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To : Owners/Operators, Masters, Flag State Surveyors, Recognized Organizations.

Subject : Fire Fighting Appliances- Guidelines for Inspection and Maintenance

1. Purpose

This circular serve to provide the minimum recommended level of maintenance and inspections for the protection system and appliances. It should however be noted that the general requirements contained herewith are not an exhaustive list of maintenance or inspection of items for fire protection systems, fire-fighting appliances and emergency equipment.

2. Application

1. This Circular applies to all ships (SOLAS regulation II-2/14- preparation of onboard maintenance plan).
2. These guidelines apply to all ships including units under MODU code.

3. Weekly Testing and Inspections

3.1 Fixed fire detection and alarm systems:

- a. Verify all fire detection and fire alarm control panel indicators are functional by operating the lamp/indicator test switch.

3.2 Fixed gas fire-extinguishing systems:

- a. Verify all fixed fire-extinguishing system control panel indicators are functional by operating the lamp/indicator test switch;
- b. Verify all control/section valves are in the correct position.

3.3 Fire doors:

- a. Verify all fire door control panel indicators, if provided, are functional by operating the lamp/indicator switch.

3.4 Public address and general alarm systems:

- a. Verify all public address systems and general alarm systems are functioning properly.



3.5 Breathing apparatus:

- a. Examine all breathing apparatus and EEBD cylinder gauges to confirm they are in the correct pressure range.

3.6 Low location lighting:

- a. Verify low location lighting systems are functional by switching off normal lighting in selected locations.

3.7 Water mist, water spray and sprinkler systems:

- b. Verify all control panel indicators and alarms are functional;
- c. visually inspects pump unit and its fittings; and
- d. check the pump unit valve positions, if valves are not locked, as applicable.

4. Monthly testing and inspections

Monthly inspections should be carried out to ensure that the indicated actions are taken for the specified equipment:

4.1 Fire mains, fire pumps, hydrants, hoses and nozzles:

- a. Verify all fire hydrants, hose and nozzles are in place, properly arranged, and are in serviceable condition;
- b. Operate all fire pumps to confirm that they continue to supply adequate pressure; and
- c. Emergency fire pump fuel supply adequate, and heating system in satisfactory condition, if applicable.

4.2 Fixed gas fire-extinguishing systems:

- a. Verify containers/cylinders fitted with pressure gauges are in the proper range and the installation free from leakage.

4.3 Foam fire-extinguishing systems:

- a. Verify all control and section valves are in the proper open or closed position, and all pressure gauges are in the proper range.

4.4 Water mist, water spray and sprinkler systems:

- a. Verify all control, pump unit and section valves are in the proper open or closed position;
- b. verify sprinkler pressure tanks or other means have correct levels of water;
- c. test automatic starting arrangements on all system pumps so designed;
- d. verify all standby pressure and air/gas pressure gauges are within the proper pressure ranges; and
- e. test a selected sample of system section valves for flow and proper initiation of alarms.

(Note – The valves selected for testing should be chosen to ensure that all valves are tested within a one year period.)

4.5 Firefighter's outfits:

- a. Verify lockers providing storage for firefighting equipment contain their full inventory and equipment is in serviceable condition.

4.6 Fixed dry chemical powder systems:

- a. Verify all control and section valves are in the proper open or closed position, and all pressure gauges



are in the proper range.

4.7 Fixed aerosol extinguishing systems:

- a. Verify all electrical connections and/or manual operating stations are properly arranged, and are in proper condition; and
- b. Verify the actuation system/control panel circuits are within manufacturer's specifications.

4.8 Portable foam applicators

- a. Verify all portable foam applicators are in place, properly arranged, and are in proper condition

4.9 Wheeled (mobile) fire extinguishers:

- a. Verify all extinguishers are in place, properly arranged, and are in proper condition.

4.10 Fixed fire detection and alarm systems:

- a. Test a sample of detectors and manual call points so that all devices have been tested within five years. For very large systems the sample size should be determined by the Administration.

