Maritime Survey International (MSI)

What are we looking for during an inspection.

Introduction - About us

Maritime Survey International (MSI) offers a comprehensive range of independent marine consultancy and Naval Architecture services.

We are trusted partners, supporting vessel owners, shipbuilders with world-renowned Maritime Consultancy and engineering capabilities.

Our Surveyors are trusted and respected worldwide for their deep technical expertise and professionalism.

Maritime Survey International services:

- Survey inspections and reports
- Naval Architecture
- Maritime Consulting
- Client Representation
- Project Management
- Tender specification and evaluation
- Safety Management System consultancy

All Maritime Survey International (MSI) Marine Surveyors, Consultants and Naval Architects are AMSA Accredited and certified with the International Institute of Marine Surveyors (IIMS). MSI operates and follows a Quality Management System (QMS) that is certified by DNV to ISO 9001.

At Maritime Survey International (MSI), we prioritize strong relationships and personal connections, ensuring our innovations meet client needs.

Major clients

- King Abdullah University of Science and Technology
- Australian Department of Defence
- Serco Defence
- Peter Dohle Schiffahrts KG
- Sunseeker Yachts

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What are we looking at ?

1. Design standards (Such as subdivisions)
2. Stability (Stability book)
3. Safety Management Systems (mini ISM Code)
4. Planned maintenance system
5. Crew competency
6. Engineering (Such as Bilge alarms and bilge pumping systems)
7. Electrical Systems (Such as battery installations)
8. Fire Safety (Such as Fixed fire and fixed fire detection systems)
9. Navigation, Communication and Safety Equipment
10. Anchoring arrangements
11. Crew accommodation.

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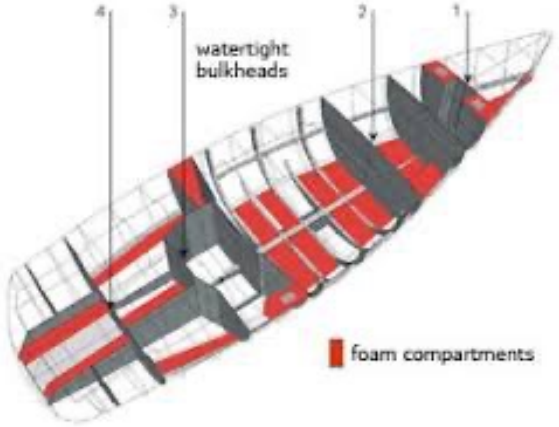
What are we looking at ?
Collision Bulkheads and Sub divisions

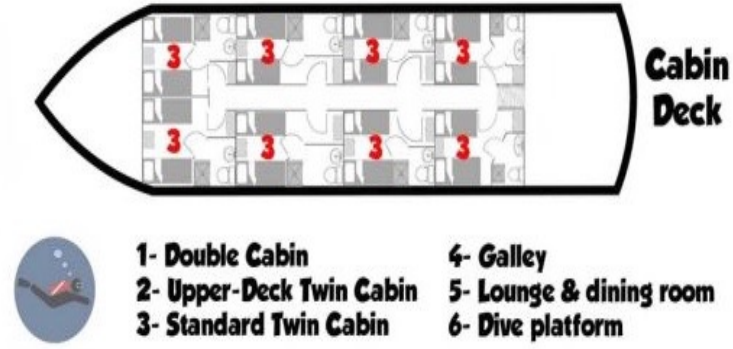
1. A vessel of 20 m or more in length overall built after 1 July 2002 is required to have a collision bulkhead fitted in accordance with SVC Code regulations III/17.1 and III/17.2.
2. A passenger vessel of 20 m or more in length overall built after 1 July 2002 shall be fitted with watertight bulkheads fitted in accordance with SVC Code regulation III/21.

Image with subdivisions bulkheads installed.



Example of a good design showing subdivision to cope with a flooding event.

Image without subdivisions bulkheads installed.



Example of a poor design with a large area of the vessel that can be compromised and no collision bulkhead.

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What are we looking at ? Fire Safety

Fire safety requirements

1. Fire pump to be on board and operational with two independent sources of power.
2. Fixed firefighting system to be installed in the main engine room.
3. Fire extinguishers quantity as per checklist
4. Fixed fire detection and alarm system to be installed in the engine room and each overnight accommodation space on a vessel with overnight accommodation for passengers.
5. Structural fire protection / insulation must be installed in the engine room

MSI will issue an vessel specific list prior to inspection.

