



**RULES  
FOR THE CLASSIFICATION AND CONSTRUCTION  
OF FLOATING DOCKS**

**PART IV  
FIRE PROTECTION**

July  
2025

GDAŃSK

## **RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF FLOATING DOCKS**

developed and published by Polski Rejestr Statków S.A., hereinafter referred to as PRS, consist of the following parts:

- Part I – Classification Regulations
- Part II – Hull and Hull Equipment
- Part III – Stability and Freeboard
- Part IV – Fire Protection
- Part V – Machinery Installations
- Part VI – Electrical Equipment and Automatic Control
- Part VII – Cranes.

With respect to materials and welding, the requirements specified in the *Rules for the Classification and Construction of Sea-Going Ships, Part IX – Materials and Welding*, apply.

*Part IV – Fire Protection – July 2025*, was approved by the Executive Board of PRS on 23 June 2025 and comes into force on 1 July 2025.

*Part IV – Fire Protection is extended by:*

- Publication 51/P – Procedural Requirements for Service Suppliers
- Publication 29/I – Guidelines for Periodic Inspections of Fire-Extinguishing Systems and Appliances Used on Ships

© Copyright by Polish Register of Shipping\*, 2025

---

\* *Polish Register of Shipping means Polski Rejestr Statków S.A., seated in Gdańsk, al. gen. Józefa Hallera 126, 80-416 Gdańsk, Poland, registered in the Register of Entrepreneurs of the National Court Register, under entry number 0000019880. Polish Register of Shipping, its affiliates and subsidiaries, their respective officers, employees or agents are, individually and collectively, referred to as Polish Register of Shipping or as PRS for short.*

# CONTENTS

	Page
<b>1 General Requirements .....</b>	<b>5</b>
1.1 Application.....	5
1.2 Definitions .....	5
1.3 Scope of supervision .....	5
1.4 Classification documentation of fire protection .....	6
1.5 Fire Control Plan.....	6
<b>2 Design, Room Furnishing Materials and Escape Routes .....</b>	<b>7</b>
2.1 Dock design .....	7
2.2 Room furnishing materials.....	7
2.3 Escape routes .....	8
<b>3 Fire-Extinguishing Systems .....</b>	<b>8</b>
3.1 Fire extinguishing systems on the dock .....	8
3.2 General.....	8
3.3 Water fire main system .....	9
3.4 Carbon dioxide (CO <sub>2</sub> ) system.....	11
3.5 Foam system .....	13
<b>4 Fire Detection and Fire Alarm Systems.....</b>	<b>14</b>
4.1 Fire detection and fire alarm system provided on a dock.....	14
4.2 General.....	14
<b>5 Fire-Fighting Equipment .....</b>	<b>15</b>
5.1 General.....	15
5.2 Portable and mobile fire extinguishers.....	15
5.3 Fire-Fighter's Outfit.....	15
5.4 Dock provision with fire-fighting equipment.....	16
<b>6 Requirements For Spaces and Appliances Posing Fire Risk.....</b>	<b>16</b>
6.1 Galleys .....	16
6.2 Flammable material storerooms.....	16



## 1 GENERAL REQUIREMENTS

### 1.1 Application

This Part IV - Fire Protection applies to construction, materials, evacuation, fire extinguishing systems, fire detection and alarm systems and fire fighting equipment, for docks as defined in 1.1.1 of Part I – Classification Regulations.

### 1.2 Definitions

For the purpose of this Part IV, the following definitions apply:

- .1 **Non-combustible material** is a material which neither burns nor gives off flammable vapours in sufficient quantity for self-ignition when heated to approximately 750°C, this being determined in accordance with the FTP Code.
- .2 **Steel equivalent material** means any non-combustible material which, by itself or due to insulation provided, has structural and integrity properties equivalent to steel at the end of the applicable exposure to the standard fire test (e.g. aluminium alloy with appropriate insulation).
- .3 **Fire Test Procedure Code (FTP Code)** – means the *International Code for Application of Fire Test Procedures*, as may be amended
- .4 **Low flame-spread** means for materials used in fire protection that the surface thus described will adequately restrict the spread of flame, this being determined in accordance with the FTP Code.
- .5 **Accommodation spaces** are spaces intended for use by the occupants/residents of the dock, such as: dock attendants' sleeping quarters, general use rooms, toilets, etc., together with the corridors and stairs leading to these spaces.
- .6 **Service spaces** – spaces that are accessible during dockside operations, such as offices, storage rooms, workshops and similar spaces, including corridors and stairways leading to these spaces.
- .7 **Machinery spaces** – spaces containing internal combustion engines, boilers and other liquid-fuelled equipment.
- .8 **“A” class divisions**: – fire-resisting structures formed by bulkheads, walls or decks, made of steel or steel-equivalent material, suitably rigid, so constructed and insulated as to prevent a significant rise in temperature on the unexposed side and to provide fire and smoke resistance during a one-hour standard fire test. These partitions are subject to fire testing, in accordance with the FTP Code.
- .9 **“B” class divisions** – fire retardant structures formed by walls, decks, ceilings or formwork, made of approved non-combustible materials, so constructed and insulated as to prevent a significant rise in temperature on the unexposed side of the fire and to provide a firetight seal during a half-hour standard fire test. These partitions are subject to fire testing, in accordance with the FTP Code.

