



MAERSK

MCIC

MAERSK Container Inspection Criteria

(All Lines)

(For use with all DRY Containers in-service)

Version 7: 2016

1. INTRODUCTION

1.1 General

- These criteria are designed for use at all container inspections
- Items not specifically detailed in the criteria are covered by this general introduction **only** if they require repair
- The tolerances/permitted damages listed are not the minimum necessary to meet basic safety requirements but are selected to ensure the container is safe and serviceable while minimising the need for repair and thereby preserving asset life
- The repair method selected should be the most economical and suit the ability of the particular repair location

1.2 Acceptable Damage

This is defined as a damage that is **not** to be repaired and includes:

- all flange damage except damage to weld connections;
- deformation of structural members up to ISO +10mm on the side face of the corner casting and ISO +5mm on the end face of the corner casting;
- Previous or improper repairs should not be reworked unless the structural integrity of the container is compromised or it is unsuitable for cargo.

1.3 Non-Acceptable Damage

This is defined as damage that **must** be repaired because:

- The International Convention for Safe Containers, 1972, as amended (CSC) is violated and container safety is affected.
- There is a reduction in the internal height dimension by more than 70mm and/or the internal width dimension by more than 50 mm.
- Cracks, deformation or excessive wear in corner castings are present
- Door hinge pins are cracked or broken
- The container is unsuitable for cargo.
- Cracks in welds are present.
- Corrosion, not due to paint failure, causing loss of structural integrity is present.

1.4 Wear & Tear

This is defined as unavoidable change or deterioration of the condition of the container, brought about by routine operational use and includes:

- General paint deterioration;
- Corrosion resulting from coating failure or container age;
- Deterioration of door gaskets and fittings;
- Deterioration of door fixings arising from deterioration of doors;
- Flooring delaminations resulting from routine cargo loading and unloading cycles.

1.5 Manufacturing Defects

This is defined as differences to builder's specification with regard to material, workmanship and factory guarantees. Manufacturing defects or suspected manufacturing defects are to be reported to CENEMR.

2. GLOSSARY OF TERMS

- Bent/Bowed:** sharp deflection in a component, which causes a permanent change in the original geometry of the component over some portion of its length or width.
- Broken:** fractured or shattered into two or more separate pieces.
- Cracked:** having a fracture that penetrates the entire thickness of material and causes it to split slightly. In addition, if a weld between two different metal components has any separation in it, even if the entire thickness of the weld material is not penetrated, that weld is considered 'cracked'.
- Cut:** separated throughout the entire thickness of material along a sharp edge.
- Dent:** a localised depression in a panel or structural member made by pressure or an impact or blow that causes a sharp change in the shape of a component over a limited area of the component.
- Gouge:** A cavity in the surface of flooring with material scooped out. The width of the gouge is the smaller horizontal direction, regardless of the orientation of the gouge.
- Holed:** perforated through the entire thickness.
- Torn:** pulled apart by ripping or rending through the entire thickness of the material.

3. MAIN STRUCTURAL COMPONENTS

Component	Damage	Recommended repair methods (in priority sequence)
Rails, Headers & Sills		
Top Side Rail	Holed, cut, torn, broken, cracked	Weld, or straighten and weld, or insert, or section, or renew
<u>Flat Bar</u> Top Side rail	Deformation in excess of <u>30</u> mm	Straighten, or straighten and weld, or insert, or section, or renew
<u>Square Tube</u> Top Side Rail	Deformation in excess of <u>40</u> mm	Straighten, or straighten and weld, or insert, or section, or renew
Bottom Side Rail – Web	Holed, cut, torn, broken, cracked	Weld, or straighten and weld, or insert, or section, or renew
	Deformation in excess of 50 mm	Straighten, or straighten and weld, or insert, or section, or renew
Flange	Cracks or tears which extend into web radius	Weld or straighten and weld
Front & Rear Headers	Holed, cut, torn, broken, cracked	Weld, or straighten and weld, or insert, or renew
	Deformation in excess of 40 mm	Straighten, or straighten and weld, or insert, or renew
Front & Rear Sill	Holed, cut, torn, broken, cracked	Weld, or straighten and weld, or insert, or renew
	Deformation in excess of 50 mm	Straighten, or straighten and weld, or insert, or renew
Corner Posts & Corner Fittings (Castings)		
Corner Posts	Holed, cut, torn, broken, cracked	Weld or straighten, or straighten and weld, or insert, or <u>section</u> (<u>Front Post only</u>), or renew
	Bend, bow or deformation, if exceeding outer faces of corner castings by +5 mm on end face or +10 mm on side face.	Straighten, or insert, or section (Front Post only) or renew
Front corner Posts	Dents exceeding 25mm	Straighten or insert or <u>section</u> or renew
Rear corner Posts	Dents exceeding <u>25mm</u>	Straighten or renew Insert on J bar only

3. MAIN STRUCTURAL COMPONENTS (Continued)

Component	Damage	Recommended repair methods (in priority sequence)
Corner castings	Cracked, deformed, broken	Replace
	Deformation preventing correct twist-lock operation	Replace
	Aperture width is greater than 65 mm	Replace
	Aperture length is greater than 127 mm	Replace
	The thickness of the top corner casting top plate is 24.5 mm thick or less	Replace
Under structure		
Forklift pocket & Goose Neck Tunnel Assembly	Top plate separation from floor in excess of 10mm or floor screws ineffective	Straighten or weld, or straighten and weld, or insert, or renew
	Web holed, cut, torn, or cracked in excess of 50mm or extending into a weld connection	Weld or straighten, or straighten and weld, or insert, or renew
	Lower flange connection to bottom side rail, holed, cut, torn, cracked extending into web radius	Weld or straighten, or straighten and weld, or insert, or section, or renew
	Web deformation below line of corner castings	Straighten or weld, or straighten and weld, or insert, or renew
	Top plate pushed up in excess of 50 mm, cut, torn or broken	Straighten or weld, or straighten and weld, or insert, or renew
	Strap broken, cracked, cut, torn, missing	Weld, or straighten and weld, or renew
Cross Members	Web holed, torn, broken, cracked, cut or missing	Weld or straighten, or straighten and weld, or insert, or renew
	Web deformed in excess of 75 mm	Straighten, or renew
	Web upper flange separated from floor by more than 10 mm	Straighten and re-fix or renew
	Bowed up by more than 50 mm or below line of corner castings	Straighten or renew

