

Translation from Finnish

Legally binding only in Finnish and Swedish

Ministry of Social Affairs and Health, Finland

289/2017

Government Decree on the Working Environment on Board Ships

By decision of the Government, the following is enacted by virtue of section 10 of the Act on the Working and Living Environment and Catering for Seafarers on Board Ships (395/2013):

Chapter 1

General provisions

Section 1

Scope of application

This Decree applies to Finnish ships where seafarers work on board. However, this Decree shall not apply to:

- 1) state vessels used for defence and coast guard operations;
- 2) floating docks;
- 3) dredgers of less than 12 metres in length;
- 4) barges of less than 12 metres in length;
- 5) fishing vessels of less than 24 metres in length;
- 6) charter boats;
- 7) hydrofoils, hovercraft and historic ships.

Chapter 2

Physical attributes

Section 2

Maximum noise level and measurement

The A-weighted average noise level in work spaces may not exceed the values specified in Annex 1. Steps to bring noise down to below the levels laid down shall be taken immediately if noise measurement reveals that the values specified in Annex 1 are exceeded.

On ships which operate in ice and ships operating for relatively short periods per day, the noise level specified in Annex 1 may be exceeded by no more than 10 decibels when the ship is under way.

The noise level of the ship shall be measured and a report on the measurement as provided in Annex 2 shall be prepared.

Section 3

Protection against noise

Where the prevailing noise level in a working area on the ship exceeds 85 decibels, the door or passageway leading to such an area shall have a permanent sign indicating the noise level and requesting the use of ear protection.

Section 4

Vibration

Spaces where work is carried out continuously or for long periods of time at a stretch shall be free from any vibration that is hazardous to the safety or health of seafarers.

Section 5

Radiation

Any radar, radio transmitter antenna or similar piece of equipment that emits radiation shall be installed in such a way that when the equipment is in use, the radiation does not cause harm or danger to the safety or health of seafarers.

Section 6

Lighting

Work spaces and passageways on board shall have appropriate general lighting. Working areas and stairs, ladders and access hatches shall, when necessary, also have local lighting. The illumination levels in work spaces shall at least comply with Annex 3. Differences in levels of illumination which impair safety at work or are harmful to employees are not permitted.

Light fittings for general lighting shall be fixed. Light fittings are to be safe in relation to location, cargo carried and substances stored in the space concerned. Fixed general lighting is not required on unmanned transport barges.

Section 7

Temperatures

Rooms and spaces where work is regularly carried out shall be equipped with adequate heating.

In normal conditions, a temperature of about 20°C shall be capable of being maintained on the bridge and in the engine control room, radio room, offices, galleys and similar spaces. A temperature of not less than 16°C shall be capable of being maintained in workshops. In exceptional conditions, temporary deviations from the above values are permitted.

Section 8

Ventilation

It shall be possible to control the temperature, flow direction and velocity of the air so that it does not endanger the health of seafarers. It shall be possible to humidify the air when necessary if a hot-air or an air conditioning plant is used for heating.

The ventilation has to be so effective that impurities in the alveolar air do not cause any harm to health. If necessary, machinery, equipment and workplaces such as galley stoves, valve testing equipment and welding places as well as other similar workplaces must be fitted with local exhaust equipment. Facilities where the accumulator battery is located shall have adequate ventilation.

The mechanical ventilation equipment shall be kept operational and cleaned regularly. The cleaning shall be documented. The grease filters in galley ventilators shall be of adequate size and easy to clean. Dishwashing sections shall be provided with efficient steam exhaust.

Chapter 3

Passageways and work platforms

Section 9

Definitions

In this chapter:

- 1) *main passageway* means a passageway from fore to aft on deck, a passageway between separate compartments in the engine room or another passageway that is in regular use;
- 2) *inclination* means the angle to the horizontal;
- 3) *gangway* means an access to the ship from the quay having a maximum inclination of 20 degrees;
- 4) *accommodation ladder* means an access to the ship from the quay, fitted with a lifting appliance and having an inclination of over 20 degrees;
- 5) *stair* means a fixed access between different levels, having an inclination of 20 degrees or more but no more than 45 degrees;
- 6) *stepladder* means a fixed access between different levels, having an inclination of over 45 degrees and no more than 75 degrees;
- 7) *ladder* means a fixed access between different levels, having an inclination of over 75 degrees and no more than 90 degrees;
- 8) *stair landing* and *ladder landing* mean a platform or deck at the upper end of the stair or ladder, respectively;
- 9) *resting platform* means a platform dividing a flight of stairs or ladders into parts; and
- 10) *tread* means a foothold on stairs, ladders or elsewhere.

Section 10

Access to the ship

The passageway between ship and quay shall lead as direct as possible from the quay to the ship. The passageway shall, when necessary, be distinctly marked. The passageway shall, inasmuch as possible, be located apart from cargo handling areas and the risk zone of machinery and equipment.

Section 11

Accommodation ladder and gangway

The accommodation ladder shall be of such a length that when inclined at a maximum of 50 degrees, it extends to a height of no less than 0.60 metres above the water level at the lowest draught. The accommodation ladder shall be provided with horizontal platforms at both ends and with a resting platform if the length of the accommodation ladder exceeds 15 metres. The treads of accommodation ladders shall, if they do not assume the horizontal position, be such that they offer a firm foothold irrespective of the ladder's inclination.

Accommodation ladders and gangways shall have a width of not less than 0.55 metres and be provided with sufficiently strong guard rails of a height of not less than 1 metre on either side. The distance between guard rails shall be not less than 0.60 metres. In addition to the handrail, at least one intermediate rail shall be fitted. If the intermediate rail is a rope or chain, the distance between vertical stanchions shall not exceed 1.50 metres. Removable stanchions must be capable of being firmly secured.

Accommodation ladders and gangways shall have adequate strength and be safe to use, and they shall be secured to the ship in a reliable manner. Gangways and, when necessary, accommodation ladders, shall at their lower ends have protected wheels or rollers. A safety net extending beyond the passageway on both sides shall be rigged under accommodation ladders and gangways, and appropriate fittings shall be supplied for fastening the safety net. Accommodation ladders shall be properly maintained and inspected.

Section 12

Passageways on board ship

Passageways and ladders and stepladders used as passageways shall be appropriate and such in construction that they are safe to use. Passageways shall have non-skid surfaces. When grating is used for a passageway, the maximum openings of the grating shall be such that a ball with a diameter of 35 millimetres will not slip through. When the area under the grating is used for passage or work, the maximum openings of the grating shall be such that a ball with a diameter of 20 millimetres will not slip through.

The number of persons using the passageways, the frequency of usage and the goods moved along the passageways shall be taken into account in the dimensioning of passageways and stairs.

An adequate number of safe and appropriate passageways, clearly marked and fitted with handrails, where necessary, shall be provided for all working areas. Passageways, floors, stairs and such shall be kept in a condition that minimises the risk of slipping, stumbling and/or falling.

Provisions on passageways on different types of ship are laid down in Annex 4.

Section 13

Main passageways

Alleyways and ramps used as main passageways shall have a free width of at least 0.80 metres and a free height of at least 2.03 metres and, when necessary, taking into account the nature of the passageway's usage, they shall be fitted with handrails.

Stairs shall be provided with handrails and the free width between the handrails shall be at least 0.80 metres. Stairs shall have a free height of at least 2.03 metres.

On ships of less than 500 gross tonnage, the free width between handrails shall be at least 0.60 metres. On ships of less than 24 metres in length and on workboats, the main passageways shall be at least 0.60 metres.

Section 14

Other passageways

Alleyways and ramps used as passageways other than main passageways shall have a free width of at least 0.80 metres and a free height of at least 2.03 metres. However, derogation from these measurements is permitted on passageways that are used infrequently. Derogation from the measurements is also permitted on ships of less than 500 gross tonnage, on ships of less than 24 metres in length and on workboats when meeting the requirements would be structurally unreasonable, however provided that that this does not endanger the safety of seafarers.

Stairs other than ones used as main passageways shall be provided with handrails, the free width between which shall be at least 0.60 metres.

Section 15

Work platforms

Where necessary, workplaces shall be equipped with work platforms and guard rails and the necessary fittings for securing lifelines. Machinery and equipment that require regular maintenance shall be accessible by a passageway and work platform from which operation, maintenance and repair may safely be carried out. If the height from the lower work platform exceeds 0.50 metres, the work platform shall be equipped with a guard rail. Work platforms on masts and for external window-cleaning shall have a width of at least 0.30 metres. In these cases, the platforms shall be made of chequer plate, grating or parallel rods with clear gaps between them not exceeding 50 millimetres.

The height of the guard rail shall be not less than 1 metre and it shall be provided with at least one horizontal intermediate rail fitted so that the free openings do not exceed 0.50 metres vertically measured, or with vertical bars spaced not more than 0.17 metres apart. Guard rails on weather decks shall be fitted with at least two intermediate rails and the opening below the lowest rail shall not exceed 0.23 metres. The height of the foot rail shall be not less than 60 mm.

The provisions of section 12, subsection 1 concerning openings in grating used as passageways shall apply to grating used as work platforms.

Section 16

Door openings

Door openings on main passageways shall have a height of at least 2.0 metres measured from deck and a width of at least 0.80 metres. Outside main passageways and on ships of less than 500 gross tonnage, door openings shall have a width of at least 0.60 metres.

Doors in passageways, other than emergency exits, may not lead directly to stairs or ladders but to a stair or ladder landing, if risk of falling is not eliminated by other means. Stair and ladder landings shall be at least 0.60 metres by 0.60 metres.

Heavy doors shall be fitted in such a way that they will not foul each other or bring about the risk of persons being squeezed. Access hatches and doors other than fire doors shall be provided with a mechanism to secure them in the open position when necessary.

Section 17

Fixed ladders

Fixed ladders shall have handrails on either side. No separate handrail is required for vertical ladders when the ladder structure provides adequate handhold. Handrails or separate handholds and ladder guard hoops shall extend approximately 1 metre above the stair or ladder landing or equivalent landing. The distance between handrails on ladders shall be at least 0.40 metres and rung width shall be at least 0.35 metres. The rungs shall provide adequate foothold.

Ladders on masts and in similar locations shall have a width of at least 0.25 metres.

Ladders shall be fitted in such a way that the distance between the front edge of rungs to a bulkhead or another similar obstacle is at least 0.15 metres. Detached steps shall be so shaped that the foot is prevented from slipping off the side.

Section 18

Guard hoops on fixed ladders

If a ladder is over 5 metres in height and its inclination exceeds 70 degrees or if there is a risk of falling from the ladder into a cargo hold and the risk of falling is not eliminated by other means, the ladder shall be fitted with appropriate guard hoops starting from a height of 2.50 metres above base level.

Section 19

Resting platforms

Stairs and ladders shall be provided with resting platforms, fitted with guard rails, at intervals of not more than 6 metres vertically measured. The resting platform shall be at least as wide as the stair or ladder, however not less than 0.60 metres by 0.60 metres. As resting platforms for ladders on masts and in other similar locations, two parallel rungs and a single guard hoop, strong enough

to lean against, will suffice. Resting platforms are not required on passageways provided solely for emergency purposes.

Stairs and ladders with an inclination of less than 80 degrees and not bordering on bulkheads or corresponding obstacles shall be provided with guard rails having a height of at least 1.0 metres measured vertically from the front edge of a tread. An intermediate rail is required if the opening, measured perpendicularly to the handrail, exceeds 0.50 metres.

Section 20

Leaning ladders

Leaning ladders may not be used as work platforms. Leaning ladders may only be used for temporary access, for fastening and unfastening lifting accessories, and for other similar non-recurring work of short duration. The length of leaning ladders may not exceed 6 metres.

Leaning ladders shall be placed on a firm surface at the correct angle of inclination and be prevented from sliding or falling.

Chapter 4

Working areas

Section 21

Offices

Ships of at least 500 gross tonnage shall have a separate office or meeting room. On ships of at least 1,600 gross tonnage, the chief engineer shall be provided with an office. In addition, on ships of at least 3,000 gross tonnage that carry passengers or bulk goods, the deck officers shall be provided with an office.