### 1.3 Scope of supervision

1.3.1 General rules for the classification procedure are contained in Part I - Classification regulations.

1.3.2 The following are subject to PRS supervision during the construction or conversion of the dock: structural fire protection, fire extinguishing systems, fire detection and alarm systems, as well as materials for equipping the rooms (in terms of their combustibility properties).

**1.3.3** Fire extinguishing and fire detection and alarm systems components, fire-fighting equipment and materials used to equip spaces, to the extent specified in the individual chapters of this Part, shall be supplied with a certificate/product type approval certificate, confirming approval for use in shipbuilding.

**1.3.4** PRS may agree to allow a particular product or material to be installed on a particular dock only once, after acceptance and testing in accordance with a previously agreed test programme.

**1.3.5** Fire extinguishing systems, fire detection and fire alarm systems and portable fire-fighting equipment are subject to periodic inspections and performance tests carried out under the supervision of PRS' Surveyor. The surveys and tests shall be carried out by service suppliers approved by PRS. The principles and scope of the surveys to be carried out shall be in accordance with the applicable guidelines given in Publication 29/I.

## **1.4 Classification documentation of fire protection**

**1.4.1** Prior to the commencement of the ship construction/conversion, the following technical documentation shall be submitted to the PRS Head Office for consideration and approval:

- .1 plan of structural fire protection, indicating: the arrangement of spaces, means of escape and the arrangement of fire divisions and a list of construction elements and materials for equipping the dock rooms, with certificates confirming their fire resistance;
- .2 diagrams/plans of fire-extinguishing systems, including the arrangement of piping and equipment, piping routes as well as the calculation of extinguishing agent quantity;
- .3 diagrams/plans of the fire detection and fire alarm system showing the location of fire detectors and call points, fire detection control panel and layout of electrical circuits;
- .4 arrangement plan of fire-fighting equipment;
- .5 a programme for acceptance and testing of fire-extinguishing systems.

**1.4.2** For docks being converted, that part of the documentation listed in 1.4.1 which relates to the conversion shall be submitted for consideration and approval by PRS Head Office.

## **1.5 Fire Control Plan**

**1.5.1** The dock shall be provided with Fire Control Plan indicating:

- .1 the arrangement of dock fire divisions;
- .2 escape routes from all dock spaces;
- .3 spaces fitted with fire detection and fire alarm systems including location of: fire detectors, manually operated call points and fire control panels
- .4 spaces protected by a fixed CO<sub>2</sub> fire-extinguishing system including the location of CO<sub>2</sub> cylinders and the location of system controls;
- .5 the location of the main and emergency fire pumps, their controls, the positioning of the hydrant valves, fire hoses and connections for the water supply from the docked ship's fire mains system as well as the shore side water supply;
- .6 arrangement of fire-fighting equipment;
- .7 locations for remote shutting down of ventilation and location of closures of openings of spaces protected by CO<sub>2</sub> fire-extinguishing systems;
- .8 location of fuel and lubricating oil tanks and place of shutdown of fuel pumps;
- .9 generator and electrical switchgear room;
- .10 fire alarm signalling devices;
- .11 dock control room and fire control station;

**1.5.2** The graphic symbols on the plan shall correspond to those used for fire protection on ships, in accordance with IMO Resolution A.952(23).

**1.5.3** The Fire Control Plan shall be posted in the dock control room or in the office where the dock attendant is permanently present.

## **2 DESIGN, ROOM FURNISHING MATERIALS AND ESCAPE ROUTES**

### **2.1 Dock design**

**2.1.1** Dock side walls, **with crew accommodations**, in the area of accommodation and service spaces shall be divided into fire zones not exceeding 40 m in length.

