each of the above. If any limitation noticed, to be specified</i></p>			
2	<p>Implementation of procedures as stated in submitted quality manual/documentated procedures</p> <p><i>(Verify the awareness of documented procedures for new manufacturers)</i></p>			
3.	<p>Implementation in practice the health and safety measures as stated in documented procedures</p> <p><i>Specify the health and safety measures adopted in brief</i></p> <p><i>(Verify the awareness of documented procedures for new manufacturers)</i></p>			
4.	<p>Lifting appliances are maintained and tested as per OEM's recommendation</p> <p><i>(List/Attach list of lifting appliances, the name of testing agency and date testing carried out)</i></p>			
5.	<p>Calibration status of measuring &amp; testing equipment, production equipment if any and jigs and fixtures to confirm that it is carried out by OEM/ Nationally Accredited laboratories/ Government approved facilities or documented procedures</p> <p><i>(List/Attach list of measuring and testing equipment, the name of calibrating agency and date calibration/due to be carried out)</i></p>			
6.	<p>Verification of documented procedure for following to be verified:</p>			

	<p>i) Procurement for procurement of raw materials such as steel plates, corner fittings etc</p> <p>ii) Selection of subcontractors and exercise of quality control measures on sub-contractors</p> <p><i>(List of subcontractors for each item and the controls applied to be forwarded)</i></p>			
7.	<p>Verify that the castings such as corner fittings are being procured from approved works</p> <p><i>Attach certificate copy.</i></p>			
8.	<p>Verify that effective controls have been applied towards Risk Assessment undertaken for all identified risks in respect of manufacturing and testing and that they have been mitigated to an acceptable level</p>			
9	<p>Procedure for dealing with customer complaints, feedback is documented and satisfactorily implemented.</p>			
10.	<p>Verified that various safety instructions, signs, good practices of material handling, emergency contact details are displayed throughout the works and are easily understood by the workmen</p>			
<b>D.</b>	<b>Production Quality Assurance</b>			
1.	<p>Confirmed that the procedures exist and implemented satisfactorily as stated in submitted quality manual</p> <ul style="list-style-type: none"> <li>- The complete Manufacturing process defined and documented.</li> </ul> <p><i>Forward the manufacturing process flow chart</i></p>			
2.	<p>Specify the special process identified and being used.</p> <p><i>Forward the qualification procedure of the special process /es.</i></p>			
3.	<p>Whether records maintained for measurement, monitoring and evaluation of the processes for</p>			

	delivering their intended outputs			
4.	Records of inspection, quality-control and quality-assurance measures including NDT techniques			
5.	Verified the records of testing of lifting appliances are maintained			
6.	Record of training and qualification of workmen (Supervisor/ Staff/ Welders/ workmen) for production, quality control, and testing including NDT is available and maintained			
7.	Storage area segregation for i) raw material & incoming material ii) In process products iii) Delivery/dispatch iv) Rejected material for disposal v) Scrap			
8.	QC Documentation and Record Keeping - Identification & Traceability - Inspection & Testing before, during and after manufacture (the quality records, such as material certificates, inspection reports and test data, calibration data, damage and claim records, etc to be in order) <i>Refer procedure no. verified satisfactorily.</i>			
9.	Documented procedure in place as per quality system for: i) Procedure for defect identification and rectification during product manufacturing ii) Procedure for identification of non-conforming product and its handling			
10.	<b>Painting and Drying Application</b> i) Manufacturer has got facility for application of paints in controlled			

	<p>condition as per paint manufacturer's recommendation</p> <p>ii) Verified that marine grade paint is used and procedure to carry out painting in accordance with paint manufacturer's recommendations is qualified to achieve the required depth and records maintained.</p> <p>iii) Verify that paint used is free of TBT and cybutryne</p> <p><i>Satisfactory or observation if any is to be mentioned.</i></p>			
11.	<p>If copy of design approval document available, verify and provide details of the plan/document approval reference number and date</p>			
<b>E.</b>	<b>Postproduction Activities</b>			
1	<p>Procedure for marking on Container Safety Approval Plate verified and confirmed that following is included:</p> <p>"CSC SAFETY APPROVAL"</p> <ul style="list-style-type: none"> <li>- Country of approval and approval reference</li> <li>- Date (month and year) of manufacture</li> <li>- Manufacturer's identification number of the container or, in the case of existing containers for which that number is unknown, the number allotted by the Administration</li> <li>- Maximum operating gross mass (kg and lbs)</li> <li>- Allowable stacking load for 1.8 g (kg and lbs)</li> <li>- Transverse racking test force (newtons);</li> </ul> <p>A blank space is reserved on the plate for:</p> <ol style="list-style-type: none"> <li>i. Insertion of end-wall and/or side-wall strength values (factors).</li> <li>ii. One door off stacking strength (Stacking load and Transverse racking test force) to be indicated on plate (if the container</li> </ol>			