Section 22

Bridge

The steering and navigating equipment shall be placed so that steering and navigation may be accomplished from either standing or seated position. If the equipment is intended to be used in

standing position, a seat for everyone on duty shall be provided, so placed that movement on the bridge and access to and movement at various action posts is unhindered.

If control equipment unrelated to navigation and steering are placed on the bridge, they shall be situated so that their operation does not interfere with the navigation and steering of the ship.

The lighting of the chart table, gauges and, when necessary, other equipment shall be provided with dimmers.

Section 23

Engine control room

On ships of gross tonnage of 1,600 or more, where the engine room is under constant control, and on ships of less than 1,600 gross tonnage where exposure to engine room noise is of significant duration, a separate control room or other sound-proofed space shall be provided adjacent to the engine room.

Section 24

Safety of mooring appliances

The chain locker shall be dimensioned and shaped so that chains can be stowed without anybody entering the locker.

Hawsepipes and chains shall, when necessary, be fenced in by guard rails or similar means.

Equipment for flushing anchor chains shall be provided in ships of 500 or more gross tonnage. Platforms for supervising the hoisting of anchors shall be fitted when necessary.

Section 25

Location of mooring appliances

The controls of mooring winches shall be so located that the operator is protected and has a good view of the mooring area. If this is not possible, the safety of the operator shall be ensured by other means.

Mooring winches, bollards and mooring rollers shall be located in such a way that there is adequate space for work and that mooring lines do not chafe against sharp edges or unnecessarily cross main passageways.

Mooring lines shall, if possible, lead direct from mooring pipes or fairleads to winches. If this is not possible, a maximum of two lead rollers are permitted between mooring pipe and winch, diverting from the straight lead as little as possible.

Rope reels shall, if possible, be located on the same deck as mooring winches and in such a way that ropes do not have to be hauled from the opposite side of the ship.

Section 26

Free area around mooring appliances

The free area around a bollard shall be not less than 0.40 metres, measured at the top of the bollard. On ships of 10,000 or more gross tonnage, the free area behind drum ends shall be not less than 2.0 metres and the free area beside the drum end not less than 1 metre. The free area around a capstan shall be not less than 1.0 metres and the free working area not less than 2.0 metres. On ships of less than 10,000 gross tonnage, the free area behind drum ends shall be not less than 1.50 metres and the free area beside a drum end not less than 0.80 metres. The free area around a capstan shall be not less than 0.80 metres and the free working area not less than 1.50 metres.

On ships of less than 10,000 gross tonnage the working areas at bollards fore and aft and, if possible, at bollards located elsewhere on board, shall be not less than 1.20 metres by 1.20 metres.

Section 27

Galley

Ships of at least 100 gross tonnage shall have an appropriately appointed galley with an adequate number of water taps fitted adjacent to work places and a floor drain. If there are tilting pots, pans or similar vessels in the galley, two appropriately placed floor drains shall be provided in the galley.

Surfaces in the galley shall be durable and easy to keep clean. Floors shall have non-skid surfaces.

The dishwashing section on a passenger ship shall, whenever possible, be placed in the immediate vicinity of the galley or distribution point and separated from the spaces where food is handled.

Section 28

Galley fittings

Fryers, food processors and similar appliances shall be fixed. Tilting pots and pans, ranges and, when necessary, other equipment shall, whenever possible, be fitted in such a position that they can be operated or used in the ship's longitudinal direction. Fat fryers shall be fitted with a drain which cannot open unintentionally. It shall be possible to tilt stock pots and fryers safely by means of a self-locking worm gear or a corresponding mechanism.

Oven doors opening downwards shall stop in the horizontal position. Oven doors shall be provided with a locking device. There shall be adequate worktop space next to ranges and adequate work surfaces at the various workplaces.

Section 29

Provision store rooms

A lifting appliance or other technical device for moving provisions on board and transferring them to store rooms shall be provided. Whenever possible, the provision store rooms and galleys shall be located on the same deck and there shall be easy access between them. If the provision store rooms and galleys are located on different decks and the number of persons to be catered for exceeds 40, a lift or other mechanical hoisting device for moving provisions between the decks shall be provided.