**2.1.2** The divisions between these zones shall be **at least A-0** class divisions and shall extend from deck to deck, across the full width of the side wall.

**2.1.3** Machinery spaces shall be **separated from adjacent spaces** by walls and decks forming **at least A-0 class** fire divisions.

**2.1.4** Openings in A class divisions shall have tight closures. The fire resistance of doors and other closures shall be equivalent to that of the division in which they are installed.

**2.1.5** In the accommodation and service areas, corridor walls on the side of accommodation cabins and walls between cabins shall be **steel** or constructed as **at least B-0 class** divisions.

**2.1.6** On docks with accommodation spaces for dock attendants, the categorization of dock spaces, the fire resistance of the fire divisions separating adjacent spaces shall comply with the applicable requirements equivalent to those for cargo ships as given in *the Rules for the Classification and Construction of Sea-going Ships, Part V - Fire Protection*.

### **2.2 Room furnishing materials**

**2.2.1** Wall and ceiling structures in the accommodation and service areas shall be **steel** or made of non-combustible materials.

**2.2.2** Thermal and acoustic insulation of bulkheads, decks and walls of machinery spaces, service spaces and dock control rooms shall be of non-combustible materials. Materials used for insulation of piping, tanks, boilers, etc. in machinery spaces shall be non-combustible.

**2.2.3** Exterior **surfaces in corridors and ceiling surfaces** in accommodation and service spaces shall have low flame-spread characteristics and be made of materials which, at elevated temperatures, do not give rise to an increase in smoke and the release of toxic substances.

**2.2.4** The **primary** deck coverings in accommodation and service spaces shall be of materials which have low flame-spread characteristics and which, at elevated temperatures, do not give rise to smoke and toxic substances.

**2.2.5** It is recommended that the amount of combustible materials used for internal walls, **formwork** and fittings in accommodation and service spaces shall be as low as possible.

**2.2.6** **Paints, varnishes and other finishing materials** used on exposed surfaces inside accommodation and service spaces must not emit excessive amounts of smoke and toxic substances.

**2.2.7** Non-combustible materials, steel-equivalent materials, materials with low flame spread characteristics and materials that reduce the release of smoke and toxic substances shall be supplied with a certificate confirming their properties, in accordance with the *FTP Code*.

## 2.3 Escape routes

**2.3.1** Access gangways in side walls, forming communication and escape routes from the working deck to the open deck of the side walls, shall be made of steel. The width of the gangways shall be appropriately chosen, depending on the size of the dock and the number of persons working on the dock

**2.3.2** Stairs or ladders to provide an easy escape route to the open deck shall be provided in all accommodation, service and machinery spaces where the crew are present. Stairs or ladders shall be of steel.

**2.3.3** Two escape routes shall be provided from each accommodation area leading to the open deck.

**2.3.4** If the accommodation and service spaces of a dock are divided into the fire zones required by subchapter 2.1, there shall be at least two exits from each zone as escape routes as widely separated as possible. One of these may be an emergency exit leading through a window or manhole.

**2.3.5** Two exits shall be provided from each machinery compartment with internal combustion engines having a total rated power greater than 375 kW, one of which may be an emergency exit.

**2.3.6** The width of corridors and stairs that are escape routes may not be less than 0.7 m.

## 3 FIRE-EXTINGUISHING SYSTEMS

### 3.1 Fire extinguishing systems on the dock

**3.1.1** Docks shall be provided with a water fire main system complying with the requirements of subchapter 3.3, supplied by fixed powered fire pumps.

**3.1.2** Machinery spaces with internal combustion engines having a total rated power greater than 375 kW, boiler rooms with oil-fuelled boilers and spaces containing integral liquid fuel tanks shall be equipped with a carbon dioxide fire-extinguishing system complying with the requirements of subchapter 3.4 or an equivalent fire-extinguishing system.

**3.1.3** Where an equivalent fire-extinguishing installation, e.g. water spraying, gas, etc. system, is used for the protection of machinery spaces, such installations are subject to consideration and approval by PRS. Such installations shall comply with the applicable requirements of the *Rules for the Classification and Construction of Sea-going Ships, Part V - Fire Protection*.

### 3.2 General

**3.2.1** Fire-extinguishing systems shall be so constructed as to be efficient and readily available for operation under normal operational conditions of a dock.

