

Subject

Periodic Maintenance, Inspection and Testing for Fire Protection Systems and Appliances and Compressed Gas Cylinders on Maltese Flag Ships

ClassNK

Technical Information

No. TEC-0548
Date 1 October 2003

To whom it may concern

The Malta Government has notified ClassNK of Administration Requirements (Item 1.17) for periodic maintenance, inspection and testing for fire protection systems and appliances and compressed gas cylinders on board the Maltese flag ships as attached.

During the Survey of Safety Equipment (Annual, Periodical or Renewal), a Surveyor will ascertain that those maintenance, inspection and testing on board the ships is subjected to the Administration Requirements (Item 1.17), and carry out necessary inspections. It is sincerely recommended that you shall take an appropriate action to comply with the Administration Requirements.

This ClassNK Technical Information supersedes the previous ClassNK Technical Information Nos. TEC-0408 and TEC-0417. However, the requirements regarding Fire Control Plans / Life-saving Appliance Plans are carried over as below.

"The graphical symbols related to fire fighting and life-saving equipment and appliances as set out in IMO Resolution A.654(16) and A.760(18) should be used in the Plans."

For any questions about the above, please contact:

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Attachment: The Administration Requirements Item 1.17

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Fire Protection Systems and Appliances
and Compressed Gas Cylinders
Periodic Maintenance, Inspection and Testing

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<i>Revision No.</i>	-	<i>Item</i>	1.17
<i>Date Revised</i>	-	<i>Page</i>	1 of 8

These Administration Requirements, which have been developed in line with the applicable IMO Circulars and Guidelines, are intended to establish the interval and extent of maintenance, inspection and testing required by the International Convention for the Safety of Life at Sea, 1974 as amended.

Application

These requirements shall apply to all Maltese registered ships engaged on international voyages.

Entry into force

All ships shall comply with this Administration Requirements not later than the date of the first safety equipment survey (annual, periodical or renewal) on or after 1 July 2003.

Revocation

Administration Requirement Item 1.1 dated 18 October 1993
'Periodical Hydrostatic Pressure Testing of CO₂ Bottles for Fixed Fire-Extinguishing Installations'.

Administration Requirement Item 1.4 dated 6 April 1995
'SOLAS 1974, as amended, Chapter II-2 Regulation 6.2 – Spare Charges'.

Administration Requirement Item 1.9 dated 7 January 1999
'Spare Charges for Self-Contained Breathing Apparatus'

Definitions

<i>Administration</i>	Malta Maritime Authority
<i>Approved</i>	Approved by the Administration and/or Recognised Organisation.
<i>Recognised Organization</i>	A Classification Society recognised by the Administration.
<i>Organisation</i>	International Maritime Organization (IMO)

Operational readiness

All fire protection systems and appliances shall at all times be in good order and available for immediate use while the ship is in service. If a fire protection system is under repair, then suitable arrangements to the satisfaction of the Recognised Organization and Administration shall be made to ensure that safety is not diminished.



Maintenance, Testing and Inspection

The maintenance, testing and inspection shall conform to the requirements as laid down herein and, unless expressly stipulated otherwise, the inspection schedule as provided in IMO's MSC/Circ.850.

PORTABLE FIRE EXTINGUISHERS

Servicing

All portable fire extinguishers shall be serviced annually at an approved shore-based servicing station.

Replacement of Extinguishing Medium

Type of Portable Fire Extinguisher	Interval
Water	12 months
Foam	12 months
Dry Chemical (Extinguisher type: Non-permanently pressurized)	5 years
Dry Chemical (Extinguisher type: Permanently pressurized)	2 years

Hydrostatic Pressure Test and Test Pressure

All non-permanently pressurized portable fire extinguishers shall be hydrostatically pressure tested at intervals not exceeding 10 years.

All permanently pressurized portable fire extinguishers and propellant cartridges shall be hydrostatically pressure tested at intervals not exceeding 5 years.

Notwithstanding the above, whenever the loss in pressure of a permanently pressurized portable fire extinguisher exceeds 10% of the nominal pressure, then the portable fire extinguisher shall be hydrostatically pressure tested before being recharged.

Portable fire extinguishers and propellant cartridges shall be tested to the pressures indicated hereunder.

Portable Fire Extinguishers and Propellant Cartridges	Test Pressure
Water	At least 1.5 x w.p. (or 2 N/mm ² if the w.p. is unknown)
Foam	
Dry Chemical	
Halon	
Carbon Dioxide	At least 25 N/mm ²
Propellant Cartridges - CO₂ type with safety devices - CO₂ type without safety devices	At least 2 x w.p. 25 N/mm ² 35 N/mm ²

w.p. – working pressure



Spare Charges

For portable fire extinguishers of the same type, capable of being recharged on board, spare charges shall be provided for 100% of the first 10 portable fire extinguishers and for 50% of the remaining portable fire extinguishers. Not more than a total of 60 spare charges need to be provided.

