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9°58'E



Hirtshals Yard a|s

Hirtshals Yard A/S - Jens Munksvej - DK-9850 Hirtshals - Denmark
www.hirtshalsyard.dk

Hirtshals Yard a/s



SAFETY MANUAL

Preface

Welcome to Hirtshals Yard A/S

This safety manual describes safety procedures at the shipyard, how you need to react in given situations, create more awareness about the issue of safety, and highlight the dangers of working in this industry. It is everyone's responsibility to help make this site more secure and reduce the number of accidents.

That said, one must also bear in mind that it is not "just" about reducing the number of accidents. The purpose of these procedures is also to help make day-to-day work as comfortable as possible. After all, one's personal life should not be negatively affected by unnecessary amounts of stