

The Swedish Maritime Administration's code



SJÖFS 2005:23

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**The Swedish Maritime Administration's regulations
and general advice on the working environment on
board ships**

Translation

In the event of disagreement concerning the interpretation and content of this text, the printed Swedish version shall have priority.

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The Swedish Maritime Administration's Code of Statutes



The Swedish Maritime Administration regulations and general advice on the working environment on board ships:

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The Swedish Maritime Administration stipulates the following¹, pursuant to Chapter 5, Section 10 of the Ship Safety Ordinance (2003:438) and Section 18 of the Working Environment Ordinance (1977:1166) and also decides upon the following general advice.

Chapter 1 General

Application

Section 1 These regulations apply, unless otherwise specifically stated, to all the Swedish Maritime Administration ships on which employees carry out ship work for an employer's account.

The regulations do not apply to naval ships.

Provisions whereby these regulations can also apply to employers and to professional activity without employees, are shown in Chapter 3 Section 5 of the Working Environment Act (1977:1160).

Section 2 Provisions governing the working environment on board naval ships are to be found in the Swedish Maritime Administration regulations and general advice (SJÖFS 2005:24) on the working environment on board naval ships.

Section 3 What is stated regarding employers in these regulations shall, as far as ships are concerned, also relate to shipowners, even when ship work is carried out by someone other than the person employed by the shipowner. In these regulations the term 'shipowner' is equated with whosoever exercises decisive control over the operation of the ship on behalf of the shipowner.

¹ See annex 1.

Notification has been made in accordance with the European Parliament and Council Directive 98/34/EC of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations, and regulations on information society services (ECT L 204, 21.7.1998, p. 37, Celex 31998L0034), amended by the European Parliament and Council Directive 98/48/EC (ECT L 217, 5.8.1998, p. 18, Celex 31998L0048).

Section 4 Upon application of these regulations, in the event of references in the Work Environment Authority regulations being made to the National Board of Occupational Safety and Health or the Work Environment Authority, this applies instead to the Swedish Maritime Administration.

Instructions and similar that, according to the Work Environment Authority regulations, are to exist in Swedish shall, if the ship's working language is not Swedish, exist in the ship's working language.

Definitions

Section 5 In these regulations concepts are employed with the following meanings. All the stated dB values relate to the reference pressure 20 microPa.

<i>employee</i>	any person who carries out a work task on board a vessel, including persons undergoing training
<i>A-weighted sound pressure level, L_{pA}</i>	weighted average of sound pressure level within the audible frequency range measured by means of weighting filter A in accordance with the standard SS-IEC 61672-1. Expressed in dB units. The term <i>sound level</i> with the unit <i>dB(A)</i> is also used as an abbreviated way of writing the A-weighted sound pressure level
<i>noise</i>	undesirable sound. Includes sound that is both damaging to hearing and disturbing
<i>C-weighted sound pressure level, L_{pC}</i>	weighted average of sound pressure level within the audible frequency range measured by means of weighting filter C in accordance with the standard SS-IEC 61672-1. Expressed in dB units. The term <i>sound level</i> with the unit <i>dB(A)</i> is also used as an abbreviated way of writing the C-weighted sound pressure level
<i>daily noise exposure level, $L_{EX,24h}$</i>	equivalent A-weighted sound pressure level for 24 hours. Includes all noise including impulse noise
<i>equivalent A-weighted sound pressure level, $L_{pAeq, T}$</i>	energy-equivalent average of an A-weighted sound pressure level during a given period of time T. Expressed in dB units. (Example of how it is written: $L_{pAeq,8}=85\text{dB}$, if the exposure time is 8 hours)
<i>recognised organisation</i>	such organisations as are referred to in Chapter 1 Section 5 of the Ship Safety Act (2003:364) and to which the Swedish Maritime Administration has provided information pursuant to Chapter 9 Section 2 of the Ship Safety Ordinance (2003:438)
<i>vessel work</i>	work for the vessel's account that is carried out on board, or at some other place, by someone belonging to the vessel
<i>limit value</i>	value that may not be exceeded

<i>The IMDG code</i>	The international agreement on the transportation of dangerous goods – International Maritime Dangerous Goods Code
<i>impulse sound</i>	short sound lasting for less than 1 second, the frequency-weighted top value of which exceeds the sound pressure level for a short time interval around the impulse sound by more than 15 dB
<i>impulse peak value, $L_{pC,peak}$</i>	maximal C-weighted instantaneous sound pressure level measured by an instrument with a rise time of less than 50 μ s
<i>performance value</i>	value that involves performance requirement regarding whether it is achieved or exceeded. Upon application of the value no consideration shall be given to any use of hearing protection when noise exposure is determined
<i>sound pressure level, L_p</i>	Logarithmic measurement of the sound's strength based on sound pressure in relation to the reference value 20 μ Pa (micropascal). Stated in dB units (decibel). (Example of how it is written: $L_p=85$ dB)
<i>air:</i>	
<i>used air</i>	waste air that is released into the open
<i>circulation air</i>	air that circulates within a room or waste air that is returned to the same room from which it is taken
<i>waste air</i>	air that is removed from a room
<i>supply air</i>	air that is supplied to a room. Supply air can be outside air, recirculated air or transfer air
<i>outside air</i>	air in, or from, the open-air
<i>recirculated air</i>	waste air that is recirculated to a group of rooms
<i>transfer air</i>	air that is transferred from one room to another
<i>listening posts</i>	normally the ship's bridge wings where other ships' signals can be observed
<i>maximum A-weighted sound pressure level, L_{pAFmax}</i>	maximum A-weighted sound pressure level with time weighting "F" (fast) in accordance with the standard SS-IEC 61672-1. Usually referred to as maximum sound level
<i>ototoxic substances</i>	chemical substances that, upon inhalation or exposure to skin, can damage or alter the function or structure of the inner ear or auditory nerve and thereby cause acute or chronic impairments of hearing and/or balance disturbances
<i>reduction figure</i>	value of air sound insulation R'_w between two mutually adjacent spaces in accordance with SS-EN ISO 717 (1996)
<i>risk assessment</i>	identification, estimation and evaluation of risks

Exception

Section 6 The Swedish Maritime Administration may, if there are special reasons, grant exception from these regulations if this is not in breach of international agreements or Community law legislation.

If other provisions governing exception are to be found in these regulations, then such provisions shall apply instead of what is stated in the first paragraph.

Mutuality clause

Section 7 Ships and equipment on board ships that are approved in accordance with the rules in other member states within the European Economic Area (EEA) as well as in Turkey, are equated with ships and equipment that satisfy the requirements in these regulations, on condition that an equivalent safety level is thereby achieved.

Penalties

Section 8 With regard to liability upon breach of regulations issued pursuant to Section 18 first paragraph 1–3 of the Working Environment Ordinance (1977:1166), regulations are given in Chapter 8 Section 2 of the Working Environment Act (1977:1160).

Chapter 2 The Work Environment Authority regulations

Use of work equipment

Section 1 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 1998:4) on the use of work equipment shall apply.

Work in a toxic environment or where there is a danger of explosion

Section 2 On ships that are covered by these regulations, Section 1 first and third paragraph as well as Sections 2–19 of the Swedish Work Environment Authority's regulations (AFS 2003:3) shall apply with regard to work in an environment where there is a danger of explosion.

When a vessel lies at a Swedish yard then the National Board of Occupational Safety and Health's Announcement (AFS 1986:26) on certain work on ships shall apply instead.

General advice

Ships that apply instructions and checklists in ISGOTT (International Safety Guide for Oil Tankers and Terminals) normally satisfy the requirements in the Swedish Work Environment Authority's regulations (AFS 2003:3) on work in an environment where there is a danger of explosion, with the exception of the provisions governing zone classifications. Where chemical tankers are concerned there are also recommendations in the Tanker Safety Guide (Chemicals) and, for gas tankers, in the Tanker Safety Guide (Liquefied Gas).

Section 3 Equipment and protection systems that are to satisfy the requirements in Section 2 may, with the consent of the Swedish Maritime Administration, instead satisfy the equivalent requirements that are imposed by a recognised organisation.

Section 4 These regulations on work in an environment where there is a danger of explosion, do not apply

- when substances that may explode are the subject of such international transport as referred to in the IMDG Code.
- to such use and intentional production of flammable gases and fluids for which regulations that, in respect of the European Parliament and Council's directive 1999/92/EC of 16 December 1999 on minimum requirements for the improvement of the safety and health of employees who may be exposed to danger caused by an explosive atmosphere (fifteenth special directive according to article 16.1 in directive 89/391/EC)², have been issued pursuant to the ordinance (1988:1145) on flammable and explosive goods,
 - to premises that are used for the medical treatment of patients,
 - to the use of devices for the burning of fuels in gas form,
 - to the handling of explosive goods, and
 - to handling where the risk of explosion relates only to the presence of chemically unstable substances.

Work in enclosed space

General advice

For work in enclosed space the National Board of Occupational Safety and Health's general advice (AFS 1993:3) on work in confined spaces, should be applied.

² ECT L 023, 28.1.2000 p. 36 (Celex 32000L0092).

Work in extreme heat

Section 5 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 1997:2) on work in extreme heat shall apply.

Work in checkouts

Section 6 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1992:19) on work in checkouts shall apply.

Work with display screen equipment

Section 7 On ships that are covered by these regulations, where office workplaces are concerned, the National Board of Occupational Safety and Health regulations (AFS 1998:5) on work with display screen equipment shall apply.

Work adjustment and rehabilitation

Section 8 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1994:1) on work adjustment and rehabilitation shall apply.

Asbestos

Application

Section 9 On ships that are covered by these regulations, the Swedish Work Environment Authority regulations (AFS 1996:13) on asbestos, with the supplements shown in Sections 10–16 shall apply.

For asbestos work on board ships that lie in Swedish yards, the Swedish Work Environment Authority regulations (AFS 1996:13) on asbestos and the Swedish Work Environment Authority regulations (AFS 1986:26) on work on board ships, shall have direct application.

Exception from the prohibition

Section 10 If work with asbestos or asbestos-containing material has to be carried out immediately with regard to the vessel's safe operation and seaworthiness in general, the master may decide that the work is to be carried out despite the absence of consent by the Swedish Maritime Administration.

Before the master takes such a decision there shall have been consultation with the safety committee or, if such does not exist, the safety representative.

The decision shall be noted in the ship's log or, if such does not exist, noted separately. The notations shall state the reasons why the decision was taken and also if there were any divergent opinions.

The master shall notify the Swedish Maritime Administration as soon as possible on the decision and the reasons for it.

Protective equipment and hygiene

Section 11 On ships where asbestos or asphalt-containing material is to be found, there shall be equipment kept on board for such asbestos work as stated in Section 10. Equipment is understood to mean both technical equipment as well as personal protection equipment.

Those carrying out asbestos work in accordance with Section 10 shall, moreover, have undergone a medical check and have received training in accordance with the Work Environment Authority regulations (AFS 1996:13) on asbestos.

Inventory, check and maintenance

Section 12 On ships that may be suspected to contain asbestos inventory shall be made in order to ascertain whether asbestos or asbestos-containing material is present. The result of the inventory shall be documented. The documentation shall be present on board and shall be updated when changes occur.

General advice

As a guideline for how the documentation should look, reference is made to the material "Working with asbestos" by Prevent. Prevent is a professional body within the working environment sector, owned by the Confederation of Swedish Enterprise, National Swedish Confederation of Trade Unions and The Council for Negotiation and Co-operation.

Section 13 The presence of asbestos shall be shown by the use of warning signs in easily visible places.

The signs shall be in Swedish and, for ships engaged in international trade, in English as well.

Section 14 Check and maintenance programmes for asbestos and asbestos-containing material shall be present. Checks to ensure that the casing of encased asbestos is intact, shall be conducted in connection with safety inspection rounds. Damage to casing shall be repaired immediately.

Where the integrity of the casing is regularly damaged by vibrations, mechanical influences or other similar circumstances, those sections with asbestos shall be removed and replaced with other material.

Section 15 If a foreign vessel is bought by a Swedish shipowner then the occurrence of asbestos and also asbestos-containing material shall be inventoried within three months of the acquisition.

If a foreign vessel with known asbestos and asbestos-containing material is bought by a Swedish shipowner, damaged casings shall be repaired within 14 days of the acquisition.

Section 16 All measures covering asbestos and asbestos-containing material shall be noted and all documentation shall be collated and be available for inspection.

Sewage systems

Section 17 On ships that are covered by these regulations, Sections 1–3, 6 and 8–16 of the National Board of Occupational Safety and Health Announcement (AFS 1984:15) on sewage systems etc. shall apply.

Section 18 Systems and equipment for sewage, sludge or latrines shall be so arranged that pollution of the ship's engine-room and bilge system cannot occur.

Section 19 Pipes for pumping ashore toilet waste shall be able to be flushed with seawater. The pressure in the piping may not exceed 0.6 Mpa upon connection to the receiver unit ashore.

Section 20 Venting pipes from purifying plant, systems or tanks for toilet waste shall lead to the open deck. The outlet of the airpipe shall be positioned at the greatest possible distance from the outlet of venting pipes for freshwater tanks and so that it does not create a nuisance for the crew or passengers.

Section 21 The overflow designed to prevent overfilling of a tank for toilet waste shall lead to a suitable collection tank.

Load ergonomics

Section 22 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 1998:1) on ergonomics for the prevention of musculoskeletal disorders shall apply.

Lead batteries

Section 23 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1988:4) on lead batteries for the operating of vehicles shall apply.

Solitary work

Section 24 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1982:3) on solitary work shall apply.

Section 25 On ships where solitary work in isolated places may occur, the employee shall have access to devices that automatically trigger an alarm and summon help (dead man's alarm) provided resetting of the alarm device's timer has not occurred within 30 minutes. The employee shall also be able to activate the alarm manually.

Hairdressing work

Section 26 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1985:18) on hairdressing work shall apply.

First aid and crisis support

Section 27 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 1999:7) on first aid and dealing with crises shall apply.

Gases

Section 28 On ships that are covered by these regulations, Sections 1–14 and 20–22 of National Board of Occupational Safety and Health regulations (AFS 1997:7) on gases shall apply.

Gas cylinders

Section 29 On ships that are covered by these regulations, the Swedish Work Environment Authority regulations (AFS 2001:4) on gas cylinders shall apply.

Section 30 These regulations regarding gas cylinders do not apply when the gas cylinders are the subject of such international transport as referred to in the IMDG Code.

Pregnant and breast-feeding employees

Section 31 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1994:32) on pregnant and breast-feeding employees, shall apply.

Hygienic limit values and measures against air-pollution

Section 32 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 2005:17) on occupational exposure limit values and measures against air-contaminants shall apply.

Thermo-setting plastics

Section 33 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 2005:18) on thermo-setting plastics shall apply.

High-pressure spraying

Section 34 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1994:54) on certain work with high-pressure jets, shall apply.

Chemical working environment risks

Section 35 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 2000:4) on chemical hazards in the working environment shall apply.

Offensive discrimination in the working life

Section 36 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1993:17) on victimization at work shall apply.

Pulley block chains

Section 37 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (1974:23) on pulley block chains shall apply.

Manual handling

Section 38 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 2000:1) on manual handling shall apply.

Mast and pole work

Section 39 On ships that are covered by these regulations, Sections 1–5, 12 second paragraph, Sections 13–15, 20–26 and 38 of the National Board of Occupational Safety and Health regulations (AFS 2000:6) on mast and pole work shall apply.

Medical checks

Section 40 On ships that are covered by these regulations, Sections 1–3 Section 4 first paragraph b and c as well as second paragraph e, Sections 5–11, 27–40, 57–62 and 68 the Swedish Work Environment Authority regulations (AFS 2005:6) on medical checks in the working life shall apply.

Microbiological working environment risks

Section 41 On ships that are covered by these regulations, the Swedish Work Environment Authority regulations (AFS 2005:1) on microbiological working environment risks – infection, toxin influences, hypersensitivity – shall apply.

Chain saws and brush saws

Section 42 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 2000:2) on use of chain saws and brush saws shall apply.

Personal protective equipment

Use of personal protective equipment

Section 43 On ships that are covered by these regulations, the Swedish Work Environment Authority regulations (AFS 2001:3) on the use of personal protective equipment shall apply.

Performance of personal protective equipment

Section 44 On ships that are covered by these regulations it is required that, upon use of personal protective equipment, it shall comply with National Board of Occupational Safety and Health Announcement (AFS 1996:7) on the performance of personal protective equipment.

Provisions regarding equipment for personal use are also to be found in the Swedish Maritime Administration's regulations and general advice (SJÖFS 1999:8) on marine equipment.

Personnel lifting by cranes and other lifting equipment

Section 45 On ships that are covered by these regulations, Sections 1–5, 7–11, 13, 15–35 and 37–43 of the National Board of Occupational Safety and Health Announcement (AFS 1983:5) on personnel lifting by cranes and other equipment shall apply.

