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North

Working through COVID-19: Steel Pre-Load Surveys

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CONTENTS

Introduction:

We understand these are difficult times for both ship operators and crews. The COVID-19 (Coronavirus) pandemic is affecting how we all work.

Therefore, we are finding new ways to assist Members in conducting their operations safely and efficiently during times where normal operations might not be possible.

One of these areas is steel pre-load surveys. North's policy is to arrange and cover the costs of these precautionary surveys for semi-finished and finished steel cargoes. However, with restrictions in place in many ports across the globe, access to vessels and port facilities could be restricted and surveyor appointments hampered.

In such circumstances, we have provided the following to assist you in preparing for loading steel cargoes and in evidencing that due diligence was exercised in making the vessel seaworthy.

Please note that this briefing will only apply when issues arise due to a lack of access to vessels and shore facilities in relation to the COVID-19 outbreak.

Initial Actions:

Members should report to North as usual when they intend to carry semi-finished or finished steel cargoes. We will then endeavour to explore all safe and available avenues to appoint a suitable third-party independent surveyor to conduct the pre-load survey.

If a surveyor appointment is not possible or no access to the port is allowed:

In a situation where a surveyor is not able to gain access to the cargo prior to loading within the port facility due to COVID-19 restrictions, it is equally unlikely that the crew will be allowed to access the quayside.

It is also possible that a surveyor will not be granted access on board the vessel.

The Master should take all steps appropriate to ensure the correct evidence is gathered in lieu of an independent survey. We recommend that you refer to Annex 1 and Annex 2 of this document to ensure all reasonable measures are taken to reduce the risk of a claim. This briefing also contains an example report template crews can use to document the process. This can be found in Annex 3.

The Master's responsibility:

The charterparty should state who is responsible for the loading of the cargo. Ordinarily, this is the charterer's responsibility and therefore the pre-load survey would only cover checking the condition of the steel in the storage facility, assessing the weathertightness of the vessel's cargo holds and that the securing / dunnaging is appropriate.

If the charterer is responsible, the Master must be careful not to intervene with the loading process unless it affects the safety of the vessel. Should they intervene, the Master risks the potential of transferring responsibility to the owner.

In any case where a pre-load check of cargo condition cannot be completed by an independent surveyor, the crew must check the condition of the cargo as it is loaded onto the vessel to the best of their ability.

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ANNEX 1: PROVING SEAWORTHINESS

The carrier (usually the shipowner) has an obligation to exercise due diligence to make the vessel seaworthy at the start of the voyage.

Seaworthy means the ship is fit to undertake the particular voyage and is fit to carry the particular cargo on that voyage. In this context, being seaworthy implies being cargoworthy.

Preparation

The ship's crew should have the following ready:

- Notebook and pen.
- Your ultrasonic hatch testing equipment if available – you will need to make sure you read and understand the manufacturer's instructions and follow them properly.
- If you do not have ultrasonic hatch testing equipment, connect to the fire main a suitable hose that can maintain a pressure of at least at 2×10^5 Pa (approx. 2 bar or 30 psi) throughout the test and a nozzle with a minimum inside diameter of 12 mm.
- Sufficient crew to properly conduct the test, operate hatches and secure as if ready for sea - this includes access hatches and vent flaps.
- A camera (battery fully charged) to take photographs of:
  - All aspects of the visual inspection
  - Any damage found or issues noted and how it was repaired
  - The weathertight testing process.

Preparing the cargo holds

Prior to loading, check that cargo holds are:

- Suitable for the intended cargo
- Dry and cleaned to a standard appropriate to the cargo to be carried (including bilge wells)
- Able to provide a safe access in and out of the cargo hold
- Free from leakages
- Fitted with working bilge pumping arrangements
- Fitted with adequate lighting
- Capable of providing the required ventilation.

Photographs, planned maintenance records and completion of checklists in accordance with the vessel's safety management system can provide valuable evidence that the holds were fit to receive the intended cargo.

The hatch cover survey

The reason for carrying out a hatch cover survey is to provide evidence that due diligence was exercised to make a vessel seaworthy before or at the commencement of voyage.

