Battermann + Tillery Group

“Project Cargo on RoRo-Vessels“

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13 December 2016, Webinar

Marine and Cargo Surveyors

Project Cargo on RoRo-Vessels

Agenda

1. Introduction
2. Advantages/ Disadvantages of Project Cargo on RoRo Vessels
3. Planning Requirements
4. Planning & Preparation
5. Loading
6. Cargo Securing
7. Final Calculation & Reporting
8. Summary

Project Cargo on RoRo-Vessels

Introduction

Project Cargo on RoRo-Vessels

Introduction

Definition:

"Project cargo is a term used to broadly describe the national or international transportation of large, heavy, high-value or critical (to the project they are intended for) pieces of equipment. Also commonly referred to as Heavy Lift, this includes shipments made of various components which need disassembly for shipment and reassembly after delivery."

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Introduction

"Billions of dollars of project-critical equipment is shipped around the world annually."

"High levels of risk are associated with these shipments due to the nature of the cargo, transport logistics, and tight timeframes."

(Source: http://www.agcs.allianz.com/services/marine/project-cargo/)

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Introduction

Various Possibilities of Ocean Transport for Project Cargo:

1. Container Vessel

2. RoRo-Vessel

3. Break Bulk Vessel

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Advantages / disadvantages for the Freight Forwarder

Advantages	Disadvantages
+ Fast vessels/routes	– Larger quantities are not economical
+ Terminals with inland connection/infrastructure	
+ Reputable shipping lines	
+ Standardised transport methods	
+ Costs for single parts are affordable/calculable	

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Advantages / disadvantages for the Underwriter

Advantages	Disadvantages
+ Large companies/shipping lines (terminals) → Claims handling department (worst case) / availability	– Timeframe is not always guaranteed, may in part be even worse than in container shipping, as the other cargo is not standardized, thus, potentially higher survey costs due to wait times
+ Always the same structure→ easily plannable	– Increased risk due to possible transshipping

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Advantages / disadvantages for the Manufacturer/Shipper/Cargo Owner

Advantages	Disadvantages
+ No lifting onto vessel (lifting on roll trailer can be carried out in advance at different location)	– Not always horizontal transport process (ramp to the vessels)
+ Stowage almost exclusively below deck (protective aspect)	– Maximum width limited (stern ramp)
+ Cargo length can be close to deck length, if cargo loading via the vessel's ramp(s) is possible	– Length limited by vessel ramp due to the multiple bends in ramps
+ Various types of special equipment available with different shipping lines	– Height limited (stern ramp/deck height clearance)
+ Weekly departures (almost)	– Weight distribution/footprint must be taken into account, especially when stowed on roll trailer
+ Costs for single parts are affordable/calculable	

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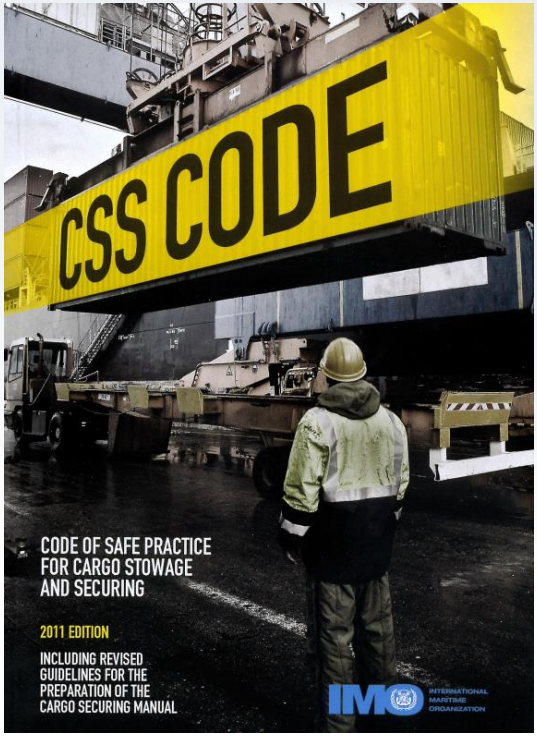
Planning Requirements: Relevant Regulations