Appropriate storage space shall be provided for the various types of foodstuffs. If the provision store rooms are not located in the vicinity of the galley and on the same deck, adequate storage space for daily provisions shall be provided adjacent to or in the galley.

Freezing compartments shall be fitted with an alarm that is visible from the outside. The doors of freezing compartments shall be capable of being opened also from within. Adequate shelving shall be provided in freezing and refrigerated compartments.

Chapter 5

Machinery

Section 30

Lifts

Passenger lifts shall be such as not to endanger the safety of seafarers using them.

New lifts shall be inspected before they are taken into use, after which the lift shall be inspected within two years of being taken into use and thereafter every other year. The party carrying out the inspection shall be duly qualified.

Section 31

Language of instructions for operation and maintenance

The shipowner shall ensure that instructions for the safe operation and maintenance of machinery and equipment as necessary from an occupational safety viewpoint are available on board in the ship's working language and, when necessary, also in Finnish and Swedish.

Section 32

Communications equipment

Appropriate communications equipment, as required from an occupational safety point of view, shall be provided on board for various tasks.

Chapter 6

Measuring instruments

Section 33

Definitions

In this chapter,

1) *hazardous substances* means substances that may cause harm or danger to persons working on board due to their explosiveness or flammability, toxicity or other property;

2) *enclosed space* means a space accessed by a small aperture or having insufficient ventilation and a space not intended to be used for work on a continuous basis.

Section 34

Measuring instruments

If there are on board the ship enclosed spaces that must be entered, the ship shall be provided with a measuring instrument to determine the oxygen content in the enclosed space. In addition, passenger ships operating in international traffic and cargo ships of more than 500 gross tonnage shall be provided with appropriate portable measuring instruments capable of determining the content of at least flammable gases, carbon monoxide and hydrogen sulphide in the air. The measurement shall be performed from outside the enclosed space before entering the space and repeated as necessary while working in the enclosed space.

Seafarers shall have access to the instructions for operation and maintenance issued by the manufacturer of the measuring instruments as well as an adequate quantity of supplementary supplies to ensure the operation of the instruments. In maintaining measuring instruments, particular account shall be taken of the period of reliable operation of chemical detectors. The measuring instruments shall be calibrated on a regular basis.

Section 35

Risk of toxicity

Ships that carry in bulk oxygen-consuming substances or substances that are likely to emit toxic or flammable gases shall be provided with appropriate measuring instruments to determine the content of oxygen or gas in the air.

Ships that carry gaseous substances shall be provided with measuring instruments to detect the content of at least carbon monoxide, nitrogen oxides, carbon dioxide and hydrogen sulphide as well as the general presence of hydrocarbons.

Ships that regularly carry phenol, benzene, styrene, toluene, carbon tetrachloride, trichloroethylene, formaldehyde or similar hazardous substances shall be provided with measuring instruments to determine the concentrations of these substances.

Section 36

Risk of explosion or fire

Ships that carry explosive or flammable liquids in bulk shall be provided with at least two portable measuring instruments that are designed to monitor oxygen and the risk of explosion or fire and measure the combined air content of oxygen and flammable gases.

Section 37

Other provisions

Besides the provisions of this Decree, the provisions laid down regarding measuring instruments relating to fire safety and chemical and gas tankers shall also be complied with.

Chapter 7

Other equipment

Section 38

Electrical equipment

Electrical equipment and supplies shall be constructed in such a way that they are safe to use, control and maintain. Switchboards shall be clearly marked.

Electrical installations shall be designed and constructed in such a way that the electrical equipment does not cause harm or danger to the health and safety of seafarers and so as to ensure the proper functioning of all equipment necessary to maintain the vessel in normal operational and living conditions without recourse to an emergency power supply. The operation of electrical equipment essential for safety shall be ensured under all conditions.

Section 39

Gauges and other indicators

Gauges and other indicators shall be designed and installed with due regard to the perception abilities of the employee, so that employees will not be exposed to undue strain and so that the possibility of misunderstanding the information given by the instruments is reduced to a minimum.

Chapter 8

Miscellaneous provisions

Section 40

Entry into force

This Decree enters into force on 1 January 2018.

