

IMCS TRAINING ACADEMY

STANDARD P&I Club – Live Q&A: Hatch Cover Maintenance

14 July 2021



14/07/2021

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Agenda

- Rules & Regs (ICLL – Weather & watertightness)
- Claims generated by hatch covers
- Common misconceptions about hatch covers
- Tightness & relative movements
- Ultrasonic tightness testing & Statistics
- Visual inspections, key parts & Statistics
- Q&A

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Welcome



- Walter Vervloesem (FNI)
- Ex Chief Officer (reefer, gen. cargo, container & LPG) , working as marine surveyor since 1989
- Chairman of IMCS Group – survey & consultancy
- Director IMCS Training Academy
- Vice President Nautical Institute – Chairman NI-Belgian Branch
- Author of several major reference works for the NI on Ship Inspections, Hatch cover inspection, Mooring & anchoring ships, Co-Author of several publications for NI, loss prevention bulletins for P&I clubs,...
- Instructor for the SDT-IMCS hatch cover training course since 2001





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International Convention on Loadlines:

- International Convention on Loadlines:
 - ICLL = safety of ship & crew (& cargo)
 - Loadline: Loading limit
 - **Freeboard: Reserve buoyancy = safety**
 - Hatch covers: Big openings
 - ICLL: “weathertight” in any sea condition.



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International Convention on Loadlines:

- International Convention on Loadlines:
 - Weathertight: Water from “weatherside” (outside) should not penetrate into the ship
 - If water enters into the ship → weight is added → loadline exceeded → ship is overloaded → reduction of freeboard → enhanced exposure to elements & excessive stresses on the ship's structure → ship can sink



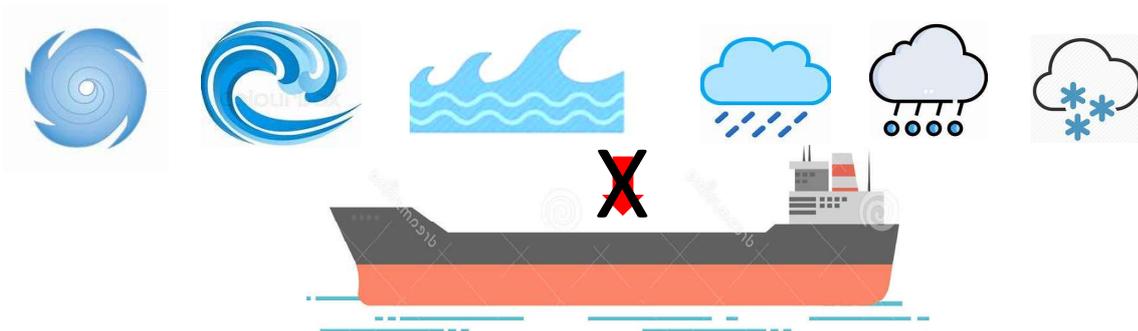
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International Convention on Loadlines:



"Weather tight means that in **ANY** sea condition water will not penetrate into the ship" (Reg. 3-12). (from the weatherside)

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Rules & Regs

- Wetting damage to cargo → Leaky hatch covers & commercial claims
- But also...
 - Infringements against various statutory instruments
 - ICLL – SOLAS (structure, fire fighting, exemptions, IMDG, Fumigation, ...) MARPOL – ISM – ILO/MLC
 - Infringements against Class rules
 - Non-compliance with industry requirements (due diligence)

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Hatch covers & claims

- Claims generated by hatch covers?
 - Wetting damage (cargo)
 - Accidents/personal injury
 - Pollution
 - Operation related (damage to stevedore's equipment, delays during opening/closing,...)



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Misconceptions

- Reason for high number of (wetting damage) claims as result from hatch covers:
 - Hatch covers heavy/strong pieces of equipment → not much attention needed, superficial inspection will suffice
 - Just in DD & ICLL renewed, no claims during last voyages so no problem
 - Leakage = always rubber problems & rubber repairs first
 - Only considering US test results to confirm weathertightness
 - Surveyors = Enemy
 - Lack of hatch cover knowledge (wrong info & no claims → all is ok)

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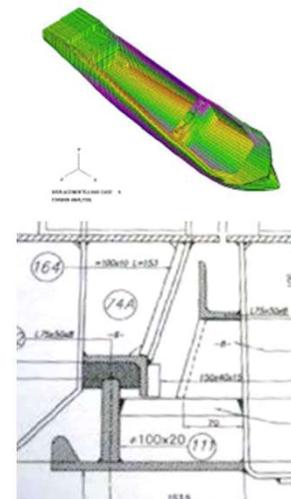
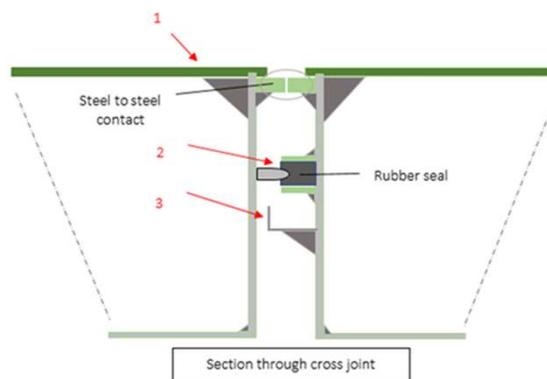
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Hatch cover tightness – Relative movements