1. CSS-Code (Code of Safe Practice for **C**argo **S**towage and **S**ecuring)

+ Transport-related accelerations



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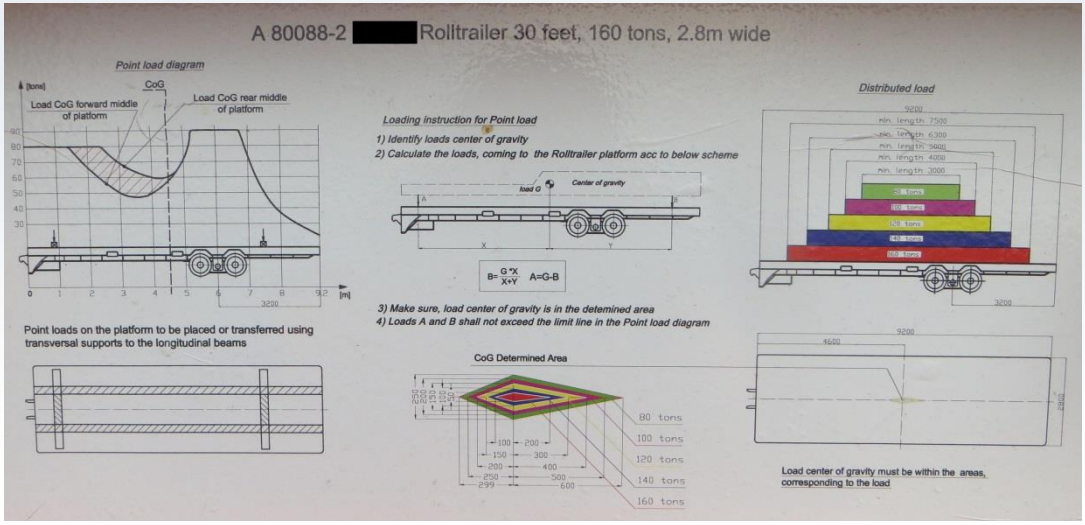
Planning Requirements: Relevant Regulations

2. Individual design limits of roll trailers



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Planning Requirements: Relevant Regulations

3. Specific Provisions by the Shipping Lines

Several shipping lines for example stipulate that for cargo units with a weight exceeding 10,000.00, the attachment points for cargo securing are to be applied to and must be accessible on the cargo itself and not on the packaging (e.g. case).

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Planning Requirements: Pre-Load Inspection

Why is a pre-load inspection so critical?

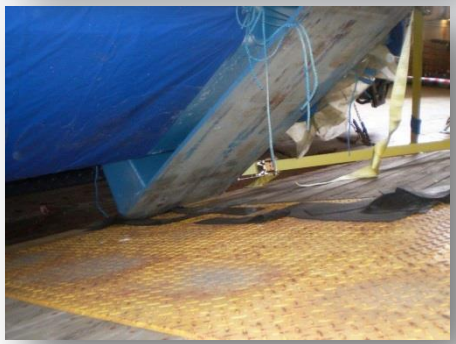
! Basis for plan

! Risk assessment / minimising

! Documentation of footprint / load points, dimensions, cargo securing points (possible deviations from the documents)

! Discovery of prior damage

! Cargo anomalies



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Planning & Preparation

- Pre-calculations of cargo securing with estimated vessel data/ lashing angles/friction (calculation of the cargo securing on roll trailers and of the roll trailers inside the vessel)
- Stowage / lashing sketches are not generally prepared as the surveyor is in attendance during setting down of the cargo onto the roll trailer. Sketches are required only rarely and for very complicated cases.

Completion of Planning:

Inform all parties of maximum values for loading, cargo securing, stowage particulars and work safety

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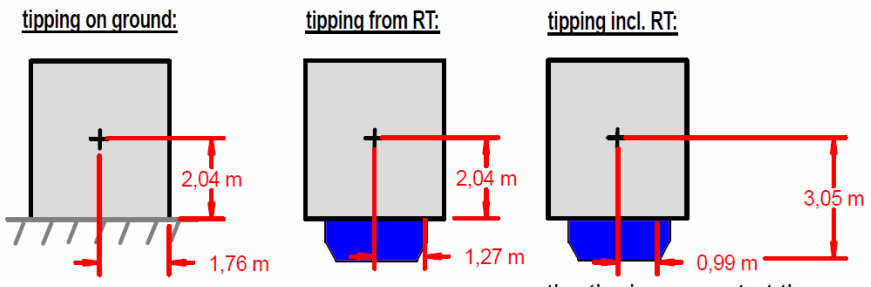
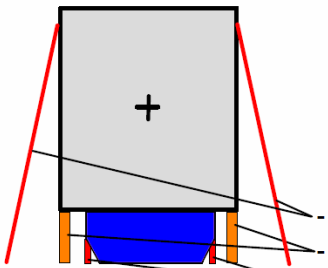
Planning & Preparation



the tipping aspect at the rear end of a RT is even worse, as the axles are not as wide as the forward transom

suggested improvement on RT:



- tipping securing
- cargo supports if necessary
- trailer jacks if necessary

DMS NO. XXXXXX	VESSEL not specified	
Battermann + Tillery Group	DESCRIPTION Tipping aspects	Scale not to scale
	VIEW FRONT	Date 20161212
		Version 01

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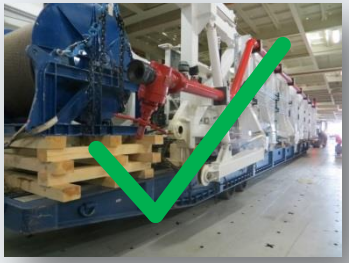
Loading: Stowage on roll trailer prior to loading

Consider the following:

- Load limits (roll trailer load)
- Point loads
- Timber strength
  (maximum bend, maximum pressure)
- The requirements regarding roll trailer limits are generally covered in the course of the pre-load inspection.



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Loading: Preparation

Immediately prior to loading:

- Request vessel data (ship's particulars, expected GM_{max} & $Speed_{max}$)
- Information for vessel's command
- Submit LOI
  (**L**etter **o**f **I**ndemnity)

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Loading: Preparation

Immediately prior to loading:

- Inspection of deck
- Clarification of the final stowage position

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Loading

Evaluation of loading operations:

Documentation of the gear and attachment of cargo

Recording of loading times:

Roll on ramp, final set down at stowage position

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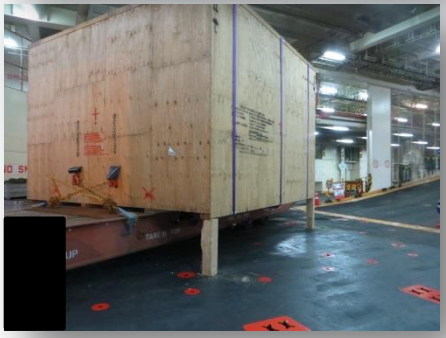
Load Inspection

Important Points of a Load Inspection

! Inspection of cargo securing and weight distribution on the loaded roll trailer.

! Consideration of the loading process via a ramp during which the cargo is tilted.

! Verification whether additional cargo securing towards the deck is required or determining what additional securing is required (Spindle Jacks, chocking, etc.)



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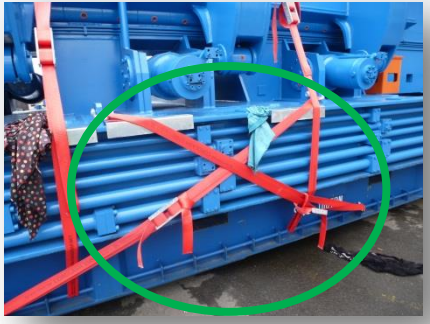
Cargo Securing

- Inspection of the “weakest link” (lashing points, lashing materials, locking mechanism/ type of lashing, roll trailer lashing point)
- Evaluation of anti-slip mats / determination of the friction coefficient for later calculation



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Cargo Securing

- Inspection of the tightness of cargo securing
- Note:
  - Web lashings: edge protectors/ cloth
  - Wire: edge protectors/ hoses/ rubber/ remove bends
  - Chains: consider the pressure on chain links across corners and edges
- Document lashing angles
- Instruct vessel's command regarding daily inspections

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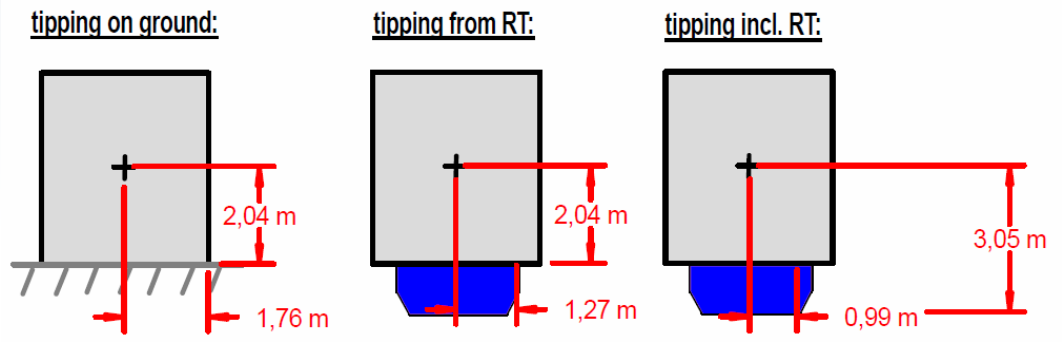
Final Calculation & Reporting