Section 41

Statutes and provisions repealed

This Decree repeals:

- 1) Government Decision Concerning the Working Environment on Board Ships (417/1981);
- 2) Government Decree on Protective Equipment and Measuring Instruments on Ships (825/2001);
- 3) sections 14, 18 and 22 of Government Decree on the Living Environment for Seafarers on Board Ships (825/2012)

Section 42

Transitional provisions

The provisions in force at the time of this Decree's entry into force shall apply to ships that are in use or completed at the time of this Decree's entry into force and to ships whose keel was laid before 1 July 2018.

The provisions in sections 13, 14, 16, 21 and 23; section 24, subsections 1 and 3; section 25, subsections 2–4; and section 26 may be derogated from with regard to ships acquired second-hand from abroad before 1 July 2017 providing that such ships nonetheless comply with international treaties and conventions at least and that the safety of seafarers is not endangered.

Annex 1

Maximum noise levels

	Gross tonnage of ship			
	100 – less than 500	500 – less than 1,600	1,600 – less than 10,000	10,000 or more
Engine control room	75 dB	70 dB	70 dB	70 dB
Workshop	85 dB	85 dB	80 dB	75 dB
Galley	80 dB	75 dB	70 dB	65 dB
Places in holds and on deck intended for continuous work in port	80 dB	80 dB	80 dB	80 dB
Offices	75 dB	70 dB	65 dB	60 dB
Bridge wings	75 dB	75 dB	70 dB	70 dB
Bridge	70 dB	65 dB	65 dB	65 dB

Annex 2

Noise level measurement in work spaces

1 General

The noise level shall be measured

- 1) on all new ships;
- 2) on ships where material modifications or repairs have been carried out;
- 3) on ships where the main engine has been replaced;
- 4) on ships acquired second-hand from abroad if no acceptable noise level measurement was carried out prior to the acquisition.

The noise level measurement shall be carried out by a qualified party.

2 Measuring conditions

- The noise level shall be measured while the ship is under way.
- During the measuring the output of the ship's main engine shall be at least 80% of the maximum propelling power. Also necessary auxiliary engines, ventilation plants and other equipment continually used shall be in operation.
- If there is reason to assume that the loading and unloading gear of the ship cause enough noise for the values mentioned in paragraph 3 to be exceeded, the measuring is to be carried out also when the loading and unloading gear is in operation.

3 Measuring instruments

- The measuring shall be carried out using an A weighting filter.
- The measuring shall be carried out with a sound level meter which meets at least the requirements for a precision sound level meter set forth in International Electrotechnical Commission (IEC) publication no. 179 or [IEC 804-1985].
- The measuring instrument shall be calibrated before and after each series of measuring. A reliable standard sound source shall be used in the calibration.
- When measuring, the meter shall be set to 'fast response'. In the event of high fluctuation in the sound meter's readings, the meter shall be set to 'slow response' and the mean reading shall then constitute the sound pressure level value. When measuring monotonous noise, each measuring shall last at least 5 seconds. The readings are rounded off to the nearest whole decibel value.

4 Points of measurement

- At least one measurement shall be taken in all work spaces and the microphone shall be set in the middle of the room at a height of approximately 1.25 metres from the floor surface or at ear height in the position persons generally assume in the room.

- Measurements shall not be taken at a distance of less than 0.5 metres from a bulkhead, deck, piece of furniture.

Ventilation or air conditioning devices shall be set on full effect. Measurements shall not be taken at a distance of less than 1 metre from a ventilation opening.

5 Report on measurement results

For each ship referred to in paragraph 1, a report shall be prepared on the measurement within six months. This report shall be kept available on board to the occupational health and safety authority. The report shall include a notification signed by the party that carried out the measurements regarding the noise level in the various spaces on the ship.

The report shall indicate the measurement results by point of measurement. The points of measurement shall be marked on the ship's general arrangement plan or accommodation drawings.

The report shall give the following information:

- 1) nature of the voyage, for example sea trial or voyage between ports A and B;
- 2) draught forward and aft;
- 3) wind and weather conditions and sea state;
- 4) speed and course;
- 5) output and r.p.m. of main and auxiliary engines, and max. r.p.m.
- 6) other significant noise sources present during the measurement;
- 7) makes and types of measuring devices and microphones; and
- 8) any other circumstances that may be of relevance in determining noise level.