Example Fixed Fire Fighting extinguishing Systems and detection system.

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What are we looking at ? Bilge pumping systems

Bilge Systems

1. Bilge alarms. A visual and audible alarm shall be provided at the operating station to indicate a high-water level alarm in each space. **Standard:** *SCV Code Part C 15, 16.1.*
2. **Bilge pumps** to be operational and to have a secondary means of pumping. Quantity of Bilge pumps as per **Standard:** *SCV Code Part C 15 Table IV/15.1*
   a. > 20 m 2 x fixed power pumps 190 liters per minute (Lpm)

< 20 m 1 x fixed power pump 95 Lpm and 1 portable power pump 38 Lpm

3. All seawater pipework shall be of steel, bronze, copper or other equivalent material.
4. Bilge pumps to be secured.

MSI will issue an vessel specific list prior to inspection.

Bilge Alarm Sensor and alarm panel

What are we looking at ? Navigation Systems

Navigation: The collision regulations are a mandatory requirement, these International rules were set to avoid collision in the seas, such rules were approved in the International Convention for Safety of Life At Sea (SOLAS) in 1972 and were approved in Egypt in 1986.

The Navigation lights must meet the requirements of the Collision Regulations.

Collision regulations guidance

1. **Approved Navigation Lights to be installed**

Required Navigation Lights

a. **Masthead Light(s):** A **white forward-facing light**.
b. **Sidelights:** Port light (red) and Starboard light (green).
c. **Stern Light:** A **white light** placed at the stern
d. **All-Round Anchor Light** (if at anchor) **White light** visible at 360°.
e. **Not Under Command (NUC) Lights: Two all-round red lights** in a vertical line.

2. Shapes for Daytime Signals

•**Vessel at Anchor**: Display **one black ball**.
•**Vessel Not Under Command (NUC)**: Display **two black balls** vertically.
•**Restricted Maneuverability**: Display **ball-diamond-ball** vertically.

3. Sound Signalling Equipment

•**Whistle**: Audible for at least **1 nautical mile**.
•**Bell** (if vessel >20m): For anchoring and fog signals.

4. Power and Control Systems

•**Separate Fusing**: Ensure all navigation lights are on separate circuits to prevent a single-point failure.
•**Emergency Backup**: Independent power supply for navigation lights.

5. Correct Placement of Equipment

•**Vertical and Horizontal Spacing**: Lights must be installed as per COLREGs:
  - Masthead light higher than sidelights and stern light.
  - Proper horizontal distances between lights to avoid interference.

6. Visibility and Maintenance

•**Light Visibility**: Check lights for obstructions or misalignment.

The **COLREGs (International Regulations for Preventing Collisions at Sea)** primarily address the prevention of collisions by establishing rules for lights, shapes, sound signals, and vessel behaviour.

MSI will issue an vessel specific list prior to inspection.

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What are we looking at ? Communication Systems

Communications as per SOLAS Chapter IV – Radiocommunications. See checklist. MSI will issue an vessel specific list prior to inspection.

This includes the following:
For a passenger vessel between 24m and 50m, the main focus under **SOLAS Chapter IV** will be:
•Installing a **VHF radiotelephone with DSC** for Sea Area A1 operations.
•Adding **MF radiocommunications** if operating in Sea Area A2.
•Ensuring distress systems like **EPIRBs**, **SARTs**, and **handheld VHF radios** are onboard and functional.
•Maintaining regular testing, maintenance, and battery backups.
Operators should also ensure all crew members are trained in the proper use of radiocommunication systems during emergency and routine operations.

MSI will issue an vessel specific list prior to inspection.

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What are we looking at ? Safety Equipment

Safety Equipment for the vessel is to be in accordance with the MSI Checklist. MSI will issue an vessel specific list prior to inspection. This includes but not limited too:

Life Jackets must meet 150 Newtons
Must meet one of the following standards
•ISO 12402-3:2020:
•EN ISO 12402-3:2020

Must have enough life jackets on board.
To meet the **ISO 12402-3:2020** standard for life jackets, which specifies requirements for 150N buoyancy aids, here are some equivalent standards that align globally:
1.EN ISO 12402-3 (European equivalent)
2.SOLAS Approved Life Jackets (for commercial maritime use and compliance under IMO regulations)
3.USCG Type I PFDs (U.S. Coast Guard certified with similar buoyancy requirements)

Life Rafts

1. Total life raft capacity must at least be equal to the vessel's maximum complement.
2. Life rafts to be approved in accordance with SOLAS B PACK as per LSA Code Chapter IV 4.1.5.3 .
3. Hydrostatic release must be installed.