5. Quarterly testing and inspections

Quarterly inspections should be carried out to ensure that the actions are taken for the specified equipment:

5.1 Fire mains, fire pumps, hydrants, hoses and nozzles:

- a. Verify international shore connection(s) is in serviceable condition.

5.2 Foam fire-extinguishing systems:

- a. Verify the proper quantity of foam concentrate is provided in the foam system storage tank.

5.3 Ventilation systems and fire dampers:

- a. Test all fire dampers for local operation.

5.4 Fire doors:

- a) Test all fire doors located in main vertical zone bulkheads for local operation.

5.5 Water mist , water spray and sprinkler systems:

- a) Asses system water quality in the header tank and pump unit against the manufacturer's water quality guidelines.

6.0 Annual testing and inspections.

Annual inspections should be carried out to ensure that the indicated actions are taken for the specified equipment:

6.1 Fire mains, fire pumps, hydrants, hoses and nozzles:

- i. visually inspect all accessible components for proper condition;
- ii. flow test all fire pumps for proper pressure and capacity. Test emergency fire pump with isolation valves closed;
- iii. test all hydrant valves for proper operation;



- iv. pressure test a sample of fire hoses at the maximum fire main pressure, so that all fire hoses are tested within five years;
- v. verify all fire pump relief valves, if provided, are properly set;
- vi. examine all filters/strainers to verify they are free of debris and contamination; and
- vii. nozzle size/type correct, maintained and working.

6.2 Fixed fire detection and fire alarm systems:

- i. test all fire detection systems and fire detection systems used to automatically release fire-extinguishing systems for proper operation, as appropriate;
- ii. visually inspect all accessible detectors for evidence of tampering obstruction, etc., so that all detectors are inspected within one year; and
- iii. test emergency power supply switchover.

6.3 Fixed gas fire-extinguishing systems:

- i. visually inspect all accessible components for proper condition;
- ii. externally examine all high pressure cylinders for evidence of damage or corrosion;
- iii. check the hydrostatic test date of all storage containers;
- iv. functionally test all fixed system audible and visual alarms;
- v. verify all control/section valves are in the correct position;
- vi. check the connections of all pilot release piping and tubing for tightness;
- vii. examine all flexible hoses in accordance with manufacturer's recommendations;
- viii. test all fuel shut-off controls connected to fire-protection systems for proper operation;
- ix. the boundaries of the protected space should be visually inspected to confirm that no modifications have been made to the enclosure that have created uncloseable openings that would render the system ineffective; and
- x. if cylinders are installed inside the protected space, verify the integrity of the double release lines inside the protected space, and check low pressure or circuit integrity monitors on release cabinet, as applicable.

6.4 Foam fire-extinguishing systems:

- i. visually inspect all accessible components for proper condition;
- ii. functionally test all fixed system audible alarms;
- iii. flow test all water supply and foam pumps for proper pressure and capacity, and confirm flow at the required pressure in each section (Ensure all piping is thoroughly flushed with fresh water after service)
- iv. test all system cross connections to other sources of water supply for proper operation;
- v. verify all pump relief valves, if provided, are properly set;
- vi. examine all filters/strainers to verify they are free of debris and contamination;
- vii. verify all control/section valves are in the correct position;
- viii. blow dry compressed air or nitrogen through the discharge piping or otherwise confirm the pipework and nozzles of high expansion foam systems are clear of any obstructions, debris and contamination.

This may require the removal of nozzles, if applicable;

- i. take samples from all foam concentrates carried on board and subject them to the periodical control tests in MSC.1/Circ.1312, for low expansion foam, or MSC/Circ.670 for high expansion foam.

(Note: Except for non-alcohol resistant foam, the first test need not be conducted until 3 years after being supplied to the ship.);

- ii. test all fuel shut-off controls connected to fire-protection systems for proper operation.