A hatch cover survey consists of:

- A visual examination; and
- A weathertightness test – either an Ultrasonic or Hose Test (note that Ultrasonic is preferred).

Visual Examination

Check and record the condition and operation of the following:

- Hatch cover panel alignment: a good indicator may be that the compression bar mark is in the centre of the gasket
- The permanent set of the hatch cover gasket is not beyond design limits: check the hatch cover manual for maximum set
- Condition of cleats and wedges: present and operational
- Coaming and hatch cover panel steelwork: free from corrosion and deformation
- Bearing pads: free from excess wear or damage
- Compression bars: free from damage or deformation
- Drain channel and drain valves: clean, complete and clear of debris
- Inner coaming face: no signs of vertical rust staining that might suggest previous water ingress
- Hatch cover operation: can be opened and closed without delay as well as free from hydraulic leaks
- Gaskets: pliable, free from deformation and corners fitted with pre-formed inserts - no short inserts
- Free from signs of use of sealing tape or foam.

Weathertightness Test

Weathertightness testing by ultrasonic means is the preferred method. It is quick and simple with no risk of damaging water-sensitive cargo. It also allows for a loss of compression due to the possible movement of the covers in the dynamic conditions experienced at sea.

However, it is recognised that some vessels will not carry ultrasonic testing equipment. In such cases, a hose test should be carried out.

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Important: Carrying out a hose test when the hold is already loaded with a water-sensitive cargo could result in damage and therefore should be avoided!

A hose test should be carried out in accordance with the correct method used by Class as detailed in IACS S14:

- The pressure in the hose nozzle maintained at least at 2 x 10^5Pa (approx. 2 bar or 30 psi) during the test.
- The nozzle is to have a minimum inside diameter of 12 mm and be at a distance to the joint not exceeding 1.5 m.
- Direct a powerful jet of water at joints.

Testing should not be limited to just the hatch cover panels. Water ingress into the cargo hold can also be caused by defects, corrosion or wastage to ventilators, access hatches, deck house doors and through any wastage of coamings.

DANGER: A hose test requires one person to be positioned inside the hold looking for leaks. IS IT SAFE TO ENTER?

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ANNEX 2: ASSESSING THE PRE-SHIPMENT ORDER AND CONDITION OF THE CARGO

Preparation

The ship's crew should have the following ready:

- Notebook and pen
- The loading plan and stowage plan
- A camera (battery fully charged) to take photographs of:
  - all stages of the process
  - any found damage or issues
- Where possible, double up the watches to allow greater vigilance.

Inspecting the Cargo

Ideally, the cargo should be inspected prior to it passing over the ship's rail. However, COVID-19 restrictions in some ports might prevent crew from leaving the vessel, even to access the quayside.

In such circumstances, the crew must remain extra vigilant and record defects as the cargo is loaded.

NEVER stand under or near loads as they are brought on board

Recording the apparent order and condition

The bill of lading should reflect the apparent order and condition of the cargo.

This is because the receiver of the cargo relies on these statements on the bill of lading to form a view on the condition of the cargo. If the bill of lading states that the cargo was in apparent good order and condition at the time of loading but at discharge was found not to be in the same order and condition, the receivers may have grounds for a claim against the carrier.

Remember: A master is not expected to be an expert on each and every cargo they carry, therefore they are not expected to comment on cargo quality.

Steel cargo defects can be broadly categorised as 'surface condition' (rust) and 'mechanical damage'.

If damage is noted during loading, follow these simple steps:

1. Make a note of any packing or identification marks and how many items are affected
2. Make a note of which bill of lading to which the cargo belongs
3. Photograph the damage
4. Describe the damage in accordance with the below recommended clauses
5. Notify the shipper's or charterer's representative – they may wish to replace any damaged cargo with sound cargo to avoid a claused bill of lading
6. Ensure the full list of damaged cargo is included in the mate's receipt and bill of lading