MSI will issue an vessel specific list prior to inspection.

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Common issues identified

All batteries to be secured.
Batteries to be installed in spill proof containers.
Batteries to be ventilated.
Battery terminals to be fitted with rubber boots.

Navigation lights are to be in accordance with Collision Regulations. Egypt is a signatory to this convention. A copy of this will be on the MSI site.

Galley ventilation is to be in place and working. Galley should be equipped with a fixed fire fighting system when a deep fryer is in place.

Exhaust leaks in the engine room.

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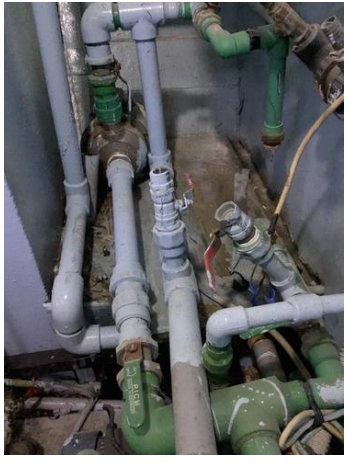
Common issues identified

Rubber exhaust perished

PVC piping. Throughout the engine room, not compliant. PVC piping for a sea water system is not recommended as it is not fire rated and furthermore is susceptible to being cracked, hardened and broken. Metallic piping should be used.

Flexible fuel lines hardened and perished



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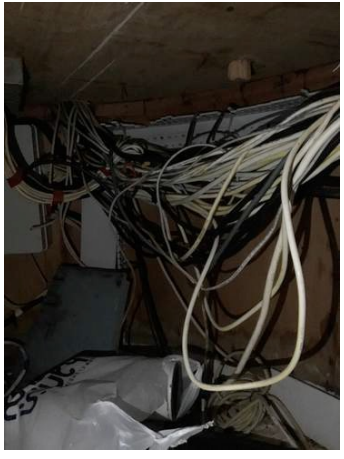
Common issues identified



Electrical wiring can be a fire hazard. To be secured and tidy

Water tight hatches to have locking devices and seals in place.

Anchor Winch is to be working

Pumps to be secured and operational.

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Common issues identified
Fire safety

This is not a fixed fire fighting system.
Only one vessel inspected recently had a fixed fire fighting system and fixed detection system in the engine room.

Fire extinguishers to be serviced, sufficient appropriate and secured.

Fire hose needs to be inspected.
Fire hose should be with a nozzle and fire hose should be operational.

Oil leaks

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Common issues identified
Safety and Communications

Incorrect life jackets
Not enough life jackets
Minimum 150N SOLAS
Life Jackets

Expired flare
Insufficient amount of flares

Expired liferafts.
No hydrostatic release fitted.
Incorrect liferaft.
Insufficient capacity.

VHF Radio not operational.
Crew not proficient in use.

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Booking form

Should you require any further information please contact
mail@maritimesurveyinternational.com

To make a booking please complete the booking form:
Company name
Vessel name
Identification number
Length
Number of crew
Number of passengers
Vessel Location
Owner name, phone number and email address:
Point of contact name and phone number for the vessel if different to above:
Proposed date for the inspection:

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Affiliations

MSI operates in a highly regulated industry and is required to hold a range of licenses and approvals to offer its services.

Members of key industry associations:

- Australian Commercial Vessel Operators Association (ACVOA).
- American Boat and Yacht Council.
- Australian International Marine Exporters Group (AIMEX), Superyacht Australia & ACMG.

Individual memberships with esteemed organizations:

- AMSA Accredited Marine Surveyors.
- International Institute of Marine Surveyors (IIMS).
- Australasian Institute of Marine Surveyors (AIMS).
- Royal Institution of Naval Architects (RINA).
- Institute of Marine Engineering, Science & Technology (IMarEST).
- Engineers Australia.
- eCMID, Accredited Vessel Inspectors.