"Project Cargo on Container Vessels"

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Marine and Cargo Surveyors

Agenda

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

Introduction









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."

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/)

Introduction

Various possibilities of ocean transport for Project Cargo:

1. Container

- 2. RoRo-Vessel
- 3. Break Bulk Vessel







Advantages / disadvantages for the Freight Forwarder

Advantages	Disadvantages
+ Fast vessels/routes	 Container terminals are not proven BB-experts (there are exceptions)
+ Terminals with inland	
connection/infrastructure	 Limited lifting capacity with gantry cranes
+ Reputable shipping lines	
. Reputable shipping inles	 Larger quantities are not economical
+ Standardised transport methods	- Larger quantities are not economical
+ Costs for single parts are affordable/calculable	

Advantages / disadvantages for the Underwriter

Ad	vanta	ges
	1	

- + Large companies/shipping lines (terminals)
 - → Claims handling department (worst case) / availability
- + Always the same structure → easily plannable
- + Lower risk of collateral damage from other cargo

Disadvantages

- Timeframe is not always guaranteed, thus, potentially higher survey costs due to wait times
- Increased risk due to possible transshipping

+ Costs for single parts

are affordable/calculable

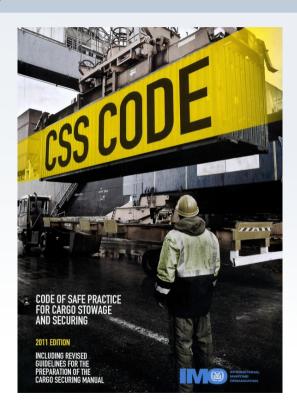
Advantages / disadvantages for the Manufacturer/Shipper/Cargo Owner

Advantages	Disadvantages
+ Generally horizontal transport process (delivery, lifting, transport)	 Maximum width approximately 10.5 m (length slot minus CG and CGC and end walls)
+ Stowage is almost exclusively	
below deck (protective aspect)	 Very considerable lifting heights due to gantry
+ Almost no height limit	
	 Height limit inside the gantry
+ Length limited by vessel breadth	
(up to 50 m below deck)	 Weight distribution/footprint must be taken into account, more so than on
+ Weekly departures	other vessels

Planning Requirements: Relevant Regulations

- CSS-Code (Code of Safe Practice for Cargo Stowage and Securing)
- Transport-related accelerations
- Cargo securing calculation, according to Annex 13 (advanced calculation)





Planning Requirements: Relevant Regulations

2. CTU-Code (Code of Practice for Packing of Cargo Transport Units)

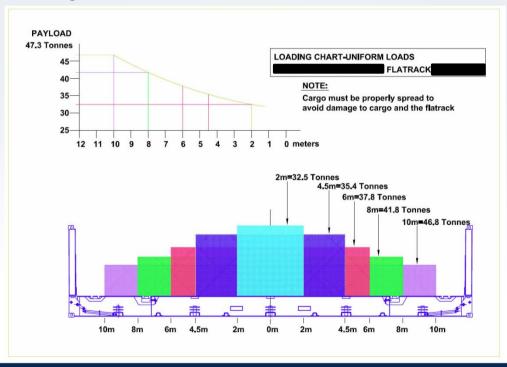
→ Stowage distribution on Flat Racks





Planning Requirements: Relevant Regulations

3. Individual design limits of Flat Racks



Project Cargo on Container Vessels

Planning Requirements: Pre-load Inspection

Why is a pre-load inspection so critical?