Surface-condition clauses

- **Covered with snow:** Surface covered with snow or ice or both.
- **Galvanising affected by white oxidation marks:** Zinc coating losing lustre and etched with white-coloured oxidation marks.
- **Galvanising affected by white rust:** Zinc coating heavily oxidated and covered in voluminous white coloured rust.
- **Galvanising dull:** Zinc coating losing lustre as a result of early oxidation.
- **Grease spots and oil patches apparent on 'number' units:** Surface stained with drops of grease and oil from mechanical handling equipment or other sources.
- **Partly rust stained:** Fine powdery rust covering less than 75% of the surface. Light tan to light brown in colour and easily removed by rubbing, scraping or wire brushing to reveal a smooth steel surface. The remainder of the surface may still have mill scale attached.
- **Partly rusty:** Brown to heavy deep brown rust covering less than 75% of the surface. Slightly uneven and dull steel surface revealed when removed by wire brushing. Remainder of the surface may be 'rust stained' or 'partly rust stained'.
- **Rust on edges:** Brown to heavy deep brown rust confined to edges. When removed by wire brushing, a slightly uneven and dull steel surface revealed. Remainder of the surface may be 'rust stained' or 'partly rust stained'.
- **Rust spots apparent:** Localised very slight penetration of rust through mill scale, not bulbous and reveals smooth steel surface when removed by wire brushing. Parts of surface without mill scale may be 'rust stained'.
- **Rust spotting:** Localised penetration of rust through mill scale, bulbous and reveals an uneven steel surface when removed by wire brushing. Parts of surface without mill scale may by 'rust stained'.
- **Rust stained:** Fine powdery rust over the whole surface, light tan to light brown in colour and easily removed by rubbing, scraping or wire brushing to reveal a smooth steel surface.
- **Rust with pitting:** Brown to heavy deep brown rust which, when removed by wire brushing, reveals pitting of the steel surface.
- **Rusty:** Brown to heavy deep brown rust which, when removed by wire brushing, reveals an uneven and dull steel surface.

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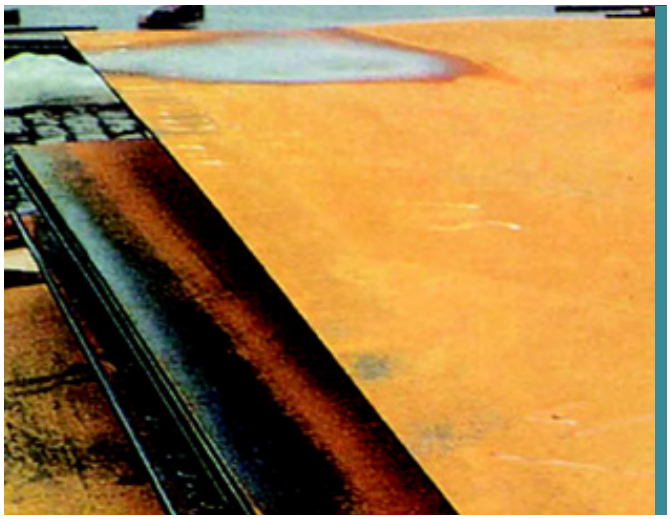
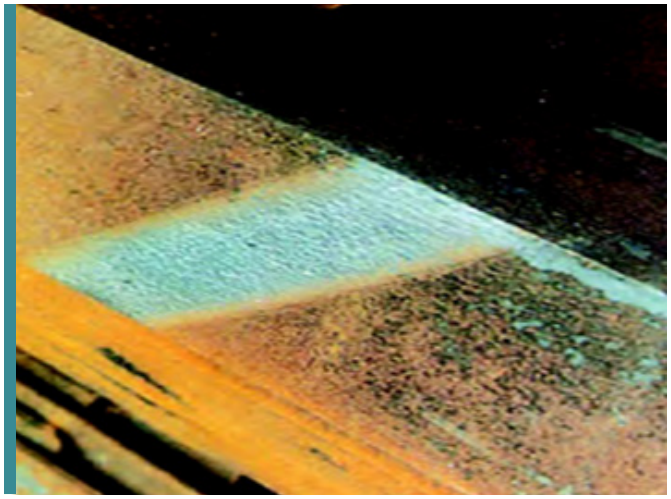
- **Stained 'extent' by an unidentifiable 'colour' powder:** Surface coated to the extent indicated with an unidentifiable powder of the colour indicated which could contain aggressive chemicals or be capable of holding moisture.
- **Streaky rust indicates previous contact with water:** Surface has rust streaks indicating that water has previously dripped down it.
- **Surface areas reacting to silver nitrate solution tests:** Silver nitrate tests prove that the surface has been in contact with saltwater or other chlorides.
- **Wet before shipment:** Water visible on surface or dripping out of bundles.
- **Packing + 'surface-condition clause':** The surface condition of the cargo packing is as described by any of the above clauses.

