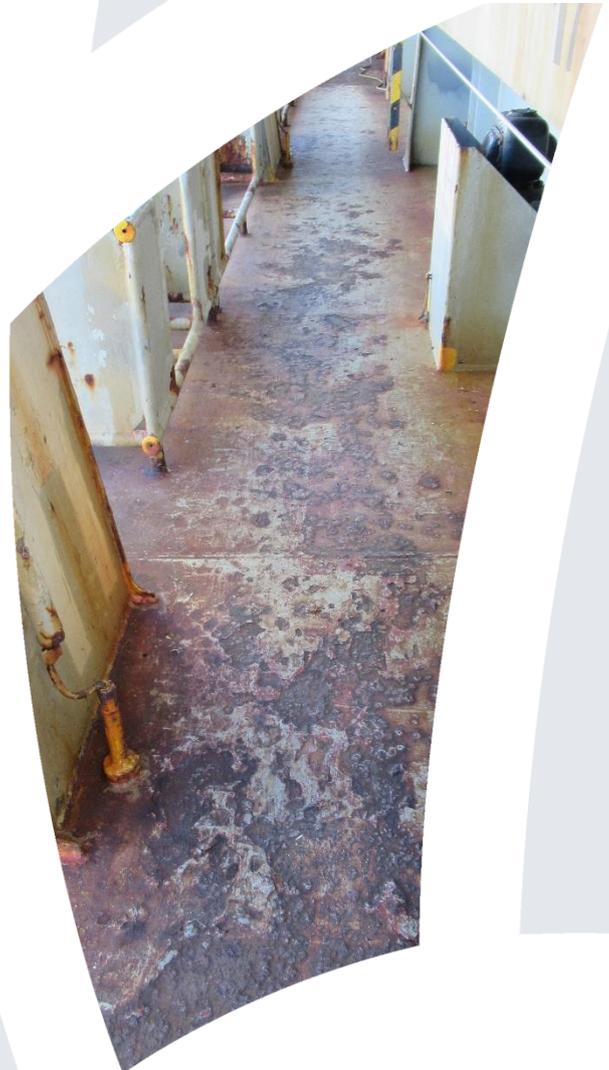


Vessel Inspection Guide

a general guidance for condition surveys on container vessels conducted through MATE[®]

version 2019.1



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Introduction

This document serves to provide a better understanding on how to classify observations made during condition inspections of container vessels, which inspections are conducted through MATE®.

During the thousands of condition surveys we have had carried out over the years, using a large number of external surveyors, we discovered it is often difficult to qualify the extent of defects. This guide is intended to provide background on how to rate observations and whether these observations are acceptable or not.

Please be advised this is only a guide; also the writers of this document are not completely objective. Nonetheless it will show a large number of examples which may assist you in shaping your views.

A topic which is especially open to subjectivity, is that of corrosion, which accordingly is one of the main issues dealt with in this document. The main question to answer, which is not always easy, is when corrosion has reached a stage that it is no longer acceptable.

Although this may depend on the perspective of the inspection and client, in this document we have attempted to find a common viewpoint, as much as possible in line with industry accepted practice.

Most commonly it can be reasoned that, once corrosion starts to become visible, maintenance should be considered. The sooner corrosion is arrested, the easier it is to correct it, using relatively simple methods such as brushing and painting. Once corrosion has reached stages of excessive corrosion or even wastage, repairs become more complicated and costly.

In this respect we have divided corrosion into four (4) stages, where stage 3 and 4 are outside acceptable limits.

Stage 1: superficial

In this stage there is only superficial, often atmospheric rust evident, which can easily be brushed off. The rust development, having a light brown colour, does not affect the strength or functionality of the structure and maintenance can be done by the crew whilst the vessel is in operations.

Stage 2: progressing

There is development of rust, often of darker colour. Incidental small, loose rust scales are found in way of the object which have parted from the item, but this is limited. Action is required to arrest the corrosion in order to avoid aggravation. Normally maintenance can still be done by the crew as part of the normal maintenance regime.

Stage 3: excessive

There is development of rust which is dark brown discoloured. Loose rust scales are present on / in way of the structure. Maintenance has become more extensive and time consuming and if the rust is spread over a large area, shore assistance or employment of additional crew may be needed.