- ! Basis for plan
- ! Risk assessment / minimisation
- Documentation of footprint / load points, dimensions, cargo securing points (possible deviations from the documents)
- ! Discovery of prior damage
- ! Cargo anomalies

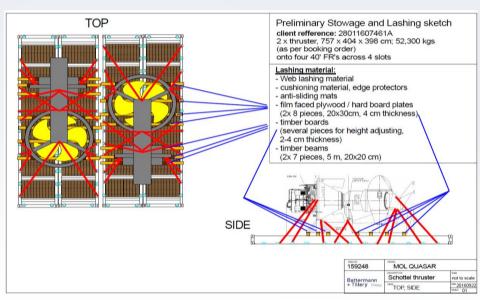






Planning & Preparation

- Pre-calculation of cargo securing with estimated vessel data/ lashing angles/friction
- Preparation of a stowage / lashing sketch

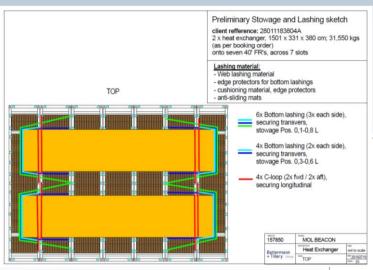


Completion of Planning:

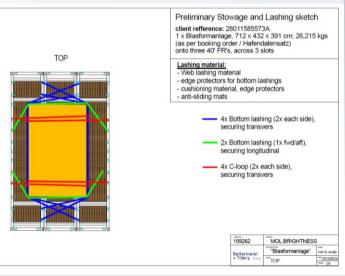
Inform all parties of maximum values for loading, cargo securing and stowage particulars, sketches and work safety

Project Cargo on Container Vessels

Planning & Preparation



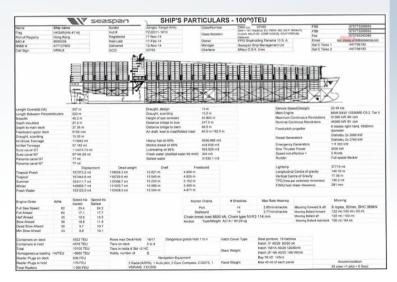
As simple as possible, as detailed as necessary!



Planning & Preparation

Immediately prior to loading:

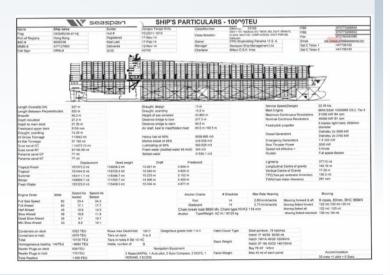
- Request vessel data (ship's particulars, expected GM_{max} & $Speed_{max}$)
- Information for vessel's command
- Submit LOI
 (Letter of Indemnity)



Planning & Preparation

Immediately prior to loading:

- Inspection of hold (accessibility at sea and in the port!)
- Clarification of the final stowage position
- Inspect condition of flat racks
- Weight distribution, preparation of cargo securing



Evaluation of lifting operations:

Documentation of the gear and attachment of cargo







Recording of lifting times:

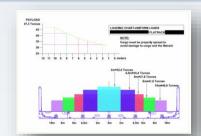
load on/lifted, over edge/guard rails (often transfer of risk), final set down

Project Cargo on Container Vessels

Stowage

Consider the following:

- Load limits (flatrack load)
- Point loads
- Timber strength (maximum bend, maximum pressure)









Cargo Securing

- Inspection of the "weakest link" (lashing points, lashing materials, locking mechanism/ type of lashing, flat rack lashing point)
- Evaluation of anti-slip mats / determination of the friction coefficient for later calculation









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

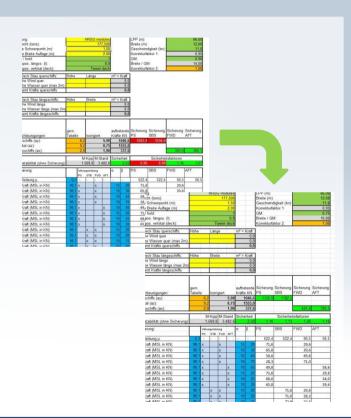




Final Calculation & Reporting

Final calculation considering:

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



Final Calculation & Reporting

Documentation of operations or, if applicable, incidents

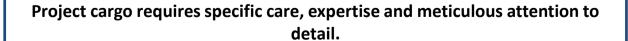


Summary

"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/



Thank you very much for your kind

attention!