	is approved for one door off operation. iii. The first and subsequent maintenance examination dates (month and year) when used.			
<b>2</b>	Verified that the scrap / waste material as generated during manufacturing is disposed as per documented procedures  <i>(State the documented procedure no.)</i>			
<b>3</b>	Verified that procedure exists in dealing with issues after delivery such as rectification of defects / repairs etc			
<b>4</b>	Verified that procedure exists for informing container owners regarding the requirement for periodic examinations, i.e. First Examination within 5 years of date of manufacturing and each subsequent examination within 30 months of the previous examination.			

Based on the aboveworks assessment undertaken and design review document having been verified, it is considered that prototype testing may be undertaken by the manufacturer.

**Date:**.....

**Name & Signature of Surveyor/s:**.....

Report No:

**Prototype Testing for Type Approval of Containers**

Manufacturer	
Manufacturer's identification number of the container	
Container Design Type / Model	

Onsite Verification		Satisfactory Compliance (Yes/No/NA)	Remarks
1.	Design Review Completed <i>(State the document number in remarks)</i>		
2.	Works assessment completed satisfactorily <i>(Mention report number in remarks)</i>		
3.	Verified the certificates for raw material such as steel plates, corner fittings and certificates are available		
4.	Verified that corner fittings are procured from approved works. <i>(State certificate no., approving body and validity)</i>		
5.	Visually examined the container prior to commencement of the tests		
6.	Dimensional Check carried out before and after structural tests as per approved drawings <i>(Mention the drawing no. in remarks)</i>		
7.	Verified that tests are conducted by qualified people		
8.	Witnessed the following tests on the prototype as per reviewed test protocol and acceptance criteria therein <i>(Mention the document no. in remarks)</i>		
8.1.	Lifting Test - From Top Corner fittings		
8.2.	Lifting Test - From Bottom Corner Fittings		
8.3.	Lifting test - From fork-lift pockets, From grapples-arm position and any other method		
8.4.	Stacking		

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8.5.	Concentrated Load Test – On Roof		
8.6.	Concentrated Load Test- On Floor		
8.7.	Transverse racking		
8.8.	Longitudinal restraint (static test)		
8.9.	End-walls Test		
8.10.	Side Walls Test		
8.11.	One door off operation (If applicable)		
8.12.	Cargo Securing Devices (where provided)		
8.13.	Weather-tightness		
9.	Visually examined the containers upon completion of tests and found satisfactory		
10.	For tank containers, verified that pressure relief devices were fitted and set to the correct pressure as per approved drawing. <i>(State the set pressure in remarks.)</i>		
11.	<p>Verified the markings on the Safety Approval Plate and confirm that following is marked: "CSC SAFETY APPROVAL"</p> <ul style="list-style-type: none"> <li>- Country of approval and approval reference</li> <li>- Date (month and year) of manufacture</li> <li>- Manufacturer's identification number of the container or, in the case of existing containers for which that number is unknown, the number allotted by the Administration</li> <li>- Maximum operating gross mass (kg and lbs)</li> <li>- Allowable stacking load for 1.8 g (kg and lbs)</li> <li>- Transverse racking test force (newtons);</li> </ul> <p>A blank space is reserved on the plate for:</p> <ul style="list-style-type: none"> <li>i. Insertion of end-wall and/or side-wall strength values (factors).</li> <li>ii. One door off stacking strength (Stacking load and Transverse racking test force) to be indicated on plate (if the container is approved for one door off operation.</li> <li>iii. The first and subsequent maintenance examination dates</li> </ul>		

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	(month and year) when used.		
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**Surveyor's Recommendation:**

It is recommended that Type Approval Certificate may now be issued due to satisfactory completion of the following

Design Review vide document no.....

Works assessment vide document no.....

Prototype testing vide document no.....

Date: .....

Name and Signature of Surveyor/s: .....