6.5 Water mist, water spray and sprinkler systems:

- i. verify proper operation of all water mist, water-spray and sprinkler systems using the test valves for each section;
- ii. visually inspect all accessible components for proper condition;
- iii. externally examine all high pressure cylinders for evidence of damage or corrosion;
- iv. check the hydrostatic test date of all high pressure cylinders;
- v. functionally test all fixed system audible and visual alarms;
- vi. flow test all pumps for proper pressure and capacity;
- vii. test all antifreeze systems for adequate freeze protection;
- viii. test all system cross connections to other sources of water supply for proper operation;
- ix. verify all pump relief valves, if provided, are properly set;
- x. examine all filters/strainers to verify they are free of debris and contamination;
- xi. verify all control/section valves are in the correct position;
- xii. blow dry compressed air or nitrogen through the discharge piping of dry pipe systems, or otherwise confirm the pipework and nozzles are clear of any obstructions. This may require the removal of nozzles, if applicable;
- xiii. test emergency power supply switchover, where applicable;
- xiv. visually inspect all sprinklers focusing in areas where sprinklers are subject to aggressive atmosphere (like saunas, spas, kitchen areas) and subject to physical damage (like luggage handling areas, gyms, play rooms, etc.) so that all sprinklers are inspected within one year. Sprinklers with obvious external damage, including paint, should be replaced and not included in the numbers of sprinklers tested in subparagraph .q ;
- xv. check for any changes that may affect the system such as obstructions by ventilation ducts, pipes, etc.;
- xvi. test a minimum of one section in each open head water mist system by flowing water through the nozzles. The sections tested should be chosen so that all sections are tested within a five-year period;
- xvii. test automatic sprinklers and automatic water mist nozzles in accordance with the following flow chart:

7. Two-year testing and inspections

Two-year inspections should be carried out to ensure that the indicated actions are taken for the specified equipment.

7.1 Fixed gas fire-extinguishing systems:

- i. all high pressure extinguishing agents cylinders and pilot cylinders should be weighed or have their contents verified by other reliable means to confirm that the available charge in each is above 95 per cent of the nominal charge. Cylinders containing less than 95 per cent of the nominal charge should be refilled; and
- ii. blow dry compressed air or nitrogen through the discharge piping or otherwise confirm the pipe work and nozzles are clear of any obstructions. This may require the removal of nozzles, if applicable.

7.2 Fixed dry chemical powder systems:

- i. blow dry nitrogen through the discharge piping to confirm that the pipe work and nozzles are clear of any obstructions;



- ii. operationally test local and remote controls and section valves;
- iii. verify the contents of propellant gas cylinders (including remote operating stations);
- iv. test a sample of dry chemical powder for moisture content; and
- v. subject the powder containment vessel, safety valve and discharge hoses to a full working pressure test.

8. Five-year service

At least once every five years, the following inspections should be carried out for the specified equipment:

Fixed gas fire-extinguishing systems:

- i. Perform internal inspection of all control valves.

8.1 Foam fire-extinguishing systems:

- i. perform internal inspection of all control valves;
- ii. flush all high expansion foam system piping with fresh water, drain and purge with air;
- iii. check all nozzles to prove they are clear of debris; and
- iv. test all foam proportioners or other foam mixing devices to confirm that the mixing ratio tolerance is within +30 to -10% of the nominal mixing ratio defined by the system approval.

8.2 Water mist, water spray and sprinkler systems:

- i. flush all ro-ro deck deluge system piping with water, drain and purge with air;
- ii. perform internal inspection of all control/section valves; water quality testing should be conducted in all corresponding piping sections, if not previously tested as outlined in paragraph 1.6.5(r) within the last five years;
- iii. check condition of any batteries, or renew in accordance with manufacturer's recommendations;
- iv. for each section where the water is refilled after being drained or flushed, water quality should meet manufacturer's guidelines. Testing of the renewed water quality should be conducted and recorded as a new baseline reference to assist future water quality monitoring for each corresponding section.