Example images of surface condition clauses



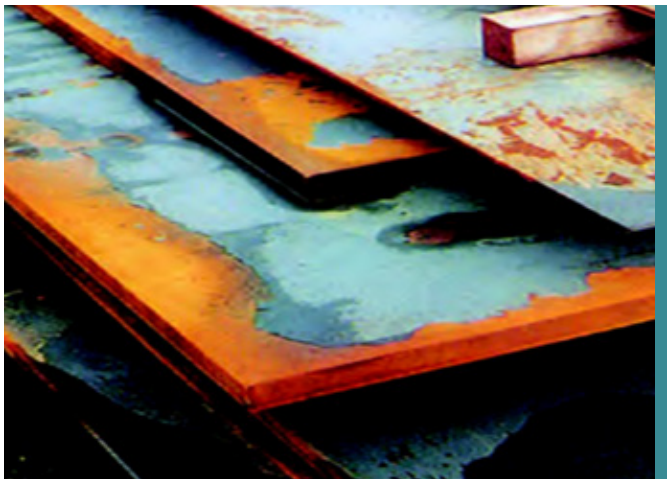
Steel plates.
Clause: rust stained, wet before shipment



Channels and angles (rust cleaned away locally).
Clause: rust stained

Reinforcing bars in bundles with dampness evident.
Clause: rust stained, wet before shipment

Wrapped coils. **Clause: packing rust stained**



Plates with most mill scale intact, but handling has also fragmented mill scale from edges.
Clause: partly rust stained, wet before shipment

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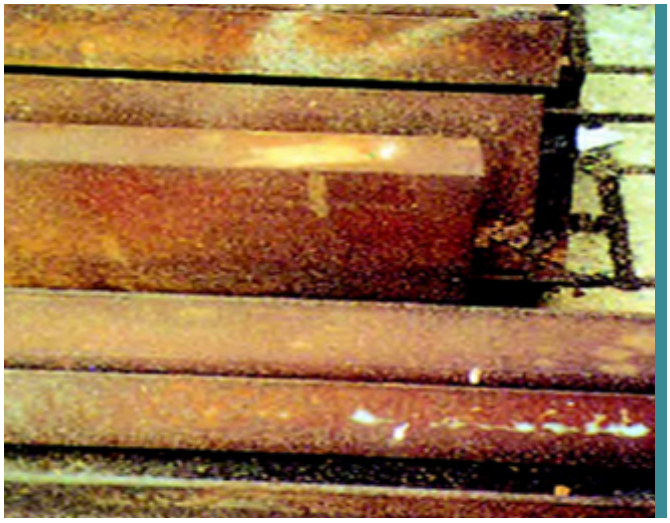
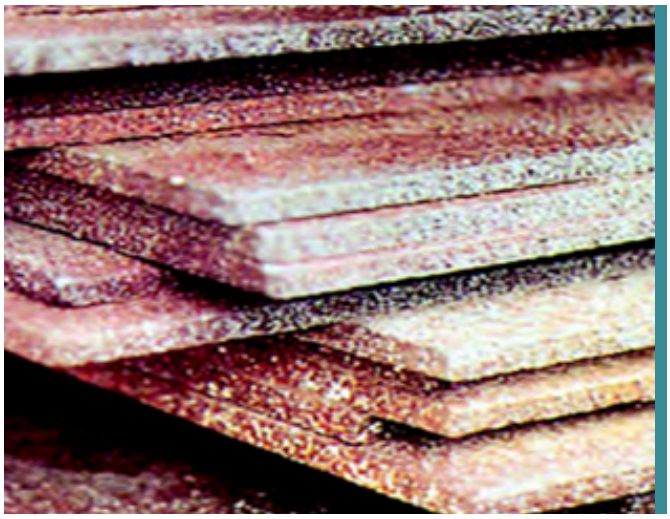
Beams with some mill scale still intact but rust encroaching on flanges and webs. Note correct nesting position. **Clause: rust stained**

