



Gibraltar Maritime Administration

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Shipping Guidance Notice – 028(b)

To be read in conjunction with Shipping Guidance Notice (SGN) – 028 & 028(a).

Testing Requirements for Fixed Low Pressure CO2 Fire-fighting Systems

To: Ship Owners, Operators, Master's, Classification Societies and Recognised Organisations

The general requirements for low pressure CO2 installations can be found under IMO Resolution MSC.206(18) and MSC/Circular 1318.

Periodical inspections for installations using low pressure carbon dioxide containers (CO2 tanks) should include:

At each annual inspection:

- Control and alarm systems, and ventilation shut downs shall be tested at each survey.
- Pressure gauge is reading in the normal range
- Liquid level indicator(s) readings are within the appropriate level(s)
- Gas tightness of the protected space shall be inspected annually
- Pipework should be examined for overall condition, and shall be free from damage and corrosion;
- All flexible hoses (if applicable) to be examined and tested or renewed in accordance with manufacturer's recommendations
- Any loss of contents exceeding 5% must be made up
- Refrigerating installation shall be examined when running (also when fed by emergency circuit). Safety grounding and systems shall also be checked
- Storage tank(s) should be examined externally, especially in way of tank supports and pipe connections, In the case of insulated containers, the surface beneath insulation should be spot-checked for corrosion.

➤ *NOTE: These refrigerated tanks when insulated, makes them difficult to survey. If the insulating lagging appears to be in good condition, an external examination is sufficient. However, if the insulating lagging needs to be repaired, instructions must be obtained from the manufacturer prior to all interventions.*

Biannually:

- All safety valves should be tested every 2 years
- At least every 2 years, the system should be blown through to prove all lines and nozzles clear and one safety valve overhauled

Five Yearly:

- All piping and valves shall be tested at least every five years,

Storage tank(s) 10 Yearly examinations:

- Storage tank(s) should be examined internally at any time they are empty. Where an installation comprises more than one storage tank and not all tanks have been emptied, suitable precautions are to be taken to prevent the inadvertent admission of CO₂ into the tank opened up for examination;
- Tanks which are not in an empty condition, shall be subject to the following:
 - Representative samples of the surface beneath the tank(s) insulation should be undertaken for evidence of corrosion to the satisfaction of the attending Class surveyor;
 - Representative ultrasonic examinations of the tanks are to be undertaken to the satisfaction of the attending Class surveyor;
 - If the results of the ultrasonic examinations provide evidence of deterioration of the tank shell, these shall be followed-up to determine the extent of deterioration, and if necessary an internal examination should be conducted. Furthermore, if the results of the ultrasonic examinations do not provide for meaningful results, or are not considered satisfactory by the attending Class Surveyor, then an internal examination is to be undertaken;
 - Should the internal survey reveals corrosion damage, thickness measurements should be carried out. If thickness reduction at any point is found to exceed 10%, repairs of the tank or replacement is required
- Pressure tests may be required depending on the results from internal survey as applicable,
 - *NOTE: The test procedure shall be decided with the builder (type of liquid to use, pillars, etc.),*

Steve Gomez – Senior Marine Surveyor
For & on behalf of the Maritime Administrator

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