Stage 4: wastage

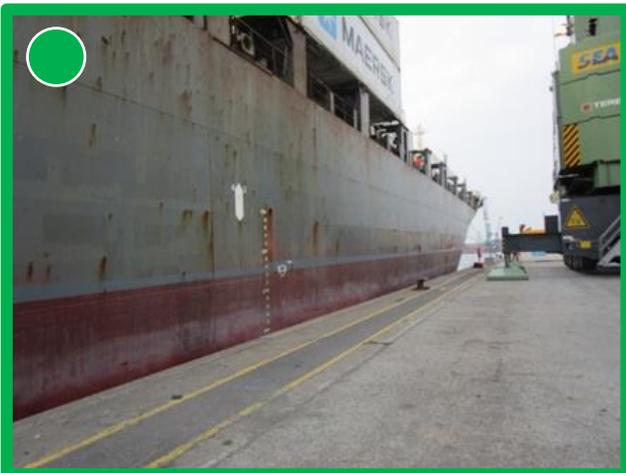
Material is lost, and the functionality of the structure is adversely affected. The structure may be wasted and/or holed and laminar corrosion is evident. Maintenance has become extensive and time consuming and is likely to require shore assistance when spread out over a large area.

Hull

No corrosion:



Stage 1 – Superficial corrosion:



Superficial corrosion, over a large area.



Local superficial corrosion.

Stage 2 – Progressing corrosion:



Restricted area with progressing corrosion.



Scattered spots with progressing corrosion.

Hull

Stage 3 – Excessive corrosion:



Hull with excessive corrosion all over.



Hull with excessive corrosion all over.



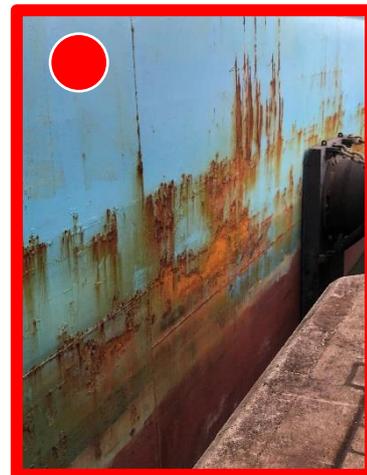
Hull with local spots / patches of excessive corrosion.



Hull with enlarged spots / patches of excessive corrosion.



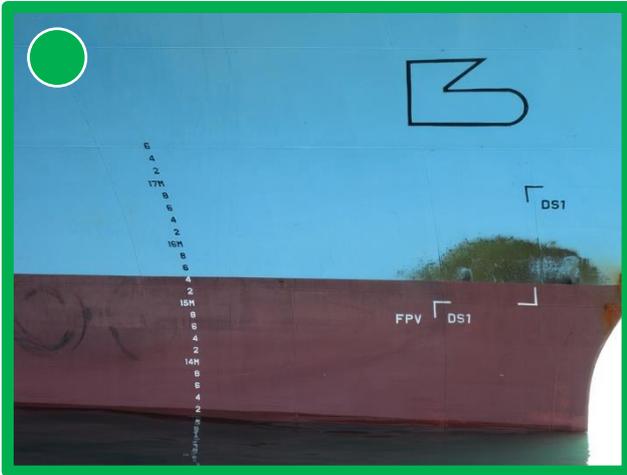
Larger areas with patches of excessive corrosion.



Patches of excessive corrosion

Hull markings

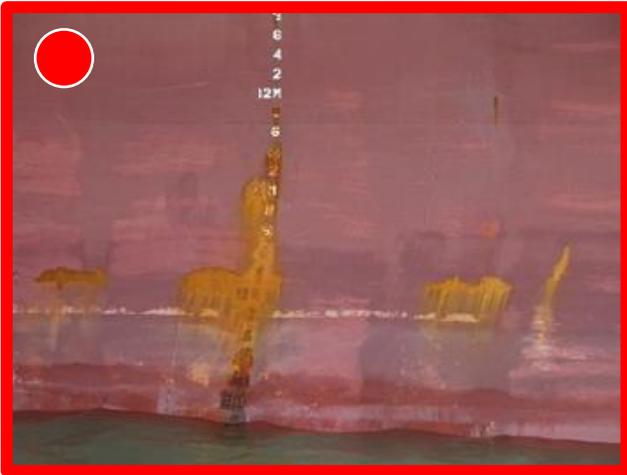
Sound condition, no corrosion and marks still distinct:



Marks still distinct, despite corrosion in way

Hull markings

Marks (partly) illegible due to corrosion:



Draught marks with corrosion.



Corroded draught marks.



Part of draught marks faded / illegible.



Faded bow thruster marks.

Hatch covers / hatch pontoons

No corrosion



Stage 1 – Superficial corrosion:



Superficial corrosion.



Superficial (spot) corrosion.

Stage 2 – Progressing corrosion:



Progressing (spot) corrosion at restricted area



Progressing corrosion on pontoon fittings.

Hatch covers / hatch pontoons

Stage 3 – Excessive corrosion:



Hatch cover with patches with excessive corrosion.



Hatch cover with excessive corrosion all over.



Excessive spot corrosion over a large area.



Hatch covers with excessive corrosion.

Hatch covers / hatch pontoons

Stage 4 – Wastage:



Hatch cover (drain channel) with wastage.