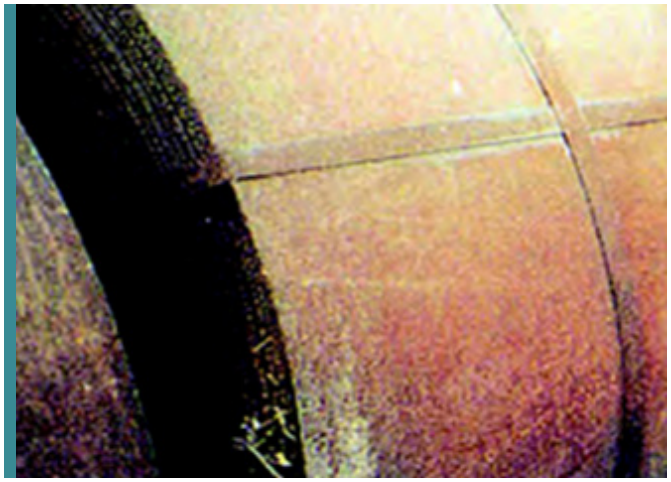


Channels.
Clause: rusty

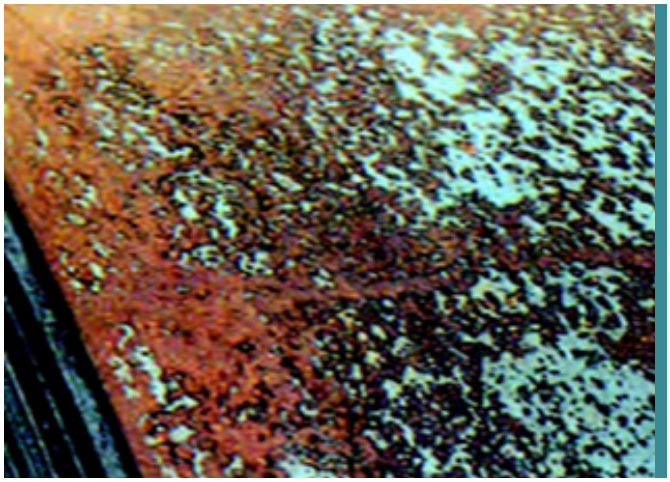
Wrapped packages of steel plates.
Clause: packing partly rust stained



