



## INTERNATIONAL SHIP CLASSIFICATION

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### CIRCULAR



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From : General Manager  
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### MAINTENANCE OF FIRE-PROTECTION & FIRE-FIGHTING SYSTEMS AND APPLIANCES

1. Regulation II-2/14.2.2 of the 2000 SOLAS Amendments has included a section on the maintenance, testing and inspections requirements of the fire-protection and fire-fighting systems and appliances.
2. This circular aims to consolidate the pertinent features of the requirements. All ISClass surveyors are to be familiar with the requirements and exercise due diligence during surveys and audits.

### MAINTENANCE PLAN

3. The maintenance plan should include, but not limited to, the following fire-protection and fire-fighting systems and appliances, if available:
  - a. Fire mains, fire pumps and hydrants including hoses, nozzles and international shore connections
  - b. Fixed fire detection and fire alarm systems
  - c. Fixed fire-extinguishing systems and other fire extinguishing appliances
  - d. Automatic sprinkler, fire detection and fire alarm systems
  - e. Ventilation systems including fire and smoke dampers, fans and their controls
  - f. Emergency shut down of fuel supply
  - g. Fire doors including their controls
  - h. General emergency alarm systems
  - i. Emergency escape breathing devices

- j. Portable fire extinguishers including spare charges
  - k. Fireman's outfit
4. Passenger ships are also required to develop a maintenance plan for low-location lighting and public address systems, in addition to listed items in para 3.
5. In addition to the items listed in para 3, tankers are also required to develop maintenance plan for:
- a. Inert gas systems
  - b. Deck foam systems
  - c. Fire safety arrangements in cargo pump rooms
  - d. Flammable gas detectors

#### **PORTABLE FIRE EXTINGUISHERS**

6. Portable fire extinguishers are to be examined by a competent person annually.
7. Each portable fire extinguisher is to be provided with a label indicating that it has been examined and the date of the examination, or the date of next examination.
8. Containers of permanently pressurized portable fire extinguishers and propellant bottles / containers of non-pressurized portable fire extinguishers shall be hydraulically pressure tested as follows:
- a. Powder extinguishers every 10 years
  - b. CO<sub>2</sub> extinguishers every 10 years
  - c. Other extinguishers every 10 years

#### **FIXED HIGH PRESSURE CO<sub>2</sub> FIRE EXTINGUISHING INSTALLATION**

9. CO<sub>2</sub> bottles of fixed CO<sub>2</sub> fire extinguishing installation shall be hydraulically tested 20 years after the date on which the bottles were put into use, and every 5 years thereafter.
10. The quantity of the medium in the CO<sub>2</sub> bottles should be checked once every 4 years. This may be carried out in batches of 25% of the CO<sub>2</sub> bottles annually, or 50% of the CO<sub>2</sub> bottles biennially or in accordance with the ship's maintenance so long as every CO<sub>2</sub> bottle is checked once every 4 years.
11. All stop valves should be checked monthly to ensure that they are in their proper open or closed position.
12. The installation should be checked monthly for leakage.

13. All CO<sub>2</sub> bottle connections for cable operating clips should be checked for tightness every 3 months.
14. All control valves should be inspected annually, and internally inspected every 5 years.
15. Air should be blown through the piping of the installation annually.

#### **LOW PRESSURE FIXED CO<sub>2</sub> AND HALON FIRE EXTINGUISHING INSTALLATION**

16. The tanks, together with fittings, shall be inspected externally every 5 years.
17. At the external inspection, insulation material of the tank at points showing signs of possible corrosion / deterioration of the tank beneath shall be removed to facilitate the external inspection.
18. Pipes and valves at transitional points between insulated and non-insulated areas (cold-conductors) as well as tank supports, flange sockets and valves shall be included in the 5-yearly external inspection.
19. At least once a year, a thorough external inspection of the tank supports, flange sockets and valves shall be carried out.
20. No internal inspection is necessary unless the external inspection reveals corrosion or other defects which warrant an internal inspection.
21. An internal inspection is necessary after every discharge of the contents.
22. Hydrostatic testing of the pipes and tanks may be required at the discretion of the attending surveyor, in cases where the corrosion / deterioration of the external or internal of the pipes and tanks proves prudent to do so.
23. In any case, hydrostatic testing of the pipes and tanks shall be carried out after repairs to the tanks or pipes in cases of cracks or holes.

#### **DRY FIXED POWDER FIRE EXTINGUISHING INSTALLATIONS**

24. The system shall be inspected annually, and the dry powder charge should be agitated with nitrogen, using “bubbling” connections where provided.
25. In addition to the regular shipboard inspections, the system shall be inspected by an acceptable service agent at least once every 2 years:
  - a. Blow-through with air to ensure associated pipes and nozzles are clear.
  - b. Operational test of local and remote controls and section valves.

- c. Contents verification of propellant gas cylinders containing nitrogen (including remote operating stations)
- d. Testing of the dry powder charge for moisture absorption.
- e. Replenishment and test regime for high pressure nitrogen cylinders.

**FIXED PRESSURE WATER SPRAY FIRE EXTINGUISHING  
INSTALLATIONS**

26. There is no specific inspection or test regime for these systems outside of normal shipboard testing. Servicing and maintenance shall comply with manufacturers' instructions.

**CONCLUSION**

27. This circular takes immediate effect.

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