**UNIT CERTIFICATION OF CONTAINERS**

Manufacturer	
Manufacturer's identification number of the container	
Reference of Type Approval Certificate (if design type approved)	

Onsite Verification		Satisfactory Compliance (Yes/No/NA)	Remarks
1.	Design Review Completed (Mention document no. in remarks)		
2.	Verified the certificates for raw material such as steel plates, corner fittings and certificate are available		
3.	Confirmed that corner fittings are procured from approved works. (State certificate no. , issuing body and validity in remarks)		
4.	Verified that manufacturer is using qualified welders, approved welding procedures, calibrated welding machines and NDT during manufacture of the containers.		
5.	Weld procedure specifications (WPS), procedure qualification records (PQR), and welder's performance qualification records are in accordance with recognized standards and as per approved documents Confirmed that the record are valid.		
6.	Verified that Nondestructive examinations, if performed are accomplished by personnel qualified to conduct such inspections in accordance with recognized standards (Confirm record of such verification undertaken in remarks)		
7.	Verified that marine grade paint is used which meets the Purchase Order requirement and that painting is done in accordance with paint manufacturer's recommendations and records maintained (Attach MSDS and paint specification copy)		
8.	Confirmed that internal testing for all containers has been carried out by manufacturer before it is offered to the Surveyor for witnessing		

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9.	Inspection carried out based on agreed QAP (Attach the copy of the QAP for the unit certified.)		
10.	Visually examined the container prior to commencement of the tests and found satisfactory		
11.	Dimensional Check carried out before and after structural tests as per approved drawings (Mention the drawing no. in remarks)		
12.	Verified that tests are conducted by qualified people		
13.	Confirmed that following tests are conducted as per reviewed test protocol and acceptance criteria therein (Mention the document no. in remarks)		
12.1	Lifting Test - From Top Corner fittings		
12.2	Lifting Test - From BottomCorner Fittings		
12.3	Lifting test - From fork-lift pockets, From grapppler-arm position and any other method		
12.4	Stacking		
12.5	Concentrated Load Test – On Roof		
12.6	Concentrated Load Test- On Floor		
12.7	Transverse racking		
12.8	Longitudinal restraint (static test)		
12.9	End-walls Test		
12.10	Side Walls Test		
12.11	One door off operation (If applicable)		
12.12	Cargo Securing Devices (where provided)		
12.13	Weathertightness		
13	Visually examined the containers upon completion of tests and found satisfactory		
14	For tank containers, verified that pressure relief devices where fitted are set to the correct pressure as per approved drawing. (State the set pressure in remarks.)		
15	Verified that the markings on the Safety Approval Plate are in accordance with Annex IV of Survey Procedure T-01-42 and confirmed that following is included:		

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	<p>"CSC SAFETY APPROVAL"</p> <ul style="list-style-type: none"> <li>- Country of approval and approval reference</li> <li>- Date (month and year) of manufacture</li> <li>- Manufacturer's identification number of the container or, in the case of existing containers for which that number is unknown, the number allotted by the Administration</li> <li>- Maximum operating gross mass (kg and lbs)</li> <li>- Allowable stacking load for 1.8 g (kg and lbs)</li> <li>- Transverse racking test force (newtons);</li> </ul> <p>A blank space is reserved on the plate for:</p> <ol style="list-style-type: none"> <li>i. Insertion of end-wall and/or side-wall strength values (factors).</li> <li>ii. One door off stacking strength (Stacking load and Transverse racking test force) to be indicated on plate (if the container is approved for one door off operation.</li> <li>iii. The first and subsequent maintenance examination dates (month and year) when used.</li> </ol>		
16	<p>The due date (month and year) of First Examination (not exceeding 5 years from manufacture) for the model tested is stamped on the Safety Approval Plate along with IRS logo</p> <p><i>Mention the due date marked</i></p>		
17	<p>Container Approval Certificate issued as per form CSC_UC (Mention certificate number in Remarks column)</p>		
18	<p>The due date for First Examination for the unit certified is mentioned in the Container Approval Certificate</p>		

Date: .....

Name and Signature of Surveyor/s: .....

Report No:Periodic Examinations of Containers

<b>Container Manufacturer</b>			
<b>Manufacturer's identification No. of the container</b>			
<b>Container Owner</b>			
<b>Verification description</b>		<b>Satisfactory Compliance (Yes/No/NA)</b>	<b>Remarks</b>
1.	Conducted detailed visual inspection for defects or other safety-related deficiencies or damage		
2.	Recommended: Examination of the interior also be performed if reasonably practicable (if the container is empty at the time).		
3.	The top and underside of the container, including the underside of the lower corner fittings examined		
4.	Verified that Nondestructive examinations, if performed are accomplished by personnel qualified to conduct such inspections in accordance with recognized standards		
5.	Verified that the condition of paint coating is satisfactory		
6.	Examined the following structurally sensitive components of the container for serious deficiencies in accordance with Annex III of Survey procedure T-01-42 .1 top rail; .2 bottom rail; .3 header; .4 sill; .5 corner posts; .6 corner and intermediate fittings; .7 understructure; and .8 locking rods.		
7.	In case any repairs carried out, state so and confirm that following has been verified :		