For portable fire extinguishers that cannot be recharged on board, additional portable fire extinguishers of the same quantity, type and capacity shall be provided for 100% of the first 10 portable fire extinguishers and for 50% of the remaining portable fire extinguishers.

FIXED HIGH PRESSURE CO₂ FIRE-EXTINGUISHING SYSTEMS

Inspection

Every 3 months, the ship's crew shall check the CO₂ cylinders for proper stowage, alignment of activating levers on each of the cylinders and tightness of securing/clamping arrangements. Prior to entry into the CO₂ cylinder bank room all safety procedures shall be adhered to.

Hydrostatic Pressure Testing

Over a maximum period of 10 years at least 50% of the CO₂ bottles shall be tested by hydraulic pressure at an approved shore-based servicing station.

Notwithstanding the aforementioned, occasional hydrostatic pressure testing may be requested at the discretion of the Surveyor from the Recognised Organization conducting the statutory surveys if there exists evidence to cause concern on the condition of the cylinders.

FIXED LOW PRESSURE CO₂ FIRE-EXTINGUISHING SYSTEMS

Inspection

Annual examination of the bulk CO₂ containment tank during statutory safety equipment surveys shall include:

- close examination of all pipe connections to the tank. Selected areas of insulation are to be removed as necessary;
- where extensive corrosion of other evidence of deterioration exists, connecting pipes or delivery pipes are to be removed for examination and testing, as necessary, to determine actual wall thickness.
- examination of selected areas of the tank shell under insulation to determine shell condition, and if necessary, make use of appropriate means to ascertain wall thickness;



- removal of insulation and examination of underlying steelwork in any area where there is evidence of corrosion through staining or other signs;

The annual inspections detailed above shall be programmed to examine, in so far as it is possible, different areas of the system at each annual examination.

If the examination reveals evidence of deterioration in the pipework or tank shell this shall be followed up to determine extent of deterioration and if necessary an internal examination shall be conducted. Any repair or replacement shall be carried out to specifications of the Recognized Organization.

Provided that the above inspections are carried out annually and that records confirming satisfactory condition are readily available, then bulk CO₂ systems need only be inspected internally after a maximum period of 20 years.

FIXED HALON FIRE-EXTINGUISHING SYSTEMS

Hydrostatic Pressure Test or Thickness Measurement

Subject to the ready availability of Halon Banking Facilities for the purpose of containment and recharging, over a maximum period of 10 years at least 50% of the Halon bottles shall be tested by hydraulic pressure at an approved shore-based servicing station.

However, when Halon Banking Facilities are not available, Halon cylinders shall be subjected to thickness measurement in lieu of the hydrostatic pressure test as required above. At least 50% of the cylinders shall be thickness measured over a maximum period of 10 years.

Notwithstanding the aforementioned, occasional hydrostatic pressure testing or thickness measurement, as applicable, may be requested at the discretion of the attending Class Surveyor conducting the statutory surveys if there exist evidence to cause concern on the condition of the cylinders.

FIXED DRY POWDER FIRE-EXTINGUISHING SYSTEMS

Servicing

Servicing shall be carried out every 2 years at an approved shore-based servicing station. Testing of dry powder sample for moisture absorption shall be carried out at the same interval.

SPRINKLER, FIXED PRESSURE WATER-SPRAY AND WATER-MIST SYSTEMS

Servicing

Servicing shall conform to instructions of the manufacturer and the Recognised Organization.



FIXED FOAM FIRE-EXTINGUISHING SYSTEMS

Foam Sample Analysis

Foam sample analysis shall be carried out after a period of 3 years and thereafter every year at an approved independent/manufacture's laboratory. Notwithstanding the aforementioned, occasional foam sample analysis may be requested at the discretion of the attending Surveyor from the Recognised Organization during statutory surveys if there is cause to question the suitability of the foam.

CYLINDERS FOR SELF-CONTAINED BREATHING APPARATUS (SCBA)

Inspection

A general examination of the Self Contained Breathing Apparatus, including check for air cylinder pressure/leakage, shall be carried out at fortnightly intervals by the ship's crew. On ships provided with a recharging system for air cylinders, a check for air quality shall be carried out every 12 months at an approved independent/manufacture's laboratory.

Maintenance

Maintenance by the ship's crew shall be carried out in accordance with the manufacturer's instructions.

Hydrostatic Pressure Testing and Test Pressure

Hydrostatic pressure testing of cylinders of lightweight type shall be carried out at an approved shore-based servicing station at intervals and test pressure stipulated by the manufacturer and Recognised Organisation.

Hydrostatic pressure testing of cylinders other than of lightweight type shall be carried out every 5 years at an approved shore-based servicing station at a test pressure of 1.5 times the working pressure.

Spare Charges

The following number of spare charges are to be provided for each breathing apparatus:

Ship Type	Spare Charges
Cargo Ships without dedicated cylinder recharging facility	2
Cargo Ships with dedicated cylinder recharging facility	1
Passenger Ships carrying less than 36 passengers	1
Passenger Ships carrying more than 36 passengers	At least 2



CYLINDERS FOR EMERGENCY ESCAPE BREATHING DEVICE (EEBD)

Inspection

A general examination and check of cylinder pressure, as applicable, shall be carried out every 3 months by the ship's crew and records of checks are to be maintained.