**3.2.2** Fire extinguishing systems shall use steel piping that is protected against corrosion, with galvanization on both sides recommended.



**3.2.3** The fire-extinguishing systems, once installed on the dock, shall be subject to acceptance survey and testing in accordance with an approved survey and testing programme.

### **3.3 Water fire main system**

#### **3.3.1 General**

**3.3.1.1** The water fire main system is designed to extinguish a fire occurring on the **working** deck, in the dock areas and on the docked **ship**.

**3.3.1.2** The system shall consist of fire pumps, water supply piping, **hydrants**/hydrant valves and fire hoses with nozzles so arranged that a fire arising anywhere on the dock can be effectively extinguished.

**3.3.1.3** The system shall **be equipped** with connections with an international type connector, located on the open deck of each of the dock side walls, allowing water to be supplied from the quay to both the water fire main system of the dock and to the water fire main system of the docked vessel.

**3.3.1.4** On docks greater than 100 m in length, it is recommended that the pipelines to the hydrant valves be permanently filled with water under pressure to allow for immediate water supply. For this purpose, an additional pump shall be used with a system allowing it to start automatically and replenish the water loss when the pressure drops below the pressure switch setting. Pipings shall be carried out in side wall rooms to ensure that positive temperatures are maintained and the external piping sections to hydrant valves shall be of the “dry” type or suitably frost-proofed.

**3.3.1.5** Fire pumps and kingston valves shall be supplied with a PRS acceptance certificate. Shut-off valves and fire hoses shall be delivered with a product type approval certificate.

#### **3.3.2 Fire pumps**

**3.3.2.1** **Docks** with a deadweight capacity of less than 1000 tonnes shall be fitted with at least one fire pump. **Docks** of 1000 tonnes deadweight or more shall be fitted with at least two fire pumps, the combined capacity of which shall not be less than the required pumping capacity of the water fire main system for the largest cargo ship that can be docked, as determined by the *Rules for the Classification and Construction of Sea-going Ships, Part V - Fire Protection*. The total capacity of the fire pumps need not exceed 180 m<sup>3</sup>/h.

**3.3.2.2** **Docks** with a capacity of 2000 tonnes or more shall, in addition, be fitted with an emergency fire pump, independently driven. The emergency fire pump shall be located in a separate compartment outside the pump room. One of the two pumps located in separate compartments of the side wall may be considered as an emergency fire pump.

**3.3.2.3** On autonomous docks, fire pumps shall be self-contained, driven by an internal combustion engine or powered by the dock's emergency generator set. The emergency fire pump shall be powered by its own independent internal combustion engine or powered by the dock's emergency generator set.

**3.3.2.4** Each fire pump, including the emergency fire pump, shall be capable of delivering two firefighting water jets at the required capacity.

**3.3.2.5** Each of fire pumps, including the emergency fire pump, shall, when the ship is afloat, produce a pressure of at least 0.6 MPa in the system and shall, under the same conditions and

supplying two fire-fighting jets, provide a pressure of at least 0.4 MPa in the system, measured at the hydrant valves in the most unfavourable position.

**3.3.2.6** If two fire pumps are provided, they shall be located in separate compartments, in both side walls. The water intake bottom valve shall be located in the same compartment as the pump. Each pump shall be located below the waterline of the dock in the emerged condition. It is permissible to place a pump above the waterline of the emerged dock if it is a pump with a self-priming device.

**3.3.2.7** Each fire pump shall be fitted with a shut-off valve on the suction and delivery side. Where centrifugal pumps are used, a non-return valve shall be fitted on the delivery side. There shall be a plate on the valves stating:

*During normal operation, the valve shall be kept open at all times:*

**3.3.2.8** On non-autonomous docks, electric-powered fire pumps may be used in the water fire main system, powered from the wharf. If a generator of adequate capacity is provided on the dock, the fire pumps shall also be capable of being powered from this generator.

**3.3.2.9** It shall be possible to control the operation of the electrically driven fire pumps from a location immediately adjacent to each pump and from the dock control room or other readily accessible control station. There should be a pump operation indicator (e.g. pressure gauge) at each control point.

### 3.3.3 Pippings and hydrant valves

**3.3.3.1** The supply piping to the water fire main system shall be carried in the dock side walls or on the open decks of the side walls. The layout of the pippings shall be such that each fire pump is capable of supplying the piping of each of the side walls.