These regulations do not apply to the lifting of persons in rescue craft with lifting equipment specifically intended for such lifting.

Provisions regarding inspection are to be found in the Swedish Maritime Administration's Announcement (1973:A9) on lifting equipment on ships.

Hanging scaffold and similar equipment

Section 46 Work cages designed for use in respect of work on the ship's exterior or similar place, shall be dimensioned either for a static load of at least 2 500 Nm² or a spot load of 2 500 N. The alternative that provides the strongest construction shall be selected. The breaking strain factor shall be at least 4.

Section 47 Line made of natural or synthetic fibre shall have a minimum diameter of 25 millimetres and shall be dimensioned for a breaking strain factor of at least 10. Steel line and chain shall have a minimum diameter of 10 millimetres and shall be dimensioned for a breaking strain factor of at least 5. Synthetic fibre line shall be UV stabilised.

Section 48 Cranes shall be of a rigid construction and possess a control system whereby they can be manoeuvred without oscillations, swinging or dynamic forces arising that give rise to a nuisance to persons in the work cage.

Machine-operated staging shall be fitted with top limit switches and the lifting speed shall not exceed 0.15 m/s.

Section 49 Hoistable work cages shall be fitted with a fender or rope guide pulleys on the side facing the bulkhead or side of the ship.

Section 50 Vertically movable work cages or cradles shall be clearly and permanently marked with maximum permitted load. Work cages or hanging cradles shall be fitted with signs showing the manufacturer's name, the cradle's type designation, year of manufacture and serial number. Where several sections comprise the hanging cradle, each section shall bear the sign just referred to.

Section 51 A check of the fitting and suspension system for vertically movable work cages or hanging cradles shall be carried out by the master, or a person appointed by him, at least once a year. The check shall be documented.

Section 52 Every five years vertically movable platforms or cradles shall be load tested with a minimum of 25 per cent overload.

Restaurants and other large scale caterers

Section 53 On ships that are covered by these regulations, Sections 1–60 of the National Board of Occupational Safety and Health Announcement (AFS 1982:20) on work in restaurants and other mass caterers shall apply.

Protection against blood borne infection

Section 54 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1986:23) on protection against blood borne infection shall apply.

Protective measures against injury through falls and collapse

Section 55 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1981:14) on measures against injury through falls and Sections 1–13 and 15 and the National Board of Occupational Safety and Health Announcement (AFS 1981:15) on measures against injury through collapse shall apply.

Grinding machines and grinding tools

Section 56 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1987:18) on grinding machines and grinding tools shall apply.

Fuse welding and thermal cutting

Section 57 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1992:9) on fuse welding and thermal cutting shall apply.

Paint spraying

Section 58 On ships that are covered by these regulations, Sections 1–7, 9, 10 and 19–21 of the National Board of Occupational Safety and Health Announcement (AFS 1986:29) on paint spraying shall apply.

Cleaning of sprays and other equipment as well as mixing and thinning of paint, over and above what is stated in Section 4 of the National Board of Occupational Safety and Health Announcement (AFS 1986:29) on paint spraying shall take place outdoors in an appropriate place.

Ladders and work trestles

Section 59 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 2004:3) on ladders and work trestles shall apply.

On board ships, ladders shall always be braced or fastened down unless this is clearly unnecessary. Portable ladders shall not be longer than seven metres.

Synthetic inorganic fibres

Section 60 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 2004:1) on synthetic fibres shall apply.

Systematic work environment management

Section 61 On ships that are covered by these regulations, the Swedish Work Environment Authority regulations (AFS 2001:1) on systematic work environment management shall apply.

Trucks

Section 62 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1986:24) on trucks shall apply in respect of trucks kept on board ships.

Pressure vessels

Use of pressure equipment

Section 63 On ships that are covered by these regulations, Sections 1–12 and 21–25 of the Swedish Work Environment Authority regulations (AFS 2002:1) on pressure equipment shall apply.

Inspection of pressure equipment

Section 64 On ships that are covered by these regulations, Sections 2–46 of the National Board of Occupational Safety and Health regulations (AFS 2005:3) on inspection of pressure equipment with the exception of the pressure equipment that is inspected by an approved organisation shall apply.

Pressure testing

Section 65 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1985:14) on pressure testing shall apply.

Warning signs and warning signals at workplaces

Section 66 On ships that are covered by these regulations, the National Board of Occupational Safety and Health regulations (AFS 1997:11) on warning signs and warning signals at workplaces shall apply.

The pictograms according to these regulations may be replaced by pictograms developed in accordance with internationally accepted shipping practices.

Vibrations

Section 67 On ships that are covered by these regulations, Sections 1–8 or, Section 9 first paragraph, Sections 10–13 of the Swedish Work Environment Authority regulations (AFS 2005:15) on vibrations shall apply.

Section 68 When whole-body vibrations are caused or transferred by the ship's hull, the limit value for whole-body vibrations shall not apply if, with regard to the relevant technical development and the particular character of the workplace, it is not possible to fulfil these obligations. Upon risk assessment being made, particular attention shall be paid to the extension of the exposure beyond working hours of employees on board ships, and risks of disturbed rest that are a consequence of the vibrations.

Section 69 As regard new constructions efforts shall be made to prevent ship vibrations from exceeding the values that, according to SS-ISO 6954, table 1, are expected to give rise to complaints.

Violence and threats in the working environment

Section 70 On ships that are covered by these regulations, the National Board of Occupational Safety and Health Announcement (AFS 1993:2) on violence and menaces in the working environment shall apply.

Chapter 3 Lighting

General

Section 1 Workplaces shall, as far as possible, be arranged so that they enjoy satisfactory daylight and are equipped with the artificial lighting that is appropriate for the work that is carried out, without the employees' safety and health being risked or the vessel's own, or other ships', navigation being jeopardised. At places where onboard employees, passengers, stevedores or others move about, there shall be satisfactory lighting.

Daylight requirements in accommodation quarters are to be found in the Swedish Maritime Administration's Announcement (SJÖFS 1992:6) with regulations and general advice on the crew's accommodation on board ships etc.³.

Section 2 The lighting shall be planned, executed and maintained as well as examined and assessed to the extent required in order to prevent illness and accidents.

Light sources and lighting plant

Section 3 Light fittings shall, if possible, be fixed and of satisfactory execution with regard to their positioning, the cargo carried or the substance that is stored in the space or at the location in question. Light fittings shall be selected and installed so that appropriate luminosity and light distribution is achieved and so that glare is avoided.

Section 4 On cargo decks of ferries and ro-ro ships with marked traffic lanes, the light fittings shall be positioned above the dividing lines of the traffic lanes and also above marked walkways.

Section 5 The rendering of colour of light sources shall be appropriate to the tasks. The lighting shall be arranged so that warning signs, emergency stop devices and the like are easy to discern.

Section 6 The lighting shall be arranged so that bothersome flickering does not arise. Exposure to UV radiation shall not involve a risk to health.

Section 7 Measures shall be taken to prevent accidents occurring as a result of moveable machine parts, work objects or similar appearing to move slowly or to stand still when they are looked at in periodically varying lighting.

³ Note that The Swedish Maritime Administration's Announcement (1970:A4) regarding accommodation and catering premises on board vessels, continues to apply in certain respects to certain vessels, according to the interim regulations in SJÖFS 1992:6.

Luminance

Section 8 The luminance at different places on board shall at least amount to the stated values according to the table in *annex 2*.

Light losses

Section 9 Upon calculation of lighting installations in spaces with severe contamination or many fittings that are difficult to access, a retention factor of no less than 0.7 shall be employed.

Chapter 4 Noise

Highest sound levels and airborne sound insulation requirements

Section 1 Sound levels in work premises and recreation spaces may not exceed the values shown in *annex 3*.

Airborne sound insulation may not be less than the values shown in *annex 3*.

Noise that may constitute obvious hearing damage risks or other risks

Hearing impairing noise

Section 2 The following exposure values (limit value and upper exposure limit) for noise with regard to the risk of damage to hearing may not be exceeded.

	Limit value
Equivalent noise level for 24 hours (exposure to the ear with consideration given to the use of hearing protection).	80 dB(A)
Maximum equivalent sound level for 24 hours (exposure without consideration given to the use of hearing protection).	105 dB(A)
Maximum sound level (with the exception of impulse sound).	120 dB(A)
Maximum impulse top value.	135 dB(C)

Section 3 Work in hearing-impairing noise shall be planned and conducted so that noise exposure for those employed in the activity is reduced to the lowest possible level with regard to technical development and the possibilities of limiting the noise.