8.3 Self Contained Breathing apparatus (SCBA) and Emergency Escape Breathing Device (EEBD):

- i. Hydrostatic testing for all SCBA's and survival craft compressed-air cylinders shall be carried out by a servicing facility or agent certified by the manufacturer to perform this type of work and accepted by this Administration or Recognized Organization approved by the Administration issuing the pertinent Safety certificate once every five years or when recommended by the manufacturer if less than five years.
- ii. The EEBD should be maintained in accordance with the manufacturer's instructions; spare EEBDs should be kept on board and maintenance requirements, manufacturer's trademark and serial number, shelf life with accompanying manufacture date and name of approving authority should be printed on each EEBD.

8.4 Low-location lighting:

- i. Test the luminance of all systems in accordance with the procedures in resolution A.752(18).

8.5 Wheeled (mobile) fire extinguishers:

- i. Visually examine at least one extinguisher of each type manufactured in the same year and kept on board.



9. Ten-year Service

At least once every 10 years, the following inspections should be carried out for the specified equipment:

9.1 Fixed gas fire-extinguishing systems:

- i. perform a hydrostatic test and internal examination of 10 per cent of the system's extinguishing agent and pilot cylinders. If one or more cylinders fail, a total of 50 per cent of the onboard cylinders should be tested. If further cylinders fail, all cylinders should be tested;
- ii. flexible hoses should be replaced at the intervals recommended by the manufacturer and not exceeding every 10 years; and
- iii. if permitted by the Administration, visual inspection and NDT (non-destructive testing) of halon cylinders may be performed in lieu of hydrostatic testing.

9.2 Water mist, water spray and sprinkler systems:

- i. Perform a hydrostatic test and internal examination for gas and water pressure cylinders according to flag Administration guidelines or, where these do not exist, EN 1968:2002 + A1.

9.3 Fixed dry chemical powder systems:

- i. Subject all powder containment vessels to hydrostatic or non-destructive testing carried out by an accredited service agent.

9.4 Fixed aerosol extinguishing systems:

- i. Condensed or dispersed aerosol generators to be renewed in accordance with manufacturer's recommendations.

9.5 Wheeled (mobile) fire extinguishers:

All extinguishers together with propellant cartridges should be hydrostatically tested by specially trained persons in accordance with recognized standards or the manufacturer's instructions.

10. Requirements for Specific Maintenance and Inspection of Portable Fire Extinguishers:

10.1 Please refer to Resolution A. 951(23) - Improved Guidelines for Marine Portable Fire Extinguishers Spare Charges, Additional Fire Extinguishers and Refilling of Extinguishers

10.2 Spare charges shall be provided for 100% of the first 10 extinguishers and 50% of the remaining fire extinguishers capable of being recharged on board. Not more than 60 total spare charges are required. Instructions for recharging shall be carried on board.

10.3 For fire extinguishers which cannot be recharged onboard, additional portable fire extinguishers of the same quantity, type, capacity and number as determined in paragraph 2.2.1 above shall be provided in lieu of spare charges.

10.4 Periodic refilling of the cylinders should be in accordance with the manufacturer's recommendations. Only refills approved for the extinguisher may be used for recharging. Partially emptied extinguishers should be recharged.



10.5 Ships constructed on or after 1 January 2009* should use the table showed in the **MSC.1/Circ. 1275 (Unified Interpretation of SOLAS CH II-2 on the number and arrangement of portable fire extinguishers on board ships)**, as reference for the number and arrangement of portable fire extinguishers in accommodation spaces, service spaces, control stations machinery spaces of category A, other machinery spaces, cargo spaces, weather deck and other spaces on board ship. For ships constructed before 1 January 2009, ship-owners are encouraged to implement this unified interpretation.