**3.3.3.2** If an emergency fire pump is used, valves shall be provided in the piping system to isolate the piping of the pump room containing the main fire pumps from the rest of the system. The isolation valves shall be located outside the pump room in readily accessible locations. Once the pump room piping has been isolated, it shall be possible for the emergency fire pump to supply the dock system.

**3.3.3.3** All pipelines shall be capable of being drained via spigots or water drain cocks. On docks operated in winter conditions, if water fire main pipelines routed outdoors remain filled with water, suitable arrangements (e.g. electric heating) shall be made to prevent them from freezing.

**3.3.3.4** Hydrants shall consist of a shut-off valve and a coupler conforming to national standards. Hydrants shall be painted red.

**3.3.3.5** Hydrant valves shall be made of bronze, brass or alloys of other corrosion-resistant metals

**3.3.3.6** Hydrant valves/hydrants shall be located on the decks of both side walls and on the working deck of the dock, at intervals of not more than 20 m – on docks with a carrying capacity of less than 2000 tonnes, and at intervals of not more than 30 m – on docks with a carrying capacity of 2000 tonnes or more.

Hydrant valves mounted on the working deck shall be located at a height which allows them to be easily used and so situated that they are not likely to be damaged when the ship is docked and that they are always accessible during repair work carried out on the dock.

It is recommended that hydrant valves on the **working** deck should be located in recesses with doors to protect them from damage and icing during winter operation.

**3.3.3.7** At least two hydrant valves shall be provided in each machinery space containing internal combustion engines, boilers or other liquid fuel-fired equipment or fuel tanks, the dimensions of which permit access to service the equipment during dock operations. In machinery spaces with internal combustion engines having a total rated power of less than 750 kW, only one hydrant valve is permitted. In the case of machinery compartments of small dimensions, a hydrant valve may be fitted externally near the entrance to the compartment.

**3.3.3.8** In the area of the accommodation and service spaces of the dock, the hydrant valves shall be so arranged that at least two fire-fighting jets of water, not originating from the same hydrant valve, can reach each place in these spaces, including one supplied **by** a single fire hose.

### **3.3.4 Fire hoses and nozzles**

**3.3.4.1** Fire hoses shall conform to national standards and be between 10 and 20 m in length. It is recommended that fire hoses shall not exceed 15 m in length and 10 m in machine compartments. The diameters of the hoses shall be appropriate to the capacity of the nozzles connected to them.

**3.3.4.2** Nozzles with standardized nozzle diameters shall be used, selected according to the actual pump capacity and the required number of simultaneous water jets. The minimum diameter of the nozzles shall be 12 mm.

**3.3.4.3** All nozzles shall be of the universal type, i.e. capable of delivering either a compact or diffused water extinguishing current, and shall be fitted with a shut-off valve

**3.3.4.4** Fire hoses including nozzles shall be placed immediately adjacent to the hydrant valves to which they are to be connected. Boxes/**cabinets**, painted red and clearly marked, shall be provided for the storage of hoses. **On the working deck, boxes located at a height below the flooding level of the submerged dock condition shall allow the hoses to be easily removed while the ship is docked and placed again when docking is completed.**

**3.3.4.5** In the accommodation area, fire hoses shall be located in hydrant cabinets with reels and shall be permanently connected to hydrant valves.

## **3.4 Carbon dioxide (CO<sub>2</sub>) system**

### **3.4.1 General**

**3.4.1.1** In a room protected by a carbon dioxide installation, mechanical ventilation shall be **provided**, providing at least 6 exchanges per hour, to enable CO<sub>2</sub> to be effectively removed from the room, after use.

**3.4.1.2** **The walls surrounding the room protected by the CO<sub>2</sub> installation shall be gas-tight.** All ventilation and other openings in the walls and ceilings of the room protected by the carbon dioxide installation shall have tight closures, controlled from outside the room.

**3.4.1.3** In order to prevent an excessive build-up of pressure in the room during the admission of CO<sub>2</sub>, it must be possible to discharge the air through a **vent** at the top of the room. The commissioning instructions for the system shall specify which opening shall be closed last after the CO<sub>2</sub> is admitted.

**3.4.1.4** A notice with the following wording shall be affixed to each entrance door to a room protected by a carbon dioxide installation:

*Leave the room immediately when you hear the warning signal for CO<sub>2</sub> ingress (... signal description here). Danger of suffocation.*

The inscription shall be in red on a white background, in the official language of the State administration to which the dock is subject.