Maintenance

Maintenance by the ship's crew shall be carried out in accordance with the manufacturer's instructions.

Spare Devices

All ships shall carry at least two spare Emergency Escape Breathing Devices.

CYLINDERS FOR SURVIVAL CRAFT SELF-CONTAINED AIR SUPPORT SYSTEM

Inspection

A general examination and check of cylinder pressure shall to be carried out at fortnightly intervals by the ship's crew and records of checks are to be maintained.

Hydrostatic Pressure Testing and Test Pressure

Hydrostatic pressure testing of cylinders of lightweight type shall be carried out at an approved shore-based servicing station at the intervals and test pressure stipulated by the manufacturer and Recognised Organisation.

Hydrostatic pressure testing of cylinders other than of lightweight type shall be carried out every 5 years by an approved shore-based servicing station at a test pressure of 1.5 times the working pressure.

MEDICAL OXYGEN CYLINDERS

Inspection

A general examination and check of cylinder pressure shall be carried out every month by the ship's crew and records of checks are to be maintained.

Hydrostatic Pressure Testing

Hydrostatic pressure testing of cylinders shall be carried out at an approved shore-based servicing station at the intervals and test pressure stipulated by the manufacturer and Recognised Organisation.



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CYLINDERS FOR REFRIGERANT GASES AND GASES FOR BURNING EQUIPMENT

Hydrostatic Pressure Testing

Prior to accepting cylinders on board, the date stamp shall be checked and ensured that not more than 5 years have elapsed since the last hydrostatic pressure test. For cylinders remaining onboard, arrangements shall be made for the exchange of cylinders if more than 5 years have elapsed since their last hydrostatic pressure test.

VOID



PORTABLE FIRE EXTINGUISHERS						
System or Appliance	Inspections		Medium Replacement	Hydrostatic Pressure Test	Spare Charges/Devices	
	Ship board	Shore				
Water	As per Administration Requirement and MSC/Circ 850	Annually	12 months	5 years (permanently pressurized)	Rechargeable type 100% spare charges for first ten	
Foam					10 years (non-permanently pressurized) or	50% spare charges for remainder
Dry Chemical			2 years (permanently pressurized) 5 years (non-permanently pressurized)	When pressure loss is greater than 10% (permanently pressurized)	Non-rechargeable type 100% additional extinguishers for first ten	
Halon				5 years or When pressure loss is greater than 10% (permanently pressurized)	50% additional extinguishers for remainder	
CO ₂						
Propellant Cartridges				5 years		
FIXED FIRE-EXTINGUISHING SYSTEMS						
System	Inspections		Hydrostatic Pressure Test			
	Shipboard	Shore				
High Pressure CO ₂	Every 3 months Stowage, alignment of activating levers and proper stowage		50% of cylinders every 10 years			
Bulk CO ₂	Annual external inspections or internal inspection at 20 years					
Halon			When banking facilities available – 50% of cylinders to hydro test every 10 years When banking facilities not available 50% of cylinders thickness measured every 10 years			
Dry Powder			2 years (including moisture absorption test) As per manufacturer's instructions Analysis after 3 years and annually thereafter			
Sprinkler Water-Spray Water-Mist						
Foam						
SELF-CONTAINED BREATHING APPARATUS						
Inspections		Hydrostatic Pressure Test	Spare Charges			
Shipboard	Shore					
Every 15 days General examination and cylinder pressure check	Every 12 months air quality check	Cylinders of lightweight type As per manufacturer's requirements Cylinders of non-lightweight type Every 5 years at 1.5 x w.p.	2 spare charges for each SCBA on cargo ships without charging facility 1 spare charge for each SCBA on cargo ships with charging facility 1 spare charge for each SCBA on passenger ships carrying less than 36 passengers At least 2 spare charges for each SCBA on passenger ships carrying more than 36 passengers			
EMERGENCY ESCAPE BREATHING DEVICES						
Shipboard Inspections			Spare Devices			
Every 3 months a general examination and cylinder pressure check			All ships to carry 2 spare devices			
CYLINDERS FOR SURVIVAL CRAFT AIR SUPPORT SYSTEM						
Shipboard Inspections			Hydrostatic Pressure Test			
Every 15 days a general examination and cylinder pressure check			Cylinders of lightweight type - As per manufacturer's requirements Cylinders of non-lightweight type - Every 5 years at 1.5 x w.p.			
MEDICAL OXYGEN CYLINDER						
Shipboard Inspections			Hydrostatic Pressure Test			
Every month a general examination and cylinder pressure check			As per manufacturer's requirements			
CYLINDERS FOR REFRIGERANT GASES AND GASES FOR BURNING EQUIPMENT						
Hydrostatic Pressure Test every 5 years						