Plates.
Clause: rust with pitting



Hot-rolled steel coils.
Clause: rusty



Hot-rolled steel coil.
Clause: rust stained, rust spots apparent

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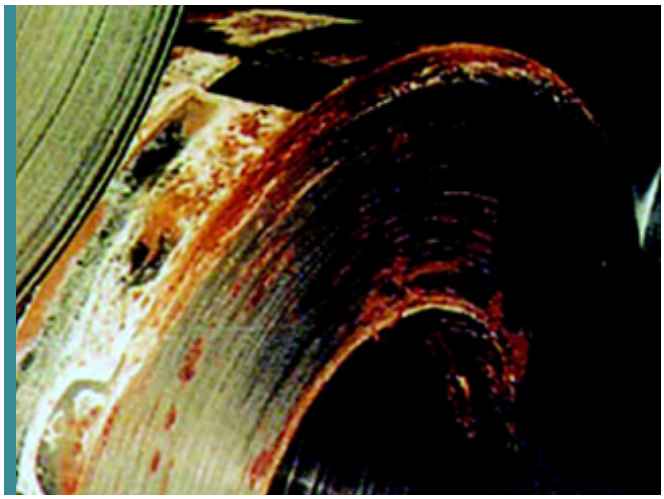
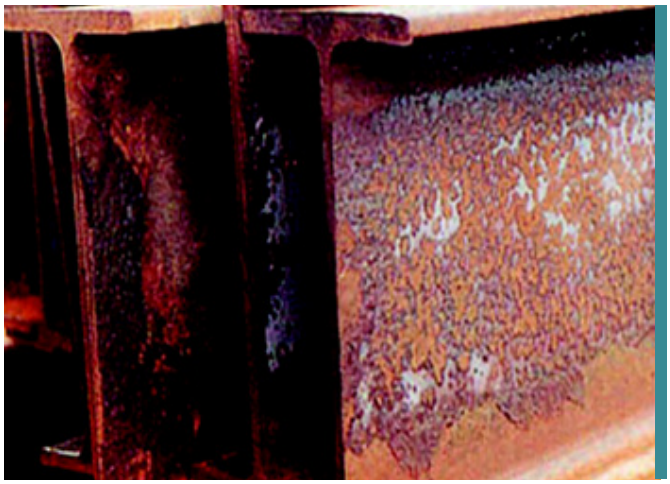
Rails.
Clause: rust with pitting

Channels. Galvanised pipes bundles showing no evidence of having been subjected to a passivation process.
Clause: galvanising dull

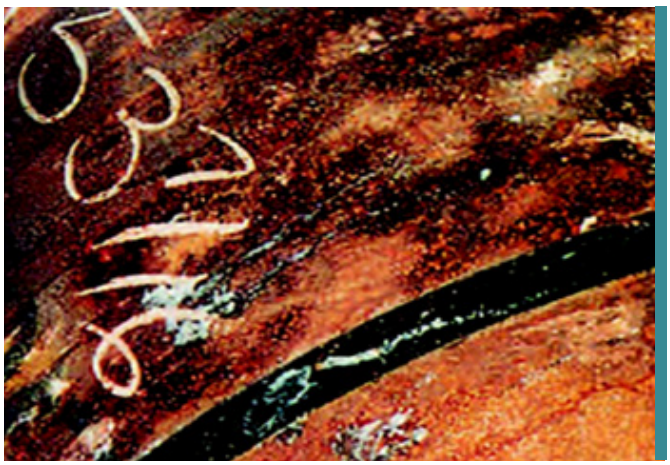


Galvanised coils (with wrappers removed).
Clause: galvanising affected by white rust



Beams with flaking mill scale on webs.
Clause: rust stained, rust spots apparent

Wrapped coil with streaky rust brought about by dripping water from 'cargo sweat'.
Clause: packing rust stained, streaky rust indicates previous contact with water



Hot-rolled coil which has been in contact with chlorides, suspect indications being configuration and colour of the rust. **Clause: [rust clause applicable] + surface areas reacting to silver nitrate solution tests**

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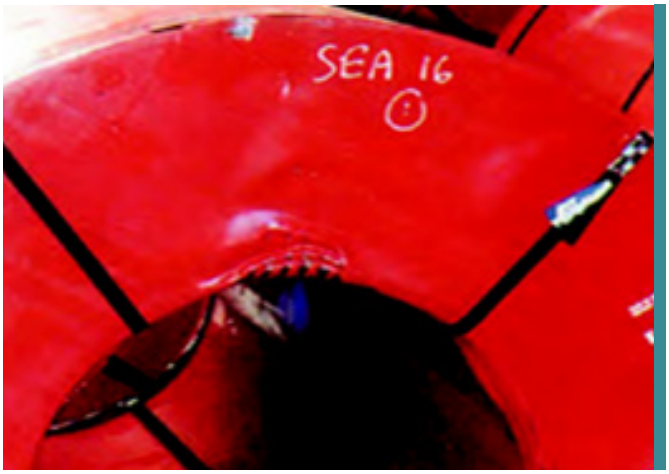
Mechanical damage Clauses