**3.4.1.5** The amount of CO<sub>2</sub> shall be calculated from the formula:

$$G = 0.71 V [\text{kg}]$$

where:

*V* – design volume of the protected room. For machinery spaces, this is the gross volume of the space, without subtracting the volume of the tanks and mechanisms in the space [m<sup>3</sup>].

The formula takes into account the 40% CO<sub>2</sub> concentration in the protected room.

**3.4.1.6** If there are two or more spaces on a dock protected by a carbon dioxide system which are not connected to each other by ventilation ducts and separated by Class A bulkheads, the total quantity of CO<sub>2</sub> stored in the fire extinguishing station shall be sufficient to protect the largest space.

**3.4.1.7** When determining the number of CO<sub>2</sub> cylinders, the cylinder filling rate shall be no greater than 0.675 kg/dm<sup>3</sup> -- for cylinders with a design pressure of 12.5 MPa, and 0.75 kg/dm<sup>3</sup> – for cylinders with a design pressure of 15 MPa. When filling the cylinders, deviations not exceeding ± 0.5 kg are permissible.

**3.4.1.8** CO<sub>2</sub> system components such as cylinders with cylinder valve, fittings, flexible hoses and outlet nozzles shall be delivered with a Certificate of Product Type Approval

## **3.4.2 CO<sub>2</sub> fire extinguishing station**

**3.4.2.1** CO<sub>2</sub> cylinders shall be placed in fire extinguishing stations. The fire-extinguishing station shall be a separate room located outside the protected space.

**3.4.2.2** The CO<sub>2</sub> fire extinguishing station shall comply with the following requirements:

- .1 it shall be located on or below the open deck and have a direct entrance from the open deck;
- .2 shall be separated from adjacent spaces by gas-tight bulkheads and decks;
- .3 adequate thermal insulation shall be provided to ensure that the temperature inside the station does not exceed +49°C for 0.675 filling factor cylinders and +40°C for 0.75 filling factor cylinders. Station heating shall be provided for docks used in winter conditions;
- .4 the entrance door to the station shall open outwards; there shall be a sign on the door stating: CO<sub>2</sub> cylinders. The lettering shall be red on a white background;
- .5 The station shall be adequately ventilated. Where the station is located below the open deck it shall be provided with an independent power ventilation system with an exhaust duct from the lower part of the station providing at least 6 air changes per hour. The fan shall be activated automatically when the station access door/hatch is opened and the fan operation shall be indicated. Supply air ventilation may be natural;
- .6 a thermometer shall be provided on the station so that the temperature can be read both inside and outside the station through the porthole;
- .7 the station shall be lockable. One key shall be located near the entrance to the station in an enclosure with a door (with glass); during normal dock operation the door shall be sealed;

- .8 installation manuals containing safety procedures prior to start-up shall be provided at the station;

**3.4.2.3** CO<sub>2</sub> cylinders in stations shall be arranged in rows vertically and on insulating pads, which may be made of wood. Cylinders shall be well fixed and accessible for inspection and control of CO<sub>2</sub> quantity. All cylinders shall be painted red and marked with white CO<sub>2</sub> lettering. The height of the letters shall not be less than 6 cm. In addition, all cylinders shall be numbered.

### **3.4.3 Piping, fittings and CO<sub>2</sub> outlet nozzles**

**3.4.3.1** Each CO<sub>2</sub> cylinder shall be connected to the manifold by a flexible line, with a non-return valve. The flexible line shall be calculated for the maximum pressure prevailing in the cylinder. The manifold shall be provided with a pressure gauge and a spigot with valve for the connection of compressed air for piping leakage test.

**3.4.3.2** CO<sub>2</sub> supply pipelines to the protected rooms shall exit from the manifold. Each pipeline supplying CO<sub>2</sub> to the protected room shall be equipped with a separate cut-off valve, so called directional valve.

**3.4.3.3** The diameter of the pipelines shall ensure that 85% of the design quantity of CO<sub>2</sub> is supplied to the protected space within not more than 2 min.

**3.4.3.4** CO<sub>2</sub> cylinders shall be fitted with safety valves or fuse plates operating at 1.3  $p$  ( $\pm 0.1\%$ ), where  $p$  is the design pressure in the cylinder. The discharge of CO<sub>2</sub> from the safety valves, insofar as it could cause a significant increase in pressure in the cylinder room, shall be routed outside to the atmosphere by a separate pipeline equipped with an audible indication device.