3. MAIN STRUCTURAL COMPONENTS (Continued)

Floor		
Floor Panels	Gouge greater than 15 mm deep irrespective of length	Section or Renew
	Gouge more than 6 mm deep and greater than 150 mm wide irrespective of length	Section or Renew
	Delamination or other damage (affecting floor strength)	Replace
	Difference in height between adjacent panels exceeding 10 mm	Refasten
	Holes other than nail holes	Plug (Maximum 25mm diameter)
Floor Fastenings	Protruding	Refasten
	Three or more adjacent broken, missing or loose fasteners	Refasten or Replace
See guidelines at the end of the tables for allowable repairs on Plywood floors.		

4. OTHER COMPONENTS

Component	Damage	Recommended repair methods, (by priority sequence)
Doors		
Door	Holed, cut, torn, broken, cracked component or weld, or deformation affecting security and operation of doors.	Weld or straighten, or straighten and weld, or patch, or insert, or renew
	Missing/broken or loose parts (incl. Gasket) that affect door operation or water-tightness	Replace or re-fix
J Bars	If interfering with door operation	Weld or straighten, or straighten and weld, or insert
Data Plates	Loose, missing, illegible data plate	Refasten, replace

4. OTHER COMPONENTS (continued)

Doors (continued)		
Door assembly incl. hardware and hinges	<p>Holed, cut, torn, broken, cracked component or weld, or deformation affecting security and operation of doors.</p> <p>Missing/ broken or loose parts incl. gasket that affect door operation or water tightness.</p>	<p>Weld or straighten or vice versa or insert, or section or renew</p> <p>Renew or refit</p>
Locking bars	Seized, frozen or stiff.	Free-up / loosen
Hinge pins	Broken, Cracked, Seized, frozen etc.	<p>Check with "paper test"</p> <p>Replace</p> <p>Free-up / loosen</p>
Keepers/cams	Cracked or deformed.	Weld, straighten or replace
Handle	Bent or deformed.	Straighten or Replace – only if interfering with door operation
Door Tie-back Door Hook	<p>Missing, inoperable</p> <p>Missing, bent</p>	<p>Replace</p> <p>Replace, straighten</p>
J-bars	If interfering with door operation.	Straighten or weld, or straighten and weld or insert or renew
Door gasket	Holed, cut, torn, cracked, burned or showing light or water leaks.	Minor damage, if light and watertight - no action. If not, repair, renew
<p>TIR (Security) requirement:</p> <p>RH door locking rod large brackets – fasten with Huck bolts with bolt heads to the outside.</p> <p>LH door locking rod large brackets – fasten with bolt heads to the outside.</p>		
Panels		
Side / Front / Door panels / Roof panels including header plate	<p>Holed, cut, torn, broken, cracked panel or weld.</p> <p>Dents into cubes that reduce internal width by more than 50mm from inner corrugation including multiple dents, or reduce internal height by more than 70 mm from the floor to the roof inner corrugation.</p> <p>Dents exceeding the outer face of corner castings +40mm.</p>	<p>Weld, or straighten and weld, or patch or insert, or section</p> <p>Straighten, or straighten and weld, or patch, or insert</p> <p>Straighten, or straighten and weld, or patch, or insert, or section</p>

5. OTHER ITEMS

Component	Damage	Recommended repair methods, (by priority sequence)
Other		
Lashing rings	Broken, cracked, missing or non-functional	Weld, or straighten or replace
Surfaces	Glue (Sticky)	Clean and/or paint
	Odour, infestation, debris, contamination that can be transferred	Clean and/or remove
Ventilators	Vents blocked, loose, damaged and not weather-tight, missing	Repair, or replace
Graffiti, Foreign Markings	Any political, religious, sexual or possible offensive markings.	Remove or Clean
ISO Decals / compulsory markings	Missing or illegible	Replace
Hazardous labels	Remaining on panels	Remove (do not paint over)
Cargo labels, ropes, tapes, ties etc.	Remaining on lashing rings/bars and panels	<u>Only remove based on customer requirements</u> – Cluster EMR issue guidance
Owners Logo and Brand name (all lines)	Missing, illegible, damaged, defaced	Replace/repair only in conjunction with a repair to the same area.
See Maersk Line Global Cleaning Guidelines for specific details on required container condition and associated cleaning activities.		

6. REPAIRS TO PLYWOOD FLOORS.

Delaminated plywood floors must be replaced, as below, when damage is observed to the 4th layer of ply i.e. the top 3 layers are missing or loose and the 4th layer is also damaged.

Floor repairs must be carried out in accordance with the guidance given in Maersk Line document "Guidelines to Plywood Floor Repairs", issued March 2014, document Reference: CENEMR/2014/002/MRS046 or subsequent amendments or issues.

Half-width (580mm) floor board replacement is acceptable except within the first short floor board adjacent to the door. Half-width boards must be supported by at least 3 cross-members and a full-length steel flat bar must be tack welded to the cross-members immediately under the longitudinal join to provide additional support and ensure water-tightness.

Metal plates are never acceptable as a permanent method of repair to a damaged, delaminated or holed floor and must be replaced when observed.