CO2 Firefighting Systems — study guide

A fixed carbon dioxide (CO_2) system floods a space with CO_2 to smother a fire by removing the oxygen. It is powerful and permanent, and lethal to anyone still inside. This guide covers inspection, coverage, the hazards and re-entry.[1]

Inspection and coverage

The CO_2 firefighting system should be inspected **monthly**. Fixed CO_2 systems typically protect cargo holds, engine rooms and pump rooms.

Hazards to people

Carbon dioxide is lethal to people, not just to fire. CO_2 levels higher than **17%** can result in loss of bodily control, unconsciousness, convulsions, coma and death.

System activation

When the system's control cabinet is opened, a sequence of safety actions occurs: the fire flaps will close, the space's ventilation will be deactivated, and the carbon dioxide alarm will activate. Treat the alarm as an order to evacuate — the space is about to be flooded.

Re-entry

Before re-entry, a CO_2-filled space must be left for at least **24 hours** as a minimum, to allow the atmosphere to be made safe.

Key facts to remember

- CO_2 system inspected monthly.
- Typically covers cargo holds, engine rooms and pump rooms.
- Over 17% CO_2: loss of bodily control, unconsciousness, convulsions, coma, death.
- Opening the control cabinet closes fire flaps, deactivates ventilation, activates the CO_2 alarm.
- Minimum 24 hours before re-entry to a CO_2-filled space.

Sources

1. SOLAS Chapter II-2 and the International Code for Fire Safety Systems (FSS Code) — fixed gas fire-extinguishing systems for machinery spaces, cargo spaces and pump rooms.

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