**3.4.3.5** Outlet nozzles shall be arranged so as to ensure uniform distribution of CO<sub>2</sub> in the protected room.

### **3.4.4 Activation devices**

The CO<sub>2</sub> installation, in terms of actuation, warning signalling and required piping tests, shall comply with the applicable requirements of *the Rules for the Classification and Construction of Sea-going Ships, Part V - Fire Protection*

### **3.4.5 Testing of the installation**

After installation on the dock, the pipelines of the installation are subjected to pressure tests in accordance with the test programme.

## **3.5 Foam system**

**3.5.1** Installation is recommended on docks intended for tanker repairs.

**3.5.2** The foam system may be an independent system, consisting of piping fed by a separate outboard water pump, a foam concentrate dispensing system and fire-fighting stations for manual delivery of foam by means of a hose line with a foam nozzle, or it may be a part of the dock water fire main system. The foam produced shall be a low-expansion foam with a foam expansion ratio of no more than 12 and shall be suitable for extinguishing a liquid fuel fire.

**3.5.3** The foam concentrate may be stored in one container or in separate containers located at the fire-fighting stations. The quantity of concentrate shall be appropriately selected depending on the number of fire stations and the size of the dock.

**3.5.4** The foam concentrate shall be suitable for use with seawater and shall be supplied with a certificate of product type approval for use on ships

**3.5.5** Fire-fighting stations shall be located on the working deck of the dock and on the open deck of the side walls. The distance between the stations shall be such that foam can be supplied to any point on the working deck.

**3.5.6** The fire-fighting station shall consist of a connector with a valve to connect a hose with a hand-held foam nozzle

**3.5.7** On the deck of the side walls, fire extinguishing stations shall be equipped with a hose of the rigid type, wound on a reel to ensure easy deployment. The length of the hose shall not exceed 25 m.

**3.5.8** The foam concentrate, delivered to the dock, shall have a manufacturer's declaration confirming that it does not contain perfluorooctane sulfonic acid (PFOS).

**3.5.9** The foam system shall comply with the applicable requirements of the *Rules for the Classification and Construction of Sea-going Ships, Part V - Fire Protection*.

## 4 FIRE DETECTION AND FIRE ALARM SYSTEMS

### 4.1 Fire detection and fire alarm system provided on a dock

Docks shall be equipped with a fire detection and alarm system covering accommodation, service spaces, machinery spaces, storerooms, workshops and other spaces posing a fire risk.

### 4.2 General

**4.2.1** The fire detection and alarm system shall consist of fire detectors, manually operated call points and the control panel. The installation shall be ready for immediate operation at all times.

**4.2.2** Fire detectors shall respond to temperature, smoke or other indications of fire

**4.2.3** Detectors shall be positioned so that they cover the entire room to be protected. Detectors shall be avoided in the vicinity of stiffeners and ventilation ducts or other places where air currents could reduce their effectiveness and where they could easily be damaged mechanically.

**4.2.4** Manually operated call points shall be installed at the following locations:

- in corridors in the accommodation and service areas;
- in public use rooms, dining rooms and similar areas, if provided on the dock;
- in machinery spaces, galleys and other high fire risk areas.

Manually operated call points shall be located in easily accessible areas and shall be arranged so that the distance from any place in the accommodation and service areas to the call point is no more than 10 m.

**4.2.5** The fire detection panel shall be located in the control room of the dock or in another room where dock attendants are constantly present.

**4.2.6** The fire detection and fire alarm system shall comply with the applicable requirements such as those for cargo ships as given in the *Rules for the Classification and Construction of Sea-going Ships, Part V - Fire Protection*.



## 5 FIRE-FIGHTING EQUIPMENT

### 5.1 General

**5.1.1** Fire-fighting equipment **such as portable and mobile fire extinguishers** shall be located in readily accessible locations on the dock, preferably at the entrance to the space, and shall be appropriately marked with symbols used in fire protection.

**5.1.2** Fire fighting equipment shall be maintained in good technical condition and be ready for immediate use.

**5.1.3** Fire-fighting equipment such as fire extinguishers and breathing apparatus shall **be supplied** with a product type approval certificate.

### 5.2 Portable and mobile fire extinguishers

**5.2.1** Portable powder and carbon dioxide extinguishers shall contain at least 5 kg of **extinguishing agent and** foam extinguishers at least 9 litres. The total mass of a portable fire extinguisher shall not exceed **20** kg.