10.6 A portable fire extinguisher required for a small space may be located outside and near the entrance to that space.

10.7 If the wheelhouse is adjacent with the chartroom and has a door giving direct access to chartroom, no additional fire extinguisher is required in the chart room. The same applies to safety centers if they are within the boundaries of the wheelhouse in passenger ships.

10.8 Two portable fire extinguishers, each having a capacity of not less than 6kg of dry powder or equivalent, should be provided when dangerous goods are carried on the weather deck, in open ro-ro spaces and vehicle spaces, and in cargo space as appropriate. Two portable fire extinguishers, each having a suitable capacity, should be provided on weather deck for tankers.

10.9 No portable fire extinguisher needs to be provided in cargo holds of containerships if motor vehicles with fuel in their tank for their own propulsion are carried in open or closed containers.

11. Requirements for Specific Maintenance and Inspection of Fixed Fire-Extinguishing Systems:

Please refer to :

MSC.1/Circ. 1318 - Guidelines for the maintenance and inspections of fixed carbon dioxide fire-extinguishing systems

MSC.1/Circ. 1312 - Revised Guidelines for the Performance and Testing Criteria, and Surveys of Foam Concentrates for Fixed Fire extinguishing Systems

MSC.1/Circ.798 - Guidelines for Performance and Testing Criteria and Surveys of Medium expansion Concentrates For Fire Extinguishing Systems

MSC.1/Circ.670 - Guidelines for the Performance and Testing Criteria and Surveys of High expansion Foam Concentrates for Fixed Fire extinguishing Systems

*Note: For the applicability of items prescribed under the MSC.1/Circ. 1275 and then the use of the table specify in such MSC.1/Circ. 1275, this Administration considering the large amount of vessel register in Gabon Flag decide to make in force the applicability for vessels contracted for construction on or after 15 April 2009.

12. Additional Requirements for Halon Systems:

Halon installations of fire-extinguishing systems on board ships, which keel was laid or at a similar stage of construction on or after October 1994 are prohibited. Moreover, full-scale tests of Halon fire-extinguishing systems on board ships are prohibited since January 1992 in accordance with Resolution A.719 (17). However, an annual leakage check shall be carried out as per **MSC.1/Circ. 600 - Annual**



Leakage Check of Halon Fire-Extinguishing Systems. The Chief Engineer can carry out this test if provided with the proper equipment and training;

During the annual leakage check, if any cylinder showing signs of leakage, loss of contents exceeding 5% from the installed quantity, signs of mechanical damage or excessive corrosion, must be withdrawn from service.

13. Fire Protection - Paint Lockers

Paint lockers shall be protected by:

- i. a carbon dioxide system, designed to give a minimum volume of free gas equal to 40% of the gross volume of the protected space; or
- ii. a dry powder system, designed for at least 0.5 kg powder/m³; or
- iii. a water spraying or sprinkler system, designed for 5 l/m² min. Water spraying systems may be connected to the fire main of the ship; or
- iv. The fitting of a portable fire extinguisher immediately outside the entrance to the paint locker. The number of portable extinguishers is to be adequate to the size of the paint locker as determined by the Recognized Organization.

Note: In any case, the system shall be operable from outside the protected space

14. SOLAS - Emergency Fire Pump

This Administration accepts gasoline engine driven portable emergency fire pumps on board cargo ships less than 2000 GRT. Proper precautions must be observed in the storage and handling of gasoline with this equipment.