The employer shall examine the working conditions and assess the risks consequent upon exposure to noise in the work.

The employees shall have an opportunity to be involved in the matters covered by these regulations.

Speech-inhibiting background noise

Section 4 When background noise inhibits spoken communication or renders it impossible in situations that can require secure verbal understanding in order to avoid danger or serious mistakes, measures shall be taken to ensure such secure communication.

General advice

An acceptable background level for the majority of those with normal hearing regarding conversation at normal vocal strength at one metre apart and also in a common mother tongue, is 55–60 dB(A). Under aggravating circumstances it may be required that the background level is no greater than 40–50 dB(A).

Alarm level and background noise

Section 5 The sound level from alarm signals where a person is normally present (ear level) may not be higher than 115 dB(A). The alarm's frequency range shall, if not consisting of bells, primarily lie within the frequency range of 200 to 2 500 Hz.

The lowest sound level for alarms in cabins shall be 75 dB(A). Upon normal operation and moderate weather conditions, the alarm shall exceed the background level by at least 10 dB(A) in all spaces.

Checks and damage preventing safety measures

Purchase of technical devices

Section 6 Upon acquisition of machines or other technical devices, efforts shall be made to select such devices as create as little noise as possible.

Section 7 Machines and other technical devices shall be installed and maintained so that noise exposure is kept as low as practicably possible. Equipment and components that create noise shall, as far as possible, be placed in separate spaces or be screened off in order to limit noise exposure.

Noise mapping

Section 8 Noise mapping shall be undertaken in connection with the purchase of ships from abroad or before the vessel is brought into operation

for the first time. Following major reconstruction, replacement of engines or when, for other reasons, it may be suspected that the noise levels are altered more than marginally, a renewed noise mapping shall be undertaken.

Section 9 Ships shall be noise mapped. The noise mapping shall, in appropriate respects, be undertaken in accordance with ISO 2923:1996(E). In addition a frequency analysis shall be made and the C-weighted sound level measured where the A-weighted sound level exceeds 85 dB(A).

A noise map shall be drawn up in accordance with *annex 4*.

Section 10 Noise mapping shall be recorded. The record shall be kept on board and shall be easily accessible to the crew.

The record shall be submitted to the Swedish Maritime Administration as soon as possible after the measuring has been carried out.

Exposure estimation and exposure measurement

Section 11 To employees who work in high noise levels help shall be offered on board for estimation of their equivalent noise exposure for individual days, including when the employee has worked in several noise zones.

Such estimates shall be based upon the noise mapping, information from the employee regarding periods of time spent in the various noise zones, as well as what is stated in *annex 5* regarding equivalent noise exposure.

General advice

Exposure measurement of employees who are involved in loading and discharging should take place after consultation with the person in charge of coordination in port when the port employs its own loading and discharging equipment.

Regarding work in monotone noise and where the own work makes minor contributions to noise, the information from the noise mapping and the time in the noise can provide sufficient accuracy and correspond to an exposure measurement if the operating conditions are the same as those regarding the noise mapping.

Noise levels below 70 dB(A) are not regarded as contributing towards hearing impairment.

Information to the employees

Section 12 If the calculated equivalent daily exposure exceeds 75 dB(A) (the lower exposure limit) without consideration being given to hearing protection, the employees shall be informed of the risks regarding high noise levels. Such information shall contain

- consequences of the risks related to high noise levels,
- measures and methods used on board in order to reduce the risks,
- limit value and exposure limit according to these regulations,

- reporting of noise mapping carried out, with explanations and risk assessment,
- instructions that relate to the use of hearing protection,
- instructions that relate to determined, and the reporting of signs of, impaired hearing,
- a description of the access to, and purpose of, hearing checks,
- how noise and ototoxic matters work together,
- how noise and vibrations work together, and
- methods of work to reduce the risk of hearing impairment.

Warning signs

Section 13 By the entrance to spaces or places with a normally higher continuous sound level than 85 dB(A), mandatory signs and supplementary signs shall be put up with the arrangement and text as shown in *annex 6*.

Section 14 Areas with a higher sound level than 120 dB(A) shall be specially marked and also declared out of bounds.

Hearing protection

Section 15 Where warning signs give notice of high sound levels and where there may otherwise occur sound levels beyond the upper exposure limit, hearing protection shall be employed.

Section 16 Hearing protection shall be provided by the employer to employees who are exposed for 24 hours to an equivalent sound level higher than 75 dB(A) (lower exposure level) and whosoever stays in a noise environment according to Section 15.

Section 17 Hearing protection shall be selected in consultation with the employee concerned and a qualified person with knowledge of the exposure conditions on board.

The hearing protection may take the form of hearing protection hoods and/or earplugs. There shall always be access to disposable earplugs as an alternative when it is not possible to use hearing protection hoods.

Hearing protection shall be personal.

General advice

In the Swedish Work Environment Authority factual study book "Personal protection equipment" two methods for the choice of hearing protection are presented. One of these methods (the HML method) can be used without special prior knowledge if one has knowledge of noise values in dB(A) and dB(C) and also has the specifications for the hearing protection's moderation. The methods for the choice of hearing protection are also described in the Swedish Work Environment Authority handbook "Noise and noise

Control” as well as in the interactive training CD “Sound and noise” from Prevent. Prevent is a professional body within the working environment sector, owned by the Confederation of Swedish Enterprise, National Swedish Confederation of Trade Unions and The Council for Negotiation and Co-operation.

Section 18 Hearing protection shall moderate noise to such an extent that the noise exposure shall not, under any circumstances, exceed the limit values for exposure according to Section 2.

Hearing tests

Section 19 An employee who, through his work, is exposed more than temporarily to sound levels above 85 dB(A) shall, through the employer, be given the opportunity to undergo hearing tests by audiometry. The time intervals between the examinations shall be adjusted to the prevailing exposure conditions and the employer’s normal interval for serviceability certificate. Consideration shall also be given to the assessment made by the person in charge of the hearing examination.

The examined person shall be informed of the outcome of the test and also be given a personal copy of the audiogram.

Section 20 If hearing impairment is discovered the examining doctor shall assess whether the damage is work-related. If the hearing impairment is assessed as being work-related then both the employer and the employee shall be informed.

The employer shall, upon new discoveries of work-related hearing impairment, together with the company health care or other qualified resource:

- assess whether previously made measurements and risk assessments need to be reconsidered,
- review the choice of protection,
- examine the possibilities of noise-reducing measures, and also
- assess the need for increased hearing checks for other employees who are exposed to noise in a similar manner.

Chapter 5 Refrigeration plant

Refrigeration plants with ammonia

Section 1 Special provisions on refrigeration plants with ammonia are to be found in the Swedish Maritime Administration's regulations and general advice (SJÖFS 2004:12) on refrigeration plants with ammonia on board ships.

Refrigeration plants that contain CFC, other CFC, halons, HCFC and HFC

Section 2 Provisions on the use etc. of CFC, other CFC, halons, HCFC and HFC are to be found in the European Parliament and Council's ordinance (EC) No. 2037/2000 of 29 June regarding substances that break down the ozone layer⁴, amended through the Council Regulation (EC) No 1804/2003⁵ as well as the Ordinance (2002:187) on substances that deplete the ozone layer.

In Notice (2004/C 187/03) regarding Regulation (EC) No 2037/2000 of the European Parliament and of the Council on substances that deplete the ozone layer, directed at businesses within the European Union that import controlled substances during 2005 that deplete the ozone layer, there is to be found, in annex 1, a specification of the substances that are covered by the ordinance.

Section 3 Discharge from safety valves or equivalent, from a refrigeration plant, shall be channelled out into the open-air.

Section 4 For work on refrigeration plant that involves work in the refrigerant circuit, service technicians are required who hold certification approved by the Swedish Environmental Protection Agency regulations (SNFS 1992:16) on refrigeration plants and heat pumps containing CFC, other CFC, halons, HCFC and HFC (the Refrigerant Order).

Section 5 Gas bottles or refrigeration plant that might contain cooling agents or remnants of such, may not be heated up by means of an open flame.

Section 6 If a gas leak is suspected or arises from refrigeration machinery or its piping system, the room in which such a leakage may arise may not be entered without the responsible supervisor having issued instructions. If the gas can cause illness, respiration protection and other necessary protective equipment shall be used.

⁴ ECT L 244, 29.9.2000, p. 1 (Celex 32000R2037).

⁵ EUT L 265, 16.10.2003, p. 1 (Celex 32003R2804).