- 3 safety barriers
 - Panel plating
 - Sealing system
 - Drain



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Ultrasonic tightness testing

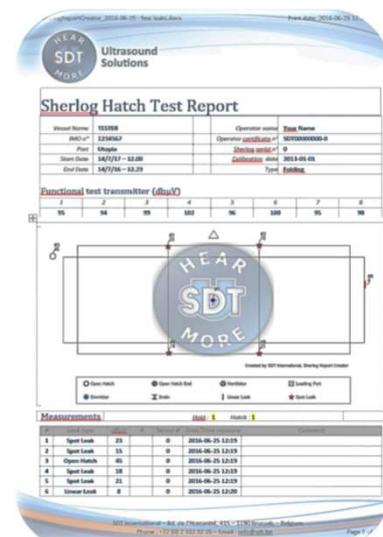
- **Passing ultrasonic inspection does not necessarily mean that the hatch covers are fit for duty. WHY???**

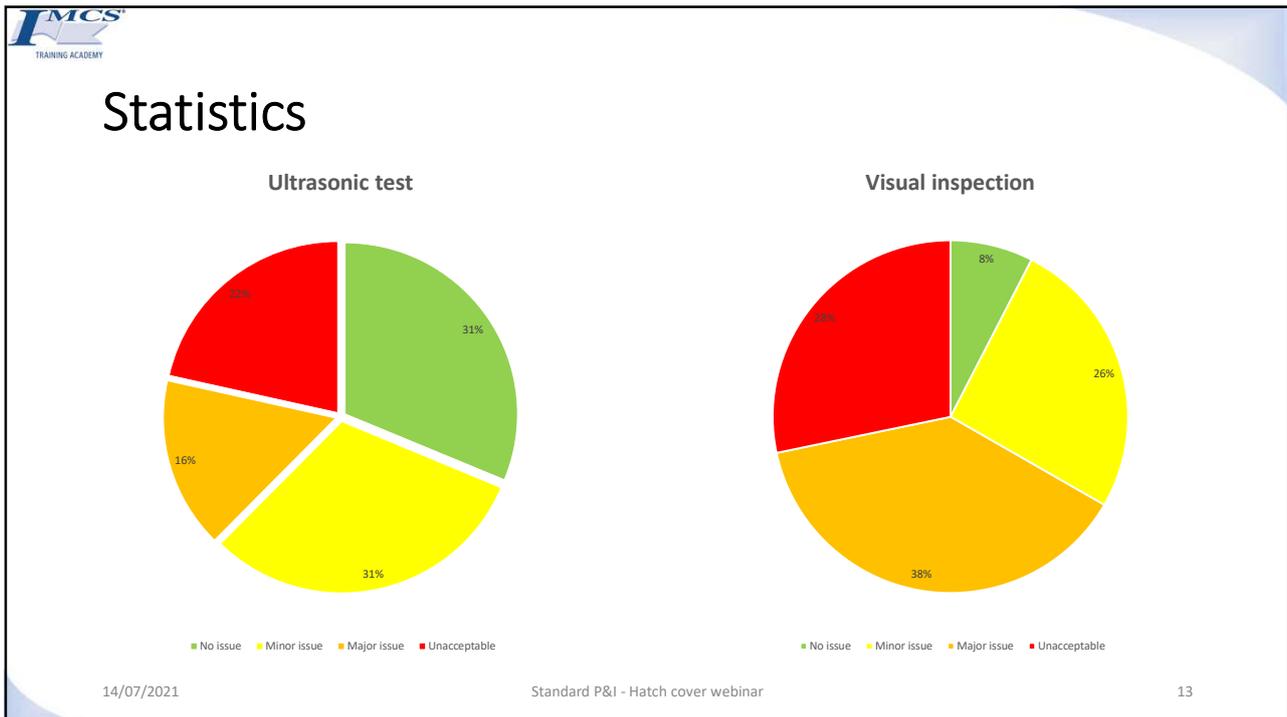
- Strength/structural issues
- Securing issues
- Positioning/alignment of panels
- Incorrect operation...

...which can only be checked during a visual inspection

Tightness testing & visual inspection

- Common mistakes with US tests:
 - Lots of leaks \neq weathertight
 - Nothing heard \rightarrow hatch covers OK????
 - Few leaks \rightarrow big problem????
 - Evaluation is important
 - Understanding of hatch covers & testing = training





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Tightness testing & visual inspection

- Remember: ICLL:
 - Strength – tightness - securing
- US test:
 - Testing seal and compression
- Visual inspection:
 - Checking all parts that contribute in achieving tightness
 - Ensuring that weathertight integrity can be maintained during voyage
- Only US test results + visual inspection → weathertightness

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HATCH COVER KEY PARTS

9 Key component parts:

1. Panels
2. Bearing pads
3. Locators
4. Stoppers
5. Packing rubber
6. Compression bars
7. Securing mechanism
8. Drains
9. Opening/closing mechanism

“When not included in your checklist, inspection tends to be incomplete”

“All parts work together in order to achieve AND MAINTAIN tightness”

“When not properly maintained, hatch covers are vehicles for disaster”



Statistics

- 8 defects / ship
- Main key parts heavily affected
- 20% no manual:
 - Inspection?
 - Maintenance?
 - Spares?

Most commonly seen defects