Hatch cover with wasted edge.



Hatch cover with wasted gasket retaining channel.



Wasted, deformed, corroded hatch pontoon retaining edge.

Lashing bridges and hatch traverses

No corrosion:



Stage 1 – Superficial corrosion:



Spots of superficial corrosion.



Superficial corrosion.

Lashing bridges and hatch traverses

Stage 2 – Progressing corrosion:

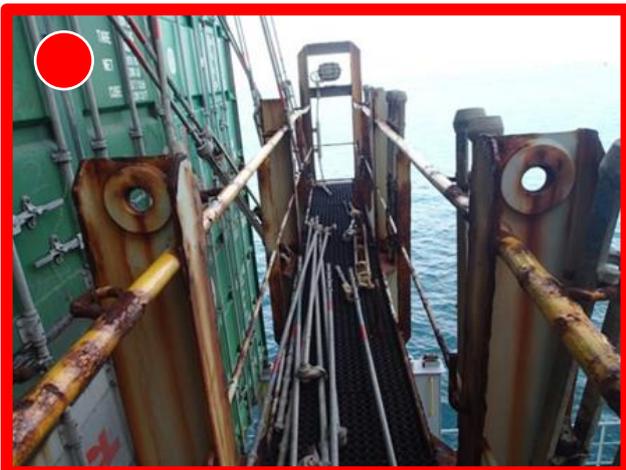


Progressing spot corrosion on restricted area.



Progressing corrosion all over.

Stage 3 – Excessive corrosion:



Lashing bridge structures and fittings with excessive corrosion.



Lashing bridge platform with excessive corrosion.



Excessive corrosion on lashing bridge structures.



Excessive corrosion on lashing bridge platform.

Lashing bridges and hatch traverses

Stage 4 – Wastage:



Lashing bridge handrail with wastage.



Grating / grating side with wastage.



Wastage on hatch traverse.



Holed / wasted hatch traverse platform.

(Outboard) lashing platforms

No corrosion:



Stage 1 – Superficial corrosion:



Local superficial corrosion (on platform).



Local superficial corrosion.

Stage 2 – Progressing corrosion



Local progressing corrosion.



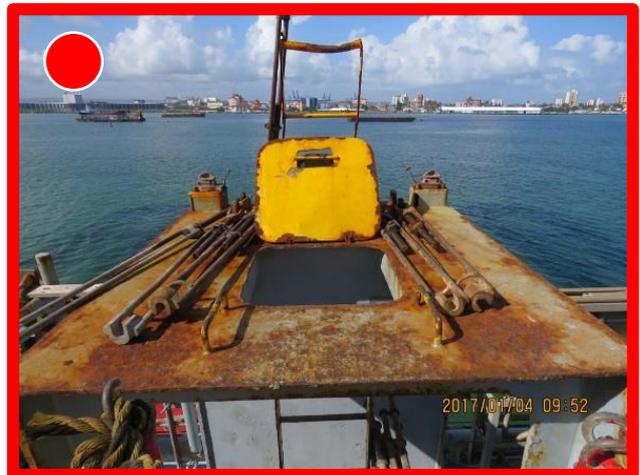
Local progressing corrosion.

(Outboard) lashing platforms

Stage 3 – Excessive corrosion



Lashing platform with local excessive corrosion.



Lashing platform with excessive corrosion.



Lashing platform with excessive corrosion.



Lashing platform with excessive corrosion.

(Outboard) lashing platforms

Stage 4 – Wastage:



Platform with wastage.



Platform with wastage.



Platform with wastage.



Platform with corrosion (pin)holes.

Container sockets and hatch pontoon lifting points

No corrosion:



Stage 1 – Superficial corrosion:



Spots of superficial corrosion on container sockets.



Container sockets with some superficial corrosion.

Stage 2 – Progressing corrosion:



Progressive corrosion on container socket.



Progressive corrosion on container sockets.



Progressive corrosion on container socket.

Container sockets and hatch pontoon lifting points

Stage 3 – Excessive corrosion:



Container sockets with excessive corrosion.



Lifting point with excessive corrosion.



Container socket with excessive corrosion.



Container socket with over-painted, excessive, corrosion



Container sockets with excessive corrosion.



Container sockets with excessive corrosion.

Container sockets and hatch pontoon lifting points

Stage 4 – Wastage:



Container socket with laminar corrosion / wastage.



Container socket with laminar corrosion / wastage.



Socket wasted, but painted over.



Container socket with laminar corrosion / wastage.



Repainted, wasted container socket.

Lashing eyes

No corrosion:



Stage 1 – Superficial corrosion:



Lashing eyes with spots with superficial corrosion.



Lashing eyes with spots of superficial corrosion.

Stage 2 – Progressing corrosion:



Lashing eyes with progressing corrosion.