Section 7 Those employed on board who enter refrigerated cargo holds that are refrigerated by means of refrigerants that are injurious to health, shall have access to appropriate respiration and eye protection.

Section 8 Further rules relating to gases are to be found in the National Board of Occupational Safety and Health regulations (AFS 1997:7) on gases.

Chapter 6 Young people

General

Section 1 These provisions apply when someone who is not yet 18 years old (young people) carries out ship work as an employee or in connection with professional activity or otherwise undergoes training on ships that are covered by these regulations.

Provisions regarding when young people may carry out ship work are to be found in Chapter 4, Section 7 of the Ship Safety Act (2003:364) and Section 45 of the Merchant Seaman Act (1973:282).

With regard to training, only Sections 2, 5–7 and 11 apply.

Section 2 Tasks for young people shall be chosen with great care. Particular consideration shall be given to the young people's physical and mental prerequisites for the work. Satisfactory security shall be provided against accidents, load injuries, overexertion, extreme climatic conditions, damage from noise and vibrations and other conditions that can exert an injurious influence upon the young people's health or development in physical, mental or social aspects.

The young people shall have undergone the training, availed themselves of the instruction and received the information relating to the relevant work that is required from a protection perspective and with regard to the young people's age and maturity.

The master shall ensure that the work takes place under the management and supervision of a suitable person and shall also assure himself that there are satisfactory routines as to how young people shall be introduced and instructed.

Section 3 If it is necessary to assess whether the work involves a particular risk for a certain underage worker's health or safety, the assessment shall be based on a health check of the underage worker, to be repeated as necessary.

Section 4 The safety representative, if there is one, shall be informed about where and for what tasks the young people are to be engaged.

If young people are involved, who are not yet 16 years old and have not yet completed their compulsory schooling, the guardian shall, in addition, be informed of the protective circumstances.

Hazardous work

Section 5 Young people may not be engaged for, or carry out, such tasks on board ships as stated in *annex 7*. This does not apply, however, in the following cases.

1. The tasks form part of training supervised by instructor in places that are specifically set up for training.

2. The young people have reached the age of 16 and have completed their compulsory schooling, and also

- the task forms part of professional training and takes place under the direct supervision of a specifically appointed instructor, or
- the young people have completed professional training in relation to the relevant task.

The exception only applies if the content of the training is governed by a syllabus approved by the authority responsible for training or by an employers organisation jointly with a trade union or equivalent employees organisation.

Where it is specifically stated in *annex 7* the exception only applies if a doctor has determined that the young people may be engaged for the work without the risk of overexertion or other injurious effect upon health or development.

Section 6 The person appointed as an instructor according to Section 5 first paragraph, shall possess good knowledge of the work and its risks. The instructor shall constantly ensure that pupils work in a safe manner and have knowledge of the risks of the work and also have sufficient time allocated for completing the task as instructor.

Section 7 In no event may young people be engaged for, or carry out, such work as stated in *annex 8*.

Working hours

Section 8 When young people, who have reached 16 years of age and have completed their compulsory schooling, are engaged for vessel work as an employee, the following special working hours provisions apply.

1. The work may occupy a maximum of eight hours per day and 40 hours a week in total.

2. The time between 22.00 and 06.00 or the time between 23.00 and 07.00 shall be free of work.

3. The young people shall have a continuous period of at least 12 hours free of work each day before night-time rest.

4. The young people shall have a continuous break from work during each period of seven days (weekly rest). As far as possible the free period shall comprise two successive days and shall take place at the weekend. The weekly rest period shall not be less than 36 hours.

Section 9 When young people who have not reached 16 years of age or have not completed their compulsory schooling, are engaged for vessel work as an employee, the following special provisions shall apply.

1. The work shall be arranged so that it is simple and devoid of danger.
2. The work may occupy a maximum of two hours per school day and twelve hours a week. On school-free days the work shall not exceed seven hours per day. Work that is carried out during continuous school-free time of at least one week may, however, total up to 35 hours a week or, for those who have reached 15 years, 40 hours a week and a maximum of 8 hours a day.
3. Work may not be carried out between 20.00 and 06.00.
4. The young people shall, in each whole day, have a minimum of 14 continuous hours free from work, prior to night-time rest.
5. The young people shall have a continuous break from work during each period of seven days (weekly rest). As far as possible the free period shall comprise two successive days and shall take place at the weekend. The weekly rest period shall not be less than 36 hours. It shall be arranged for a time that is free of timetabled schooling.
6. The young people shall have at least four weeks continuous freedom from work each calendar year. The free time shall be arranged for time that is free from timetabled schooling.
7. The guardian shall have given his consent to the work. For work on schooldays before school starts or after school ends, the school management shall additionally have given its permission if it concerns more than five school days a term.

Breaks

Section 10 An underage employee shall be given a break of at least 30 minutes, continuous if possible, if the working day is longer than four and a half hours.

Exception

Section 11 If there are social reasons the Swedish Maritime Administration may grant exception from Section 5 for a specific period of time for certain young people or certain tasks. Exception may only be granted for one who has reached 16 years of age and has completed his compulsory schooling.

Section 12 If there are special reasons, the Swedish Maritime Administration may grant exception from Sections 8 and 9 for a specific period of time, for certain young people or certain tasks.

Chapter 7 Exposure to oil

Ban on unhealthy exposure to oil products etc.

Section 1 Whoever works on ships may not be exposed to unhealthy exposure to oil products or their decomposition products through inhalation or through skin contact.

It is incumbent upon the employer to possess good knowledge of the dangerous substances that are present on board and to ensure that the work is conducted so that such injurious exposure is avoided.

Preventive measures

Information obligation

Section 2 An employer shall specifically inform the employee of the risks that exist in respect of work where injurious exposure can arise.

Particular attention shall be accorded such work aspects that involve a risk of long-term skin contact with oil products or long-term effects on the respiratory system.

Personal protective equipment

Section 3 Personal protective equipment shall be used when there is a risk of injurious exposure to oil products.

General advice

There should be opportunities for recurrent cleaning or replacement of protective clothing since it is important that pull-on clothing and overalls etc. are kept free of oil products.

In order to possess adequate protective effect, protective gloves that are reused should be whole and clean on the inside and be continuously replaced with regard to the gloves' material and the nature of the handled product.

Hearing protection, eye protection, breathing protection and protective shoes should be cleaned before use.

Ventilation in the engine-room

Section 4 Workplaces in the engine-room and adjacent spaces shall be well ventilated.

Section 5 With regard to work in the engine-room and adjacent spaces, personnel shall be protected against exposure to the vessel's combustion exhaust gases and vapours from the oil-tanks' exhaust systems. Exhaust gas leakages shall be located and remedied.

General advice

Exhaust gas leakage or similar sources of exposure should be remedied as soon as possible since, upon the combustion of oil products, polyaromatic hydrocarbons are formed that, in certain cases, can cause cancer. Polyaromatic hydrocarbons are, for example, to be found in combustion exhaust gases and soot particles.

Cleaning

Section 6 The employer shall ensure that the engine-room spaces and adjacent machine-room spaces, bunker stations and other spaces, are kept clean.

Oil deposits and oil spill shall be removed. Oil-saturated insulation shall be replaced.

Detergents

Section 7 Detergents shall be used under conditions that afford satisfactory safety regarding effects on the skin and respiratory system. Detergents shall not possess a stronger cleaning power than is necessary for the work process for which it is used.

General advice

In order that those who carry out vessel work shall be able to make themselves aware of the chemical substances that are accessible and the effect of these substances on humans, the supplier's information sheet shall be attached or readily accessible.

One should maintain a good purchase check on which hazardous substances are supplied to the vessel, since detergents and organic solvents can cause illness in employees. The number of chemical substances on board should be limited.

Cleaning of engine parts and tools

Section 8 Cleaning equipment for engine parts and tools shall be placed in a specially separated cleaning space with an extractor fan.

Section 9 Workplaces for manual cleaning of engine parts and tools shall be arranged so that skin contact with oil products may be avoided.

Pressure testing and cleaning with fluids under pressure

Section 10 Pressure testing of fuel valves by means of calibrating fluids as well as cleaning of filters, engine parts and tools, shall be organised so that exposure to injurious substances is avoided.

General advice

Upon pressure testing of fuel valves calibrating fluids should be used instead of marine diesel oil, since the calibrating fluids have a less irritating effect on skin and respiratory systems. In order to avoid health risks, for example where aerosol mist is formed, pressure testing of fuel valves as well as cleaning of filters etc., should take place in special closed hoods or by point suction. Alternatively breathing protection, full or half mask, may be used. For choice of breathing protection and guidelines for use in respect of work loads and working hours, advice is to be found in the Swedish Work Environment Authority factual study book "Personal protective equipment".