	<p>a. Material test certificate</p> <p>b. Weld procedure specifications (WPS), procedure qualification records (PQR), and welder's performance qualification records are to be in accordance with recognized standards</p> <p>c. NDT as required</p>		
8.	For tank containers, verified that pressure relief valves, where fitted, are removed and tested to the set pressure marked on the valve. (State the set pressure in Remarks Column)		
9.	For tank containers, verified that rupture discs, or fusible plugs, where fitted, are removed and inspected for corrosion, cracking, or any other abnormality.		
10	<p>Verified the markings on the Safety Approval Plate are in accordance with Annex IV of Survey Procedure T-01-42 and confirmed that following is included:</p> <p>"CSC SAFETY APPROVAL"</p> <ul style="list-style-type: none"> <li>- Country of approval and approval reference</li> <li>- Date (month and year) of manufacture</li> <li>- Manufacturer's identification number of the container or, in the case of existing containers for which that number is unknown, the number allotted by the Administration</li> <li>- Maximum operating gross mass (kg and lbs)</li> <li>- Allowable stacking load for 1.8 g (kg and lbs)</li> <li>- Transverse racking test force (newtons);</li> </ul> <p>A blank space is reserved on the plate for:</p> <ul style="list-style-type: none"> <li>i. Insertion of end-wall and/or side-wall strength values (factors).</li> <li>ii. One door off stacking strength (Stacking load and Transverse racking test force) to be indicated on plate (if the container is approved for one door off operation.</li> <li>iii. The first and subsequent maintenance examination dates (month and year) when used.</li> </ul>		
11.	The date (month and year) for next examination (not exceeding 30 months) is stamped on the Safety Approval Plate along with IRS logo		

12.	Container Approval Certificate issued as per form CSC_UC (Mention certificate number in Remarks column)		
13.	The due date for Next Examination for the unit approved is mentioned in the Container Approval Certificate		

Date: .....

Name & Signature of Surveyor/s: .....





# Indian Register of Shipping

Certificate No:

## TYPE APPROVAL CERTIFICATE

(This certificate is issued under the Authority of <Administration Name>)

*This is to certify that the container of design type mentioned below is approved in accordance with International Convention for Safe Containers, 1972 as amended and is included in the list of approved products*

<b>Container Design Type/Model</b>	
<b>Design Review Document Number</b>	
<b>Manufacturer</b>	
<b>Address</b>	
<b>Tare Weight</b>	
<b>Maximum permissible payload</b>	
<b>Maximum operating gross mass</b>	
<b>Allowable stacking load for 1.8 g</b>	
<b>Transverse racking test force</b>	
<b>Conditions of Approval</b>	See Annexure – I
<b>Validity</b>	

ISSUE DATE:

&lt;Authorised Signatory Name

PLACE:

Designation&gt;

This document is issued upon the following terms and conditions as laid down in the Society's Regulations:-

Whilst Indian Register of Shipping, a Classification Society, along with its subsidiaries and associates (hereinafter referred to as the Society) and its Board/Committees use their best endeavors to ensure that the functions of the Society are properly carried out, in providing services, information or advice neither the Society nor any of its servants or agents warrants the accuracy of any information or advice supplied. Except as set out herein neither the Society nor any of its servants or agents (on behalf of each of whom the Society has agreed this clause) shall be liable for any loss damage or expense whatever sustained by any person due to any act or omission or error of whatsoever nature and however caused of the Society, its servants or agents or due to any inaccuracy of whatsoever nature and howsoever caused in any information or advice given in any way whatsoever by or on behalf of the Society, even if held to amount to a breach of warranty. Nevertheless, if any person uses services of the Society, or relies on any information or advice given by or on behalf of the Society and suffers loss damage or expenses thereby which is proved to have been due to any negligent act omission or error of the Society, its servants or agents or any negligent inaccuracy in information or advice given by or on behalf of the Society then the Society will pay compensation to such person for his proved loss up to but not exceeding the amount of the fee charged by the Society for that particular service, information or advice. Any notice of claim for loss, damage or expense, as referred to above shall be made in writing to the Society's Head Office within six months of the date when the service, information or advice was first provided, failing which all the rights to any such claim shall be forfeited and the Society shall be relieved and discharged from all liabilities.