Lashing eyes with progressing corrosion.

Lashing eyes

Stage 3 – Excessive corrosion:



Container socket and lashing eyes with excessive corrosion.



Lashing eyes and container sockets with excessive corrosion.



Container socket with excessive corrosion and wastage at base.



Container socket and lashing eyes with excessive corrosion.

Lashing eyes

Stage 4 – Wastage:



Lashing eyes with laminar corrosion / wastage.



Lashing eyes with laminar corrosion and wastage.



Lashing eyes with laminar corrosion.



Lashing eyes with laminar corrosion and wastage.

Deck structures / fittings

No corrosion:



Stage 1 – Superficial corrosion:



Hold ventilation grid with superficial corrosion.



Deck fittings / structures with superficial corrosion.

Stage 2 – Progressing corrosion:



Progressive corrosion on deck structure.



Progressive corrosion on lashing rod storage rack.

Deck structures

Stage 3 – Excessive corrosion:



Lashing storage rack and deck with excessive corrosion.



Hatch coaming table retaining edge with excessive corrosion.



Deck with excessive corrosion.



Ventilation grid with excessive corrosion.



Light fixture with excessive corrosion.



Deck and deck structures with excessive corrosion.

Deck structures

Stage 4 – Wastage:



Wastage on cable guide



Wastage on lashing storage rack



Wasted wire gland.



Wastage on lashing storage rack.

Container lashing material

Sound condition:



Twist locks with some with superficial corrosion.

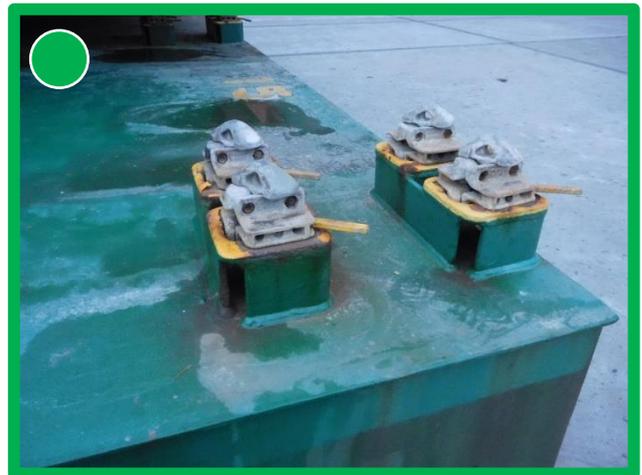


Lashing rods, sound.

Stage 1 - Superficial corrosion:



Lashing rods with superficial corrosion



Twist locks with superficial corrosion

Stage 2 - Progressing corrosion:



Twist locks with progressing corrosion



Twist locks with progressing corrosion



Twist locks with progressing corrosion



Twist locks with progressing corrosion

Container lashing material

Stage 3 - Excessive corrosion / serious damage:



Lashing rods with excessive corrosion.



Twist lock with excessive corrosion.



Excessive corroded and deformed turnbuckles.



Broken twist lock.



Excessive corroded twist lock



Twist lock operating handle bent / inoperable.

Hold ventilation ducts

Sound condition, no corrosion or only superficial corrosion:



Superficial, local corrosion on ventilation ducts.



Sound ventilation fan.



Ventilation duct with repairs, and local progressing corrosion.



Ventilation duct with superficial corrosion only.



Spots of progressing corrosion, structurally sound / intact.

Hold ventilation ducts

Excessive corrosion, serious damage



Ventilation duct with wastage.



Wasted ventilation duct.



Wasted ventilation duct.



Base of ventilation duct section with excessive corrosion.



Ventilation duct completely wasted.



Ventilation fan with excessive corrosion.

Hold cleanliness / tank top condition

Hold clean / no remarks:



Hold with some dust.



Hold with limited dirt.

Hold cleanliness / tank top condition

Tank top dirty or corroded:



Tank top defiled.



Tank top with debris and scaling.



Tank top with excessive corrosion



Tank top with debris.



Heavy rust scaling on tank top



Tank top with debris.

Hold stacking cones

Stacking cones functional



No comments



Stacking cone with superficial corrosion on base plate.



Stacking cone with progressing rust.



Stacking cone with superficial rust.



Tank top stacking cone with progressing corrosion but still firm and fit for use.



Tank top stacking cone with progressing corrosion but still firm and fit for use.

Hold stacking cones

Stacking cones corroded / wasted:



Wasted tank top cones.



Wasted tank top cone.



Detached tank top cone.



Wasted cone with excessively corroded / scaling base plate.



Wasted, compressed, tank top stacking cone.

Mooring lines

Mooring lines, satisfactory:



Mooring lines worn:



Mooring line with abrasions.



Mooring line with fraying.



Mooring line worn with abrasions.



Worn/wasted mooring line.