Accidents

Section 11 If an employee notes an injurious effect on the skin or respiratory systems that may be due to exposure to oil, the foreman in charge shall be notified.

The employer shall ensure that the person exposed to such effects shall be immediately offered the opportunity to undergo a medical examination by a qualified doctor.

General advice

Immediate washing of skin sections that have been in contact with oil products should take place in order to prevent the risk of e.g. cancer and allergic reactions. Washing should be undertaken with soap and great quantities of water.

Oil that has splashed into the eyes may be rinsed away with great quantities of water. Eye showers with water and containers with saline solutions for rinsing eyes should be readily available.

Chapter 8 Ventilation

Air quality

Section 1 Spaces where employees stay shall be so arranged and have such ventilation systems for air circulation and the entrapment of air pollution that is generated in the premises, that the air quality in the occupied zones is satisfactory.

Air circulation shall be so organised that the spread of air pollution is restricted.

Section 2 For the calculation of air volumes, heating and refrigerating capacities, as well as upon the adjustment of the ventilation in the vessel's fittings, ISO 7547-1985 shall be followed, with the exception that the minimum fresh-air volume to a cabin shall be calculated for at least two persons.

The ventilation sound may not provide a sound contribution whereby the highest sound levels when under way are exceeded according to Chapter 4 on noises.

Exterior air

Section 3 Exterior air intakes shall be suitably positioned with regard to the exterior air's pollution content and temperature as well as the positioning of the exhaust air outlets.

Incoming air

Section 4 Incoming air to the work premises and personnel spaces shall be as free from air pollution as is practicably possible. The incoming air's content of air pollution shall be significantly lower than the hygienic limit values, where such are present.

Air shall be supplied in the manner that, in each case, is suitable and so that troublesome draughts and noises do not occur. If required, the air shall be pre-heated, cleaned or treated in some other manner.

Section 5 Ventilation systems with recirculated air shall be installed only if a special examination has shown this to be appropriate. Exhaust air shall be cleaned before it is returned to work premises or personnel spaces as recirculated air. The cleaning plant for recirculated air or circulation air shall possess a reliable separator function. The recirculation of air shall be able to be turned off completely.

Section 6 Transferred air may only be channelled to premises with a lower requirement of air quality than the premises from which it is taken.

Section 7 Pollution from processes, handling or similar may not be transferred via recirculated air or transferred air to premises where such pollution is not normally generated.

Process ventilation

Section 8 Process ventilation in the form of point exhaust shall be found:

1. at ranges and other preparation equipment that gives off cooking fumes or high heat,
2. in connection with large dishwashers' drain hose openings,
3. at fixed welding locations,
4. at places for cleaning of fuel oil filters,
5. at places for cleaning of machinery parts,
6. at places for the pressure testing of fuel filters, and
7. at places for paint mixing and cleaning of paint sprays.

Section 9 In premises where process ventilation is a prerequisite whereby injurious levels of pollution in frequented areas shall not arise, any fault in the ventilation system's function shall be shown by a control system. If exposure to air pollution can cause mortal danger or serious injury, then the control system shall consist of an alarm. The alarm shall be acoustic or visual or, where required, both.

Maintenance and function checks

Section 10 For ventilation systems there shall be written operation and maintenance instructions. Operation and maintenance personnel shall possess adequate knowledge of the ventilation system and also have access to the instructions. These shall apply only to the ventilation system in question.

Section 11 Ventilation systems shall be checked and maintained regularly. Newly installed ventilation systems shall be checked to ensure that they function in the required manner before they are put into commission. Checks and maintenance shall be documented. The documentation shall be available next to the installation.

Climate

Section 12 Indoor workplaces shall have a suitable thermal climate. Thermal climate shall be suited to the nature of the work, whether the work is light or heavy and whether it is mobile or stationary.

A heating installation shall normally be found in each place where work is carried out all year. In work premises where heating of the entire premises cannot reasonably be required, e.g. in cargo-handling areas, workplaces with sitting or other less physically demanding work shall be positioned in heated spaces.

Coming into force and interim provisions

1. This code comes into force on 1 January 2006.
2. By means of the code the following regulations⁶ are revoked.
 - The Swedish Maritime Administration's Announcement (1973:A13) on the ban on employing young people for certain work on board ships,
 - The Swedish Maritime Administration's provisions and recommendations (1973:A27) on protection against noise on board ships,
 - The Swedish Maritime Administration's safety instructions (1974:A18) for work with tanks on board ships,
 - The Swedish Maritime Administration's safety instructions (1975:A6) for work with tanks etc. on chemical tankers,

⁶ 1973:A13, 1974:A18, 1975:A6, 1975:A31, 1975:A42, 1976:A53, SJÖFS 1988:2, SJÖFS 1988:8, SJÖFS 1989:19, SJÖFS 1998:4 and SJÖFS 2001:7 are deleted from the code manual.

- The Swedish Maritime Administration's safety instructions (1975:A31) for work with tanks etc. on gas tankers,
- The Swedish Maritime Administration's instructions (1975:A42) on safety measures in connection with tank cleaning etc. in ships that carry crude oil,
- The Swedish Maritime Administration's regulations (1976:A53) on carrier trucks on board ships,
- The Swedish Maritime Administration's Announcement (SJÖFS 1988:2) with regulations and general advice about asbestos,
- The Swedish Maritime Administration's Announcement (SJÖFS 1989:19) with regulations and general advice on hygienic limit values on board ships,
- The Swedish Maritime Administration's regulations and general advice (SJÖFS 1998:4) on pregnant and breast-feeding women that carry out ship work, and
- The Swedish Maritime Administration's regulations and general advice (SJÖFS 2001:7) for the prevention of injurious exposure to oil products upon working on board ships.

3. The regulations in Chapter 2, Section 33 shall, with regard to the requirements of ventilation as well as doctors' examinations and the training of employees employed before 1 January 2006, be complied with no later than 1 January 2008.

4. The regulations in Chapter 2, Sections 58 and 63, shall be complied with no later than 1 January 2008.

5. Ships built between 1 March 1975 and 1 January 2006 may, until these ships undergo a comprehensive reconstruction, exploit the higher sound levels that the limit curves in the Swedish Maritime Administration's provisions and recommendations (1973:A27) on protection against noise on ships, allow.

6. The regulations in Chapter 8, Section 2 first paragraph, shall only apply to ships the keel of which has been laid after 1 January 2006.

On behalf of the Swedish Maritime Administration

JOHAN FRANSON

Ronny Fast
(Swedish Maritime Safety Inspectorate)

Annex 1 Directive

- Council Directive 83/477/EEC of 19 September 1983 on the protection of workers from the risks related to exposure to asbestos at work (second individual directive within the meaning of Article 8 of Directive 80/1107/EEC) (ECT L 263, 24.9.1983 p. 25, Celex 31983L0083), amended by directive 98/24/EC (ECT L 131, 5.5.1998 s. 11, Celex 31998L0024).
- Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work (ECT L 183, 29.6.1989 p. 1, Celex 31989L0391).
- Council Directive 89/655/EEC of 30 November 1989 concerning the minimum safety and health requirements for the use of work equipment by workers at work (second individual Directive within the meaning of article 16.1 of Directive 89/391/EEC) (ECT L 393, 30.12.1989 p. 13, 31989L0655), amended by Directive 95/63/EEC (ECT L 335, 30.12.1995 p. 28, Celex 31995L0063).
- Directive 89/656/EEC of 30 November 1989 on the minimum health and safety requirements for the manual handling of loads where there is a risk particularly of back injury to workers (fourth individual Directive within the meaning of article 16.1 of Directive 89/391/EEC) (ECT L 393, 30.12.1989 p. 18, Celex 31989L0656).
- Council Directive 89/686/EEC of 21 December 1989 on the approximation of the laws of the Member States relating to personal protective equipment (ECT L 399, 30.12.1989 p. 18, 31989L0686), as amended through Directive 96/58/EEC (ECT L 236, 18.9.1996 p. 44, Celex 31996L0058).
- Council Directive 90/269/EEC of 29 May 1990 on minimum requirements for health and safety relating to manual handling of loads where there is a risk of employees suffering injuries, especially in the back (fourth individual directive according to article 16.1 in Directive 89/391/EEC) (ECT L 156, 21.6.1990 p. 9, Celex 31990L0269).
- Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment (fifth individual Directive according to article 16.1 of Directive 89/391/EEC) (ECT L 156, 21.6.1990 p. 14, Celex 31990L0270).
- Commission Directive 91/322/EEC of 19 May 1991 on establishing indicative limit values by implementing Council Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work (ECT L 177, 5.7.1991 p. 24, Celex 31991L0322).