Form No. CSC\_TA\_REV.1

**Annexure – I**  
**(To Certificate No. < > dated < >)**

This Approval is subject to the following terms and conditions:

1. A Safety Approval Plate shall be permanently affixed to every approved container at a readily visible place, adjacent to any other approval plate issued for official purposes, where it would not be easily damaged.
2. The plate shall contain the following information in at least the English or French language:
  - a) "CSC SAFETY APPROVAL"
  - b) Country of approval and approval reference
  - c) Date (month and year) of manufacture
  - d) Manufacturer's identification number of the container or, in the
  - e) case of existing containers for which that number is unknown,
  - f) the number allotted by the Administration
  - g) Maximum operating gross mass (kg and lbs)
  - h) Allowable stacking load for 1.8 g (kg and lbs)
  - i) Transverse racking test force (newtons);
3. On each container, all maximum operating gross mass markings shall be consistent with the maximum operating gross mass information on the Safety Approval Plate.
4. The owner of the container shall remove the Safety Approval Plate on the container if:
  - (i) the container has been modified in a manner which would void the original approval and the information found on the Safety Approval Plate, or
  - (ii) the container is removed from service and is not being maintained in accordance with the International Convention for Safe Containers, 1972, or
  - (iii) the approval has been withdrawn
5. The owner of the container shall be responsible for maintaining it in safe condition.
6. The manufacturer shall notify IRS prior to commencement of production of each new series of containers to be manufactured in accordance with an approved design type.
7. Any changes to the approved design parameters, construction or significant repairs are to be intimated to IRS for approval.
8. Unit certification is required for each container.

**<Authorised Signatory name>**  
**<Designation>**



# Indian Register of Shipping

Certificate No:

## CONTAINER APPROVAL CERTIFICATE

(This certificate is issued under the Authority of &lt;Administration Name&gt;)

*This is to certify that the container detailed below has been examined and tested and meets the requirements of the International Convention for Safe Containers, 1972 (CSC) as amended*

<b>Manufacturer</b>	
<b>Date (month and year) of manufacture</b>	
<b>Type Approval Certificate No. and Date</b>	
<b>Manufacturer's identification no. of the container</b>	
<b>Tare Weight</b>	
<b>Maximum permissible payload</b>	
<b>Maximum operating gross mass</b>	
<b>Allowable stacking load for 1.8 g</b>	
<b>Transverse racking test force</b>	
<b>End-wall strength</b> (to be indicated only if end-walls are designed to withstand a force of less or greater than 0.4 times the gravitational force by maximum permissible payload, i.e. 0.4Pg)	
<b>Side-wall strength</b> (to be indicated only if the side-walls are designed to withstand a force of less or greater than 0.6 times the gravitational force by maximum permissible payload, i.e. 0.6Pg.)	
<b>One door off stacking strength</b> (to be indicated only if the container is approved for one door off operation.)	
<b>One door off racking strength</b> (to be indicated only if the container is approved for one door off operation)	
<b>Validity of the Certificate</b>	
<b>Due date for the next Examination</b>	
<b>Conditions of Approval</b>	See Annexure - I

ISSUE DATE:

PLACE:

<Authorised Signatory Name  
Designation>

Form No. CSC\_UC\_Rev.1

**Annexure – I**  
**(To Certificate No. <> dated <>)**

**This Approval is subject to the following terms and conditions:**

1. A Safety Approval Plate shall be permanently affixed to the container at a readily visible place, adjacent to any other approval plate issued for official purposes, where it would not be easily damaged.
2. The plate shall contain the following information in at least the English or French language:
  - a) "CSC SAFETY APPROVAL"
  - b) Country of approval and approval reference
  - c) Date (month and year) of manufacture
  - d) Manufacturer's identification number of the container or, in the
  - e) case of existing containers for which that number is unknown,
  - f) the number allotted by the Administration
  - g) Maximum operating gross mass (kg and lbs)
  - h) Allowable stacking load for 1.8 g (kg and lbs)
  - i) Transverse racking test force (newtons);
3. On each container, all maximum operating gross mass markings shall be consistent with the maximum operating gross mass information on the Safety Approval Plate.
4. The owner of the container shall remove the Safety Approval Plate on the container if:
  - (i) the container has been modified in a manner which would void the original approval and the information found on the Safety Approval Plate, or
  - (ii) the container is removed from service and is not being maintained in accordance with the International Convention for Safe Containers, 1972, or
  - (iii) the approval has been withdrawn
5. **The owner of the container shall be responsible for maintaining it in safe condition. The next examination is to be carried out by the due date mentioned on the certificate.**
6. Any changes to the approved design parameters, construction or significant repairs are to be intimated to IRS for approval.

**<Authorised Signatory name>**  
**<Designation>**