**5.2.2** Carbon dioxide extinguishers shall be used in spaces with electrical equipment and in kitchens, treated as separate rooms. The size of the extinguisher for a particular space shall be determined so that, when the extinguisher is used, the concentration of carbon dioxide does not pose a health risk to the occupants of the space.

**5.2.3** Carbon dioxide fire extinguishers shall not be located in living quarters or in explosive atmospheres.

**5.2.4** Fire extinguishers shall be positioned in such a way that their extinguishing effectiveness is not reduced by weather, vibration or other external factors.

**5.2.5** On docks operated in winter conditions, fire extinguishers shall be resistant to negative temperatures or shall be located in heated rooms so that the possibility of freezing is excluded.

### 5.3 Fire-Fighter's Outfit

**5.3.1** The fire-fighter's outfit shall include:

- .1** personal equipment, comprising:
  - protective clothing made of material protecting the skin from the heat radiating from the fire and from burns and scalding by flame or steam. The outer surface of the protective clothing shall be water-resistant;
  - fire fighter's gloves of rubber or other electrically non-conducting material;
  - boots of rubber or other electrically non-conducting material;
  - fire-fighter's helmet;
  - electric safety lamp with a minimum burning period of 3 h;
  - fireman's belt with a snap and fireman's axe in a pocket, which has a handle provided with high-voltage insulation;
- .2** breathing apparatus, which shall be a self-contained compressed-air breathing apparatus, for which the volume of air contained in the cylinders shall be at least 1200 l, or other self-contained breathing apparatus which shall be capable of functioning for at least 30 min.

**5.3.2** For each breathing apparatus, a fireproof lifeline at least 30 m in length shall be provided. The lifeline shall be capable of being attached by means of snap-hook to the harness of the breathing apparatus or to a separate belt.

## 5.4 Dock provision with fire-fighting equipment

**5.4.1** In the accommodation and service areas, there shall be **at least** one foam or equivalent extinguisher at each level of these areas.

**5.4.2** **At least** one foam or equivalent extinguisher and one **carbon dioxide** extinguisher shall be provided in each machinery space and boiler room.

**5.4.3** Machinery spaces with internal combustion engines with a total rated power of more than 100 kW and boiler rooms with liquid fuel-fired boilers shall be equipped with one 45-litre mobile foam extinguisher or equivalent.

**5.4.4** One foam or equivalent fire extinguisher shall be provided at the entrance to the flammable materials storage area

**5.4.5** There shall be **at least** one **carbon dioxide** fire extinguisher in the control room of the dock and in each room with electrical switchboards or other electrical equipment.

**5.4.6** The following set of fire-fighting equipment shall be carried in the companionway of each of the side walls leading to the **working** deck: one foam fire extinguisher, one carbon dioxide fire-extinguisher, a fire blanket and a fireman's hook and heavy fireman's axe. The equipment is intended for use at work on the **working** deck and shall be readily accessible from that deck. **This set shall be located above the flood level when the dock is submerged.**

**5.4.7** Two sets of fire-fighting equipment shall be provided for each autonomous dock. One set shall be located in each of the side walls, in a clearly marked location. One of the required sets of fire-fighting equipment may be located in the control room of the dock.

## 6 REQUIREMENTS FOR SPACES AND APPLIANCES POSING FIRE RISK

### 6.1 Galleys

**6.1.1** The galley space, if provided, shall be kept as far away as possible from storage spaces for readily inflammable materials, machinery spaces and workshops

**6.1.2** A galley space adjacent to accommodation spaces shall be separated from them by **walls** and decks **forming fire barriers of at least Class A-0.**

**6.1.3** A galley serving more than 50 persons shall have at least two exits, one of which may be an emergency exit

### 6.2 Flammable material storerooms

**6.2.1** Storerooms in which flammable solids or flammable liquids are stored shall be located away from machinery spaces and other spaces posing a fire risk.

**6.2.2** Flammable material storerooms shall be **separated from adjacent spaces** by walls and decks **forming at least Class A-0 fire divisions.**

**6.2.3** The entrance to the storeroom shall lead directly from the open deck.

**6.2.4** Stores of flammable liquids having a flashpoint lower than 43°C shall comply with the applicable requirements of *the Rules for the Classification and Construction of Sea-going Ships, Part V - Fire Protection.*



**List of amendments as of 1 July 2025**

<i>Item</i>	<i>Title/Subject</i>	<i>Source</i>
<a href="#">Entire Text</a>	Entire text of regulations updated	Own PRS