Final Calculation is to Take into Account:

- Received vessel data
- Actual angles
- Maximum tightness to be achieved in accordance with required safety stipulations of the surveyor and the client



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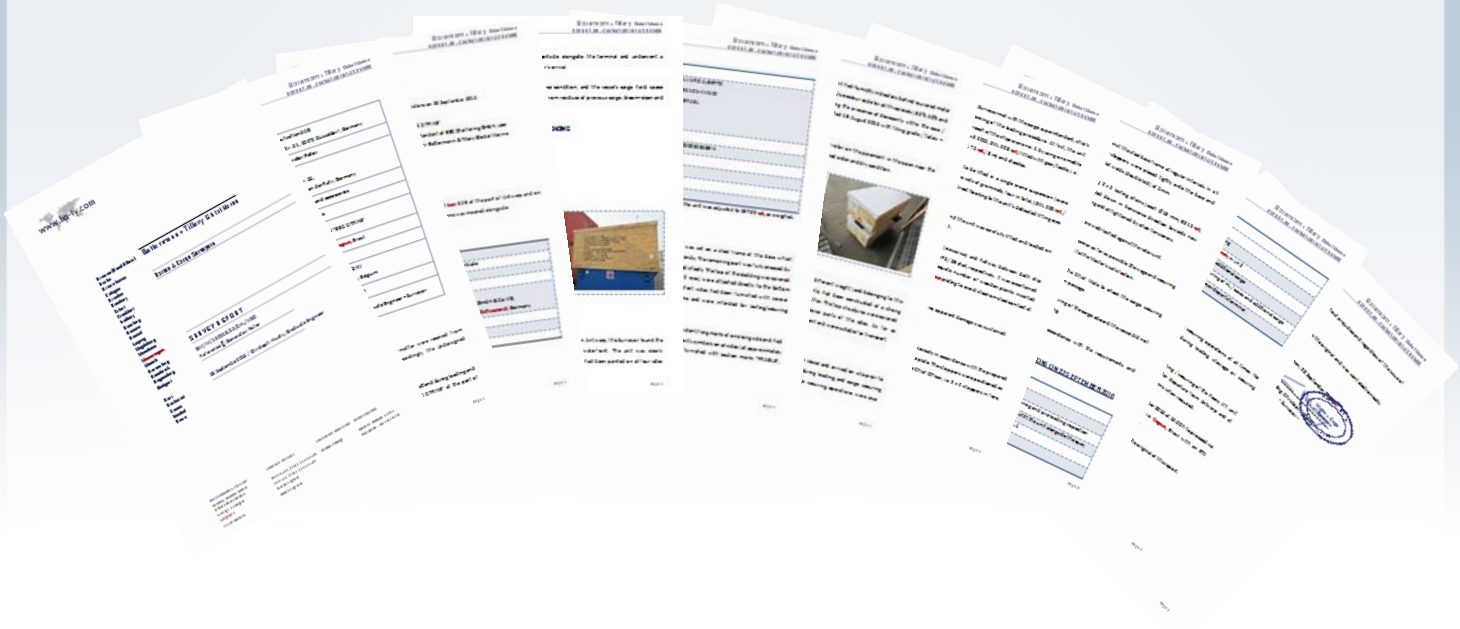
Final Calculation & Reporting

Documentation of operations or, if applicable, incidents



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Summary

"Failure of a shipment to arrive intact can quickly turn a $10 million cargo loss into a $100 million Delay in Start-Up (DSU) loss when factors such as re-fabrication, shipping, expenses, lost profits and other operational costs are considered."

(Source: http://www.agcs.allianz.com/services/marine/project-cargo/)

Project cargo requires specific care, expertise and meticulous attention to detail.

Thank you very much for
your kind attention!