Annex I

- Council Directive 92/58/EEC of 24 June 1992 on the minimum requirements for the provision of safety and/or health signs at work (ninth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) (ECT L 245, 26.8.1992 p. 23, Celex 31992L0058).
- Council Directive 92/85/EC of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding (tenth individual Directive within the meaning of Article 16.1 of Directive 89/391/EC) (ECT L 348, 28.11.1992 p. 1, Celex 31992L0085).
- Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work (ECT L 216, 20.8.1994 p. 12, Celex 31994L0033).
- Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16 of Directive 89/391/EEC) (ECT L 131, 5.5.1998 p. 11, Celex 31998L0024).
- Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work (ECT L 142, 16.6.2000 p. 47, Celex 32000L0039).
- Council Directive 2000/54/EC of 18 September 2000 on the protection of workers from risks related to exposure to biological agents at work (seventh individual Directive within the meaning of Article 16.1 of Directive 89/391/EEC) (EUT L 262, 17.10.2000 p. 21, Celex 32000L0054).
- European Parliament and Council Directive 2002/44/EC of 25 June 2002 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration) (sixteenth individual Directive within the meaning of Article 16.1 of Directive 89/391/EEC) (EUT L 177, 6.7.2002 p. 13, Celex 32002L0044).
- European Parliament and Council Directive 2003/10/EC of 6 February 2003 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise) (seventeenth individual Directive within the meaning of Article 16.1 of Directive 89/391/EEC) (EUT L 042, 15.2.2003 p. 387, Celex 32003L0010).
- European Parliament and Council Directive 2004/37/EC of 29 April 2004 on the protection of workers from the risks related to exposure to carcinogens or mutagens at work (sixth individual Directive within the meaning of Article 16.1 of Council Directive 89/391/EEC) (EUT L 158, 30.4.2004 p. 50, Celex 32004L0037).

Annex 2 Luminance at different locations on board

Lux	= amount of light falling on to a surface
General lighting	= average luminance in the room, measured 85 cm above the floor, unless otherwise stated, at evenly distributed measuring points, both below and between the light fittings.
Location lighting	= the light falling on to a work area (working surface)

Position on board	General lighting Lux	Location lighting Lux
Wheelhouse	Recommended adjustable up to 300	Adjustable and intended for darkness adaptation + supplemented with fitting for 500-750
Radio cabin	300	500–750
Gyro-room, instrument room	300 adjustable	
Engine-room, all occurring	300	
Engine-room control-room	300	500–750
Kitchen, pantry, dish-room and similar	500	500–750
Office	300	500–750
Store, waste and luggage-room	100	
Corridors	200	500 (notice-boards)
Stairs, swimming-pool	200	
Passenger lift	200	
Cabins	200–300	500–750
Mirrors (measured at vertical level just in front of face.)		300
Shower-room, toilet	200	
Saloon, mess-room, day-room	150	200 (dining tables) 500–750 (reading places)
Cargo hold	200	
Ro-ro deck and car-deck on ferries	100 200 in new value	
At bulwarks/handrails in connection with superstructure and other passages on deck	150	At obstacles in gangways, 100 measured at the obstacle
Connection ways in tunnels	150	
Mooring berths	100	
Winches and windlasses	100	
Tank deck	100	
Accommodation ladder and gangway	100	
Below floor plates in the engine where needed	100	

Annex 3 Highest sound levels for workplaces and recreation spaces on board ships

Ships with a gross tonnage of <500

On ships with a gross tonnage of <500 the highest permitted monotone noise in the cabins, at sea or in port, may amount to a maximum of 65 dB(A).

For ships the keel of which was laid down before 1 March 1974 and that have not subsequently undergone any comprehensive reconstruction, this applies only insofar as it is practicably possible.

Ships with a gross tonnage of ≥ 500 the keel of which was laid down before 1 March 1974

For ships the keel of which was laid down before 1 March 1974 and that have not subsequently undergone any comprehensive reconstruction, the following table applies only insofar as it is practicably possible.

Ships with a gross tonnage of ≥ 500 the keel of which was laid down from 1 March 1974 to 1 January 2006

WORK SPACES	dB(A)
Machinery spaces	
control-room and steering-room	70
workshops and stores	75
manned or periodically manned engine-room with control-room	100
manned engine-room without control-room	85
separate room for propulsion machinery, steering machinery, electrical generator, cargo machinery and similar spaces where the machinery is stopped for inspection etc.	85
Navigation spaces	
outdoors on the bridge wings and control switchboard	70
inside the chart-room and wheelhouse	65
Cargo hold and deck	
noise from fans upon loading and discharging as well as noise at control panel for crane and winch operators	65
Living quarters, office and radio cabin	
monotone noise at sea or in port	55
intermittent noise in port	65
Mess rooms, day-rooms and the like	
monotone and intermittent noise at sea and in port	65
Kitchen, cold buffet, hobby-room, exercise-room and similar rooms	
monotone background noise at sea	65
maximum sound level with equipment in operation	75
deck spaces intended for breaks during free time	65

Ships with a gross tonnage of ≥ 500 the keel of which was laid down on 1 January 2006 or later

The values that are stated in the table above apply with the following exceptions.

Monotone and intermittent noise at sea and in port, in mess-rooms, day-rooms and the like, may not exceed 60 dB(A).

Exceptions

Noise when under way in ice

For ships built on 1 January 2006 or later, the values according to the above may be exceeded when under way in ice. The noise levels in accommodation and living quarters may not, however, exceed 85 dB(A).

Ships built on 1 January 2006 or later and built for operation in ice shall, as far as reasonably and practicably possible, minimise the disturbing noise in cabins caused by passage in ice, by technical or organisational means. It shall be possible to give an account of these means.

Accommodation areas in certain ships

For ships that are only exceptionally under way at the time of the crew's rest periods, the table values shall apply to the conditions that exist during the normal rest periods.

Ships of less than 12 metres overall

The highest sound level in areas for boat operators or passengers is 80 dB(A). When the sound level is above 70 dB(A) measures shall be taken to ensure verbal communication.

Airborne sound insulation

In rest and recreational areas measures shall be taken to minimise disturbing sound. Sound insulating material between spaces in the interior shall be in accordance with the table below. For ships the keel of which was laid down before 1 March 1974 and that subsequently have not undergone any comprehensive reconstruction, the following table applies only to the extent to which it is practicably possible.

Sound insulation figures R'_v in dB	Applies to all ships
accommodation cabin – accommodation cabin	35
accommodation cabin – corridor	30
mess/day-room – accommodation cabin	45
WC/shower-room – adjoining accommodation cabin	45
work premises – accommodation cabin	45

Annex 4

Annex 4

Annex 4 is cancelled by The Swedish Maritime Administration's regulations SJÖFS 2006:37.

Annex 5 Calculation of equivalent noise exposure

If the length of the working day differs from 8 hours then the employee's daily noise exposure $L_{EP,d}$, expressed in dB(A) is calculated by means of the following formula.

$$L_{EP,d} = L_{pAeqT_e} + 10 \times \log_{10} T_e / T_0$$

at which L_{pAeqT_e} = during the time T_e measured equivalent noise level
 T_e = the employee's daily exposure times, expressed in hours, for noise with equivalent noise level L_{pAeqT_e}
 T_0 = 8 hours

If $T_e = T_0 = 8$ hours, then $L_{EP,d} = L_{pAeqT_e}$

Estimation of equivalent noise exposure

By means of the diagram, see *figure 1*, a usually sufficiently accurate estimate of the noise exposure may be made.

Example

An employee has worked in four noise levels during a 24-hour period. Levels below 70 dB(A) are not taken into consideration.

- a) 5 hours in 70 dB(A)
- b) 1 hour in 15 dB(A)
- c) 2.5 hours in 90 dB(A)
- d) 2 hours in 87 dB(A)

Solution

a₁) Go straight up at 70 dB(A) on the lower horizontal scale until you meet the 4-hour line. Go straight out to the left and read the dose value, 0.015.

a₂) Do the same once again but only go up to the 1-hour line. The dose value will be c. 0.004.

b) Now go from 115 dB(A) on the lower horizontal scale until you meet the 1-hour line. The dose value will be c. 130.

c) Correspondingly for 2 + 0.5 hours and 90 dB(A). The dose value will be 0.8 for 2 hours and 0.2 for 0.5 hours.

d) 2 hours in 87 dB(A) gives a dose value of c. 0.3.