Annex 3

Illumination levels

Space	General illumination (lux)	Local illumination (lux)
Offices	100	300
Bridge	100	300
Galley	150	300
Provision stores, not refrigerated	100	
Provision stores, refrigerated	50	
Engine room, pump rooms and steering engine room	100	300
Engine control rooms	100	300
Workshops	100	300
Cargo holds	40	
Vehicle decks	50	
Internal passageways, alleyways and stairs	100	
External passageways, alleyways and stairs	40	
Deck lighting	20	
Mooring areas	50	
Stores	50	

Annex 4

1. Passageways and work platforms on container ships

Ships that carry containers on deck shall be designed in such a way that the containers can be safely fastened and unfastened. The passageways between containers shall have a width of at least 0.75 metres. The fastening points for container securing bars in the aforementioned passageways shall be at a distance of at least 0.60 metres. The dimensions of the work platforms from which the container fastening is carried out shall be at least 0.75 x 0.75 metres.

2. Access to deck cranes

Fixed and safe means of access to a deck crane's control post and to parts requiring maintenance shall be provided for all positions in which the crane is might be used, except when this would result in unduly complicated technical arrangements. Means of access shall be stairs or ladders. In addition, an emergency exit approved in the initial inspection shall be provided.

Safe means of access in accordance with clause 1 above shall in any case be available when the deck crane is in 'stowed for sea' position, and in positions adopted when cargo handling appliances outside the ship are being used and when maintenance work is carried out.

If an exit from a deck crane cannot, for any reason, be used in all positions of the crane, the passage shall be effectively closed or designed in such a way as to make it impossible to fall when exiting the control post.

A vertical ladder exceeding 3.0 metres in length and a ladder less than 3.0 metres in length, the location of which constitutes a risk of falling into a cargo hold, shall be provided with a guard hoop or other acceptable structure to prevent falling.

3. Access to cargo holds

Safe means of access to cargo holds shall be provided. Access to cargo holds shall be by fixed stairs or ladders. The access shall, if possible, be located outside cargo hatches.

Appliances shall not be located so close to hatches that safe access or the opening of hatch covers is obstructed.

4. Access to cargo holds on dry cargo ships

On dry cargo ships where the difference in height between decks or between the lowermost deck and the bottom of the hold exceeds 12 metres, access shall be by means of stairs or ladders with an inclination not exceeding 70°.

Cargo holds exceeding 20 metres in length or breadth on dry cargo ships shall be provided with at least two means of access, one at each end of the holds. If an inclined ladder or stairs are required in a hold, a vertical ladder may be used as the other means of access.

5. Access to cargo holds on bulk carriers

Ladders in bulk carriers shall be located in such a way as to minimise the risk of damaging them when handling cargo. Vertical ladders instead of inclined ones can be accepted if they are located in line with each other and if the distance from deck to the bottom of the hold does not exceed 18 metres.

6. Access to cargo holds on tankers

Cargo tanks exceeding 35m length on tankers shall be provided with at least two means of access, one at each end of the tank. Ladders and handrails shall be firmly secured to structural parts of the tanks.

At the bottom of cargo tanks, passageways shall be fitted on top of the bottom structure or alternatively hatches being at least 0.60 x 0.80 metres in size shall be made in the floors at a height of not more than 0.60 metres from the bottom shell plating. Passageways shall be not less than 0.60 metres in width and they shall be provided with guard rails that are 0.90 metres in height and fitted with an intermediate rail. Where guard rails are provided on one side only, foot rails are to be fitted on the opposite side. Access to the passageway from the bottom of the tank shall be provided by means of ladders or steps. Where the hatch arrangement is used, access shall be facilitated by means of appropriate steps and handholds.

7. Access to cargo holds on ro-ro ships

The doorway leading to the cargo hold from the lower level of the stairs that lead to the cargo hold shall be safe so that it is not possible to collide with a vehicle when entering through the doorway. If access to the deck is provided by means of ramp, a clearly marked passageway for pedestrian traffic shall be set aside on the ramp and protected by means of a guard rail of adequate structural strength.