- Bent, flanges and webs distorted: A previously straight structural section has been bent causing both flanges and webs to be distorted.
- Bundle pieces bent along entire length: Affects 'number' pieces. Previously straight plates, rods, pipes or other small scantling pieces in a bundle are bent along their entire length.
- Bundle pieces projecting on ends: Note number pieces that are bent. Some plates, rods, pipes or other small scantling pieces in a bundle are projecting beyond most others resulting in bent ends for a certain number.
- Concrete coating (hairline cracked / chipped / broken) at 'location': The concrete weight coating on a pipe has hairline cracks or is chipped or broken at a particular location.
- Dented in: Note the number positions and at which location the dents are on the cargo. A pipe or other hollow section is dented in a number of positions at a particular location causing a reduction in internal dimensions.
- Edges (dented / buckled): Note at which location this anywhere handling gear marked and how many pieces of steel it has affected for example the number of windings / plates. The edges of a hot-rolled steel sheeting coil or plate bundle at a particular location have been dented or buckled over a number of windings or plates by handling equipment.
- Edges (scored / gouged): Note at which location and how many it affects for example the number of windings / plates. The edges of a hot-rolled steel sheeting coil or plate bundle at a particular location are deeply scored over a number of windings or plates.
- Edges (waved / distorted / bent upwards): Note at which location on the steel. The edges of a steel plate are waved, distorted or bent upwards at a particular location.
- Flange bent in: Note the number of positions and at which locations location. The flange of a structural section is bent in a number of positions at a particular location.

Example images of mechanical damage clauses

Wrapped coil damaged by forklift.
Clause: open in one place at inner circumference. Visible cargo is scored. Affects 15 windings



Wrapped coil damaged by lifting clamp.
Clause: packing edges at inner circumference dented where handling gear marked
Additional clause: packing torn

Telescoped coil.
Clause: windings at core telescoped up to 150 mm

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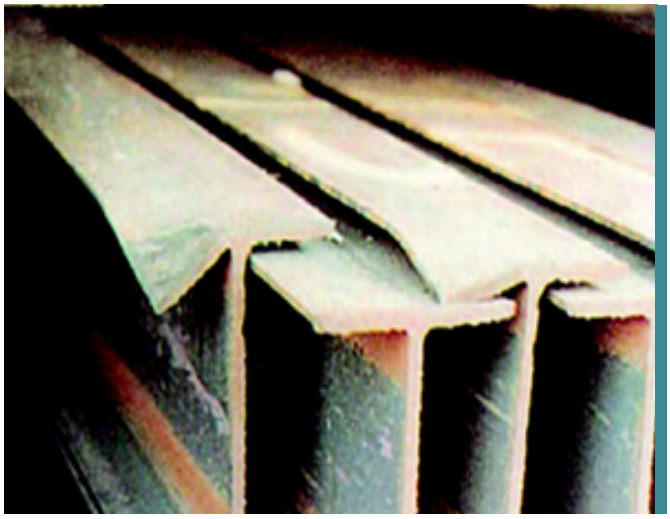
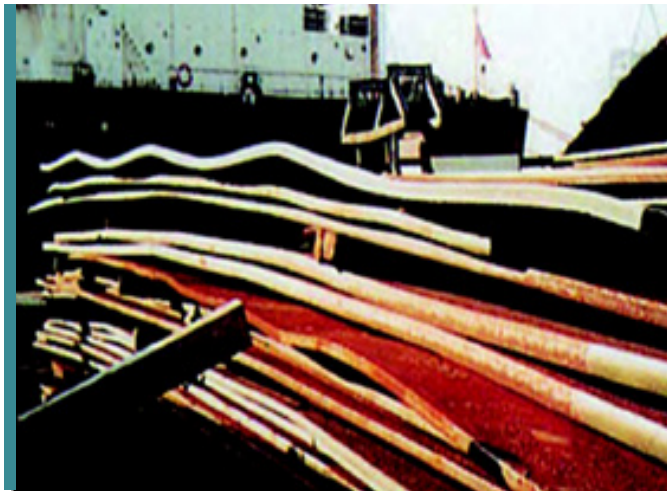
Coil damaged by forklift.
Clause: edges buckled at outer circumference where handling gear marked. Affects six windings