An addition of the dose value results in 131.3. In order to obtain the equivalent noise level for the whole day, go in horizontally from the dose scale at 131 to the 24-hour line and then straight down and read c. 102 dB(A). The highest permitted equivalent sound level for 24 hours is 105 dB(A) without consideration given to hearing protection employed (see Chapter 4 Section 2).

Annex 5

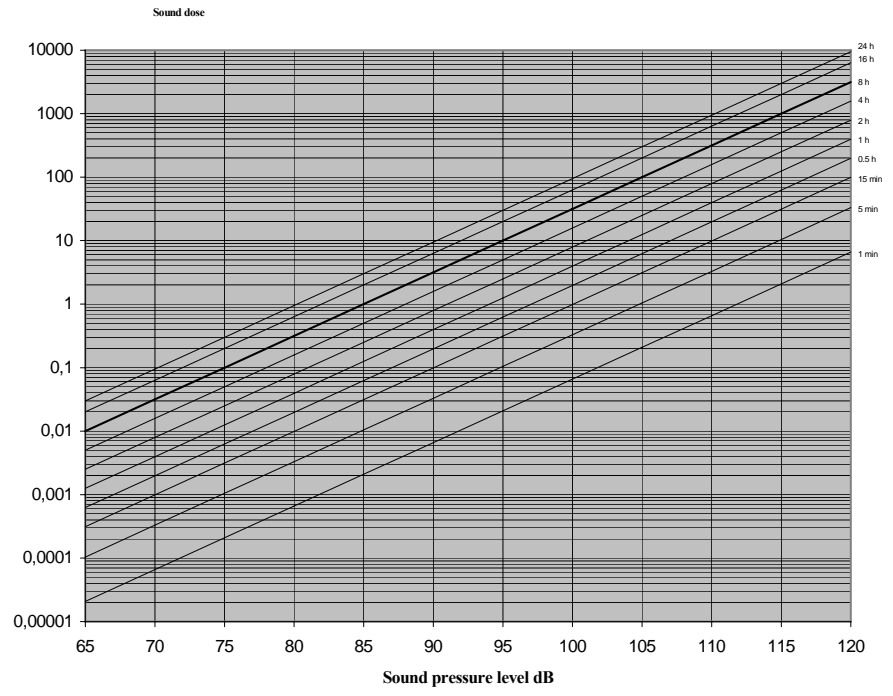


Figure 1

Annex 6 Warning signs

All spaces with sound levels above 85 dB(A) shall be fitted with a mandatory sign on hearing protection, in accordance with the Swedish Work Environment Authority regulations (AFS 1997:11) on warning signs and warning signals at workplaces as well as supplementary signs with black text on a yellow background and with a text height of at least 20 millimetres with the following text for the various average noise levels.

Noise level

Text

85–105 dB(A)



105–120 dB(A)



>120 dB(A)



Annex 7 Specification of certain hazardous tasks according to Chapter 6 Section 5

Work at great height

Work where there is a risk of falling and where the height above ground or corresponding level is more than 3.5 metres. The ban also applies even if the risk of falling is provided against by lifelines, horizontal ladder or similar.

Mooring work

Work on mooring of ships.

Work with animals

Handling of animals presumed to be dangerous.

Work with tractors, motorised equipment, vehicles etc.

Work as a driver or tender of lifting truck. An exception applies, however, to trucks with a total weight (overall weight of truck, driver and greatest load for which the vehicle is designed) of less than two tons, if the work takes place under the supervision of an instructor and on an even, horizontal and hardened base.

Work with mechanically operated technical devices, tools etc.

Work with the following mechanically operated devices, tools etc. is prohibited to young people. The prohibition also applies to other devices with a different designation but with corresponding functions and risks.

1. Wood and metal processing machines:
Bandsaws, padsaws and circular saws. Milling, cutting, planing and upright drilling machines as well as turning lathes.
2. Mechanical, hydraulic and pneumatic presses and waste presses.
3. Machines with open rollers or screws.
4. Machines for handling foodstuffs:
Mixing, mincing, crushing and cutting machines. Band and circular saws for meat, slicing machines and packaging machines. Clipping machines.
5. Motorised chain saws, clearing saws, bush clearers with metal blades for clearing of brushwood for example, and cross-cut grinding machines.

6. Vibrating hand-held tools:
Hammer drills, chisel hammers, oscillating grinding machines and impact wrenches.
7. Nail gun and bolt gun.
8. Devices for cleaning, painting, anti-corrosive treatment and the like with a work pressure greater than 1 Mpa (10 bar)
9. Open blast-cleaning.

Exceptions from work with mechanically operated technical devices, tools etc.

The prohibition according to 1–8 above only applies to devices with such output or power that there is a risk of injury upon contact with their moving or processing parts.

The prohibition according to 1–4 does not apply to devices where the risk in question is prevented by means of technical protective measures such as, for example, a two-handed control device or light curtain. Nor does it apply to devices that have protection, e.g. by being enclosed or in the form of a screen, so that tools are not accessible. The prohibition does apply, however, if the protection has to be activated manually.

The prohibition under 6 does not apply to occasional work with hammer drills or oscillating grinding machines (less than 30 minutes work during a working day).

The prohibition under 7 does not apply to nail guns for insertion purposes with a mass of maximum 0.3 g and an insertion length that does not exceed 25 mm.

Inspection, maintenance and repair work

1. Inspection and repair of electrical mains power plant. Work on, or in dangerous vicinity of, power-carrying parts of such plant.
2. Inspection and repair of pressure vessels, vacuum vessels, piping and open tanks that are to be subjected to examination.
3. Lubrication, cleaning, repair and thereby comparable inspection of operating motors, machines, transmission or other mechanical device if the device's movable parts are accessible.
4. Repair and thereby comparable inspection of mechanical devices that are permanently connected to the mains network or other fixed source of energy.

Work with hazardous substances

1. Work with chemical products or hazardous substances that are formed during work and that, according to National Chemicals Inspectorate regulations on classification and marking of chemical products, shall be attributed to one of the following danger classes:

Very toxic

Toxic

Allergenic

Carcinogenic

Mutagenic

Reproduction toxic

Corrosive with risk designation Strongly corrosive R 35 or

Injurious to health with the risk designations

– Possible risk of irreversible damage to health, R 40, or

– Danger of serious damage to health by prolonged exposure, R 48

2. Work with explosive goods according to the ordinance (1988:1145) on flammable and explosive goods.

3. Work on manufacture, filling, storage or use of gas.

4. Work with means of control that, according to the Ordinance (1985:836) on Means of Control, are to be attributed to class 1 or 2.

5. Manufacture or processing of metal alloys or other substances with a particular ignition risk, such as metal alloys with high magnesium content or thereby comparable, easily ignited substances.

6. Cutting and welding by means of gas, electricity or laser.

7. Work with asbestos-containing materials.

8. Work with quartz or quartz-containing materials under such conditions that employees shall undergo medical examination.

9. Work with lead or lead-containing materials under such conditions that employees shall undergo medical examination.

10. Work in an environment that involves such exposure to hazardous substances that breathing protection needs to be used.

11. Work in enclosed spaces where occurrence is possible of health hazardous gas or vapour, hazardous content of methane or other flammable gas or vapour or dangerously low content of acid.

12. Work with sewage water, sewage sludge or latrine within a sewage or latrine installation.

Annex 7

13. Work that involves hazardous exposure to aromatic polycyclic hydrocarbons in soot, tar, pitch, smoke or dust.

Exceptions from work with hazardous substances

The prohibition according to 1 does not apply to single filling of benzene-containing petrol in vehicles or motorised equipment that the young people use in connection with the work. The prohibition does apply, on the other hand, to other work involving such petrol.

The prohibition according to 3 does not apply to enclosed gas-holders that can accommodate less than 30 litres. Nor does it apply to the use of air, bottled gas or city gas.

The prohibition according to 6 does not apply to point, press or seam welding in machines if the work is arranged so that the risk of crushing and exposure to weld smoke is provided against.

Doctor's certificate

A doctor's certificate is required for exception from the prohibition under 9.

Annex 8 Specification of certain hazardous tasks according to Chapter 6, Section 7

1. Work that is carried out under water or under high pressure in a pressure tank, caisson or similar (diving work).
2. Work that, where adults are concerned, may only be carried out subject to special permission.
3. Demolition work that, where adults are concerned, may only be carried out subject to special permission.