Introduction of Hatch Cover Inspection and Maintenance Course

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Course developer

• In accordance with Shipgaz Training quality manual
• In cooperation with

Who am I?
• Past 5 years condition surveys, including hatch cover inspections and tests
• Ultrasonic hatch cover weather tightness training
• Responsible of safety and operations in shipping companies
• Sea going experience from OS to Captain
• Five years as maritime inspector at the Finnish maritime authorities (flag state & PSC)
Sources used for the course

- Experience gained during inspections
- Case studies from claims
- Loss prevention circulars from different insurance companies
- Information and drawings from manufacturers such as MacGregor etc.
- Literature (ex. Hatch cover Inspections by The Nautical Institute)
Why the course?

• Hatch covers looks like simple big heavy steel plates/pieces placed on cargo hold.
• However, they are relatively large and complex pieces of engineering
• Small errors or defects can have very damaging effects, far beyond what our everyday experience would lead us to understand.
Why the course?

- Ship’s cargo hatches leak mainly due to poor maintenance or failure to close them properly.
- Shows sometimes lack of knowledge

With this course you can train and test the knowledge of each individual.
Who will benefit from this course?

• Seafarers associated with hatch covers
  • Officers
  • Deck ratings

• Shore personnel associated with:
  • Maintenance of ships
  • Cargo operations and/or claims
What is required before taking this course?

- Basic knowledge of ships
- Have an idea what hatch covers are and the purpose
What are the learning opportunities?

The course gives an introduction on:

- Function of hatch covers
- How the key parts are related to each other
- General introduction related to onboard maintenance and inspection
Learning objectives and outcomes

• You will be able to understand the designed safety barriers which are in place for preventing the water ingress to cargo holds.
Learning objectives and outcomes

• Understand the design and different parts of hatch covers and their functions
Learning objectives and outcomes

• Knowledge of the different hatch cover weather tightness testing methods and procedures

• Understanding how and what is measured and when while carrying out ultrasonic weather tightness test
Learning objectives and outcomes

- You will be able to recognize the important items to be checked when conducting your own on board inspections of hatch covers.
Learning objectives and outcomes

• You will understand the responsibilities of the master and the company, in connection to hatch covers and maintenance
Learning objectives and outcomes

• Introduction to the rules connected to hatch covers and their maintenance procedures
  • Weather tightness (prevent water ingress)
  • Fire safety
  • Construction
  • Maintenance
How is this course designed and built?

1. Totally 6 chapters
2. Each chapter starts with an introduction of the content and learning objective
3. Ends with few questions in order to verify the outcome of the knowledge learned
Chapter 1: Introduction to hatch covers

- Background to general causes to wetting damages to cargo due to leaking hatch covers
- Case study
  - Typical wetting damage
  - Investigation
  - Conclusion of the direct cause
- The safety barriers
Chapter 2: Hatch Covers and their function

• We look into the different key parts connected to hatch covers
• What is the purpose?
• As example:
  • Is the purpose of cleats to tight the hatch covers to increase compression; or
  • to prevent the hatch covers lift from their position?
• Look into different types of hatch covers
Chapter 3: Testing the weather tightness of hatch covers

• Understand the different testing methods and how they are performed

• As example:
  • With ultrasonic testing compression of sealing
  • With water hose testing leakage
Chapter 4: Inspection and maintenance

• Items and details to be checked.
• You will be able to report the relevant points related to weather tightness of the hatch covers.
Chapter 5: Responsibilities of master, company, laws and regulations

• When leakages occur, it is easy to blame the weather conditions.

• However, one will often find that there is evidence of both:
  • bad weather; and
  • poor condition of hatch cover tightness systems.

• SOLAS, Load Line, MLC, Legislation of Safe Working Practice etc.
Chapter 6: Underlaying cause to water ingress

• We go back to the case study described in chapter 1.
• In chapter 1 we concluded the direct causes of water ingress.
• In this chapter we will look into the underlying cause to the water ingress
Learn more about hatch covers here:

https://shipgaz.com/

https://www.alandia.com/marine-insurances/loss-prevention

Thank you!