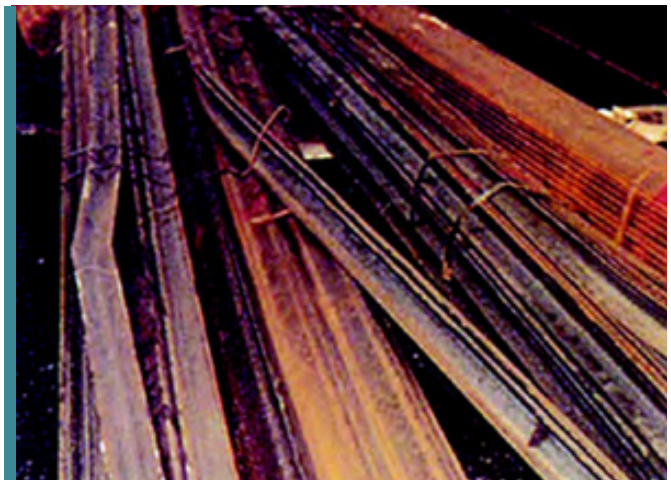


Nest of beams.
Clause: (left hand beam): flange bent in one position at end

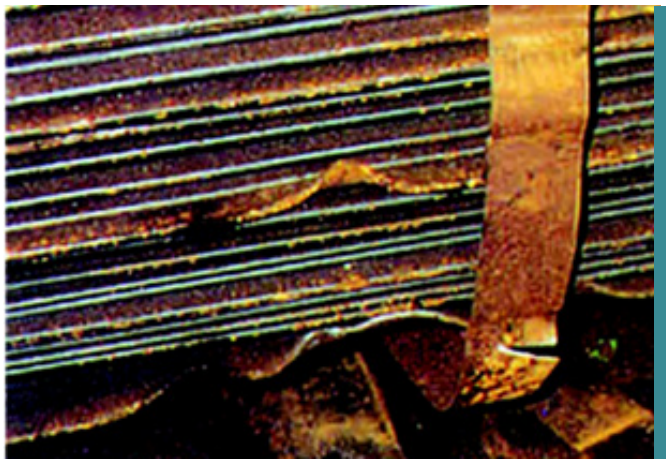


Plates.
Clause: edges waved along entire length

Bundle of stainless steel plates.
Clause: edges dented at center where handling gear marked. Affects two plates



Bundles of light scantling pieces. **Clause: (second bundle from left): bundle pieces bent along entire length. Affects two pieces. Strapped insufficiently, one strap broken, three missing**



Bundle of angles overlying bundle of plates.
Clause: (angles): edges dented at bottom centre where handling gear marked. Affects two pieces. Strapped insufficiently, one strapping band broken

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APPENDIX 3: STEEL PRE-LOAD SURVEY FORM EXAMPLE

STEEL PRE-LOAD SURVEY FORM EXAMPLE

Date:					
Port of Load:					
Vessel:			IMO No:		
Vessel's Flag:					
Date of Build:					
LOA:					
GT:					
No of holds:					
Owners:					
Managers:					
Commence Loading:					
Complete Loading:					
Hatch cover test method: Hose / UHT					
Hatch covers confirmed weather tight:	YES	NO	Has a record of hatch cover testing been kept:	YES	NO

Weather conditions at time of loading:

Name of cargo officers keeping watch	
Example: Bob Smith	*Chief Officer*

Name of Officers on board	
Cargo Type	Quantity
Example: HRC hold number 1	*5,000 mt*

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Port Facilities

Means of moving cargo to the vessel:	
Description	Supporting photographic evidence
Example: forklift with coil carrier	

Cargo

Cargo Type	Marks or Serial No	Wt	Discharge Port	Mechanical Damage	Surface condition	Photographic Evidence	Remarks
Example: HRC	*1087364*		*Teessport*		*Rusty*		
Example: HRC	*109584*		*Newport*	*Windings at core telescoped up to 180mm*			

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Cargo (cont.)

Cargo Type	Marks or Serial No	Wt	Discharge Port	Mechanical Damage	Surface condition	Photographic Evidence	Remarks

Comments

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