References

- i. MSC.1/Circ.1432 - Revised Guidelines for the Maintenance and Inspection of Fire Protection Systems and Appliances (supersedes MSC/Circ. 850).
- ii. MSC.1/ Circ. 1516 – Amendments to the Revised Guidelines for the Maintenance and inspections of Fire Protection System and Appliances (MSC.1/ Circ.1432)
- iii. Resolution A. 951(23) - Improved Guidelines for Marine Portable Fire Extinguishers
- iv. MSC.1/Circ. 1318 – Guidelines for the maintenance and inspections of fixed carbon dioxide fire- extinguishing systems
- v. MSC.1/Circ. 1312, Revised Guidelines for the Performance and Testing Criteria, and Surveys of Foam Concentrates for Fixed Fire extinguishing Systems
- vi. MSC.1/Circ. 1275 - Unified Interpretation of SOLAS CH II-2 on the number and arrangement of portable fire extinguishers on board ships
- vii. MSC.1/Circ.849 - Guidelines for the Performance, Location, use and care of Emergency Escape Breathing Devices (EEBDs)
- viii. MSC.1/Circ.798 - Guidelines for Performance and Testing Criteria and Surveys of Medium expansion Concentrates For Fire Extinguishing Systems
- ix. MSC.1/Circ.670 - Guidelines for the Performance and Testing Criteria and Surveys of High expansion Foam Concentrates for Fixed Fire extinguishing Systems
- x. MSC.1/Circ. 600 - Annual Leakage Check of Halon Fire-Extinguishing Systems
- xi. Resolution A.752(18) - Guidelines for the Evaluation, Testing and Application of Low-location Lighting on Passenger Ships



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MSC.1/Circ.1275
3 June 2008

**UNIFIED INTERPRETATION OF SOLAS CHAPTER II-2 ON THE NUMBER AND
ARRANGEMENT OF PORTABLE FIRE EXTINGUISHERS ON BOARD SHIPS**

1 The Maritime Safety Committee, at its eighty-fourth session (7 to 16 May 2008), with a view to providing more specific guidance for vague expressions such as “to the satisfaction of the Administration”, which are open to different interpretations contained in IMO instruments, approved the Unified interpretation of SOLAS chapter II-2 on the number and arrangement of portable fire extinguishers on board ships prepared by the Sub-Committee on Fire Protection at its fifty-second session, set out in the annex.

2 Member Governments are invited to use the annexed unified interpretation as guidance when applying relevant provisions of SOLAS chapter II-2 on the number and arrangement of portable fire extinguishers on board ships on or after 1 January 2009 and to bring the unified interpretation to the attention of all parties concerned.



ANNEX

**UNIFIED INTERPRETATION ON THE NUMBER AND ARRANGEMENT OF
PORTABLE FIRE EXTINGUISHERS ON BOARD SHIPS**

1 Scope and application

1.1 The unified interpretation provides guidance on the number and arrangement of portable fire extinguishers on board ships as required by SOLAS regulations II-2/10.3, II-2/10.5.1.2, II-2/10.5.2.2, II-2/10.5.3.2.2, II-2/10.5.4, II-2/18.5.1.1, II-2/18.5.1.2, II-2/19.3.7 and II-2/20.6.2.1 and chapter 4 of the International Code for Fire Safety Systems (FSS Code).

1.2 This unified interpretation should be used for ships constructed on or after 1 January 2009. For ships constructed before 1 January 2009, shipowners are encouraged to implement this unified interpretation.

1.3 SOLAS regulation II-2/10.3.2.3 (regarding the allowed spaces to arrange carbon dioxide fire extinguishers) and paragraph 4.2.1.1.1 of the FSS Code (regarding the quantity of medium of portable fire extinguishers) should be applied to ships constructed on or after 1 January 2009.

2 Unified interpretation on the number and arrangement of portable fire extinguishers in the various types of spaces on board ships

2.1 The table below should be applied for the number and arrangement of portable fire extinguishers in accommodation spaces, service spaces, control stations, machinery spaces of category A, other machinery spaces, cargo spaces, weather deck and other spaces on board ships.

2.2 SOLAS regulation II-2/10.3.2.2 requires that “one of the portable fire extinguishers intended for use in any space shall be stowed near the entrance to that space. It is recommended that the remaining portable fire extinguishers in the public spaces and workshops be located at or near the main entrances and exits.

2.3 If a space is locked when unmanned, portable fire extinguishers required for that space may be kept inside or outside the space.

