Bulk cargo hold preparation and cleaning

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Today’s discussion

• Part I:
  • what are bulk cargoes?
  • what is a bulk carrier?
  • examples of what can go wrong from a surveyor’s point of view

• Part II:
  • preparation of holds
  • cleaning of holds

• Part III:
  • what can underwriters do to mitigate losses?
Part I

Definition bulk cargo: a bulk cargo is in general a cargo which is uniform in composition
The variety in cargoes is considerable, such as:

- minerals/ concentrates
- cokes/coals
- soda ash
- fertilizers
- sulphur/salt
- forest products
- grain products
Definition bulk carrier: vessels designed for the transport of solid bulk cargoes, which can vary from small ships of a few hundred tons dead weight to the largest of over 400,000 tons of dead weight.

- Hold structure: the conventional bulk carrier has a box construction with large frames.
- Box shape with hopper tanks.
Examples of what can go wrong

Water ingress

Example I:
Vessel loaded with steel plates
Serious sea water ingress was noted, pitting visible.
Free water found in the hold
Rubber packing of hatch covers was found to be in worn and bad condition.
......or packing was completely gone
Example II: vessel carrying fertilizer, water ingress through leaking ballast tank
Example III: Contamination of cargo

A consignment of 1,000 mtons of Ferromanganese was carried from South-Africa to Mexico, value USD 1,200,000.00.

Also Ferrochrome was loaded in the same hold and discharged in the United States.

Separation was made by means of steel plates.
Situation upon arrival in Mexico
Situation upon removing separation material
• Ferromanganese is a ferro-alloy with high contents of manganese and is used as a de-oxidizer for steel.

• **Problem**
  Big lumps could be separated but dust and small parts could not. Separation during discharge took place on the basis of visual aspects. 388 mt separated as damaged, which was proven after laboratory investigations.
Part II:
Preparation of holds

Hold inspection

hold structure
coating of holds
condition of hatch covers
bilge systems
rust flakes
free from previous cargoes
lime washing
Examples

Damage to hold structure
Coating of the holds
Contamination
Cleaning of holds

- sweeping
- checking bilges
- washing
  - seawater
  - fresh water
- drying
- hatch covers/under coamings
- flush sounding pipes and thermometer pipes
- hold lightning
- free of insects
- free of odeur
Part III:

What can underwriters do to mitigate damage to cargo and avoid casualties.

Problem

• Complexity
• Knowledge
• Communication

All depends of the kind of cargo to be carried
Instructions/requirements

• Instructions of Shippers with regard to their cargo and requirement
• Charter party requirements
• Crew check information available
IMSBC Code:

Carriage of bulk cargo, IMO issue:

• International Maritime Solid Bulk Cargoes Code (IMSBC code)
• Aim – to facilitate the safe stowage and shipments of solid bulk cargoes by providing information on the dangers associated with the shipment of certain types of cargo and instructions on the appropriate procedures to be adopted.
• The international Code of Safe Practice for Solid Bulk Cargoes includes recommendations to governments, ship operators/owners and ship masters.
Actions

Testing water tightness of hatch covers/openings
ultrasonic tests:
• testing bilges
• testing ballast tanks watertightness
• checking on damages to vessel structure directly after discharge of cargo
• safety management system/ operational guidance
• IMSBC Code
• pre-loading inspection of vessels

• make use of ship’s info, viz. the internet with regard to rating systems
Questions?
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