2.4 Unless expressly provided by the Unified interpretations of SOLAS chapter II-2, the FSS Code, the FTP Code and related fire test procedures (MSC/Circ.1120) or SOLAS regulation II-2/10.5, the following table should be applied to the number and arrangement of portable fire extinguishers in machinery spaces of category A.



3 The selection of portable fire extinguishers

The selection of portable fire extinguishers should be appropriate to the fire hazard(s) in the space in accordance with the Guidelines for marine portable fire extinguishers, as adopted by resolution A.951(23). The classes of portable fire extinguishers in the table are only for reference.

Table – Minimum numbers and distribution of portable fire extinguishers in the various types of spaces on board ships

Type of spaces		Minimum number of extinguishers	Class(es) of extinguisher(s)
Accommodation spaces	Public spaces	1 per 250 m ² of deck area or fraction thereof	A
	Corridors	Travel distance to extinguishers should not exceed 25 m within each deck and main vertical zone	A
	Stairway	0	
	Lavatories, cabins, offices, pantries containing no cooking appliances	0	
	Hospital	1	A
Service spaces	Laundry drying rooms, pantries containing cooking appliances	1 ²	A or B
	Lockers and store rooms (having a deck area of 4 m ² or more), mail and baggage rooms, specie rooms, workshops (not part of machinery spaces, galleys)	1 ²	B
	Galleys	1 class B and 1 additional class F or K for galleys with deep fat fryers	B , F or K



Type of spaces		Minimum number of extinguishers	Class(es) of extinguisher(s)
Service spaces	Lockers and store rooms (deck area is less than 4 m ²)	0	
	Other spaces in which flammable liquids are stowed	In accordance with SOLAS regulation II-2/10.6.3	
Control stations	Control stations (other than wheelhouse)	1	A or C
	Wheelhouse	2, if the wheelhouse is less than 50 m ² only 1 extinguisher is required ³	A or C
Machinery spaces of category A	Central control station for propulsion machinery	1, and 1 additional extinguisher suitable for electrical fires when main switchboards are arranged in central control station	A and/or C
	Vicinity of the main switchboards	2	C
	Workshops	1	A or B
	Enclosed space with oil-fired inert gas generators, incinerators and waste disposal units	2	B
	Separately enclosed room with fuel oil purifiers	0	
	Periodically unattended Machinery spaces of category A	1 at each entrance ¹	B
Other spaces	Workshops forming part of machinery spaces and other machinery spaces (auxiliary spaces, electrical equipment spaces, auto – telephone exchange rooms, air conditioning spaces and other similar spaces)	1	B or C
	Weather deck	0 ⁴	B



Type of spaces	Minimum number of extinguishers	Class(es) of extinguisher(s)
Ro-ro spaces and vehicle spaces	No point if space is more than 20 m walking distance from an extinguisher at each deck level ^{4,5}	B
Cargo spaces	0 ⁴	B
Cargo pump-room	2	B
Helidecks	In accordance with SOLAS regulation II-2/18.5.1	B

NOTES:

- 1 A portable fire extinguisher required for a small space may be located outside and near the entrance to that space.
- 2 For service spaces, a portable fire extinguisher required for that small space placed outside or near the entrance to that space may also be considered as part of the requirement for the space in which it is located.
- 3 If the wheelhouse is adjacent with the chartroom and has a door giving direct access to chartroom, no additional fire extinguisher is required in the chart room. The same applies to safety centres if they are within the boundaries of the wheelhouse in passenger ships.
- 4 Two portable fire extinguishers, each having a capacity of not less than 6 kg of dry powder or equivalent, should be provided when dangerous goods are carried on the weather deck, in open ro-ro spaces and vehicle spaces, and in cargo spaces as appropriate. Two portable fire extinguishers, each having a suitable capacity, should be provided on weather deck for tankers.
- 5 No portable fire extinguisher needs to be provided in cargo holds of containerships if motor vehicles with fuel in their tank for their own propulsion are carried in open or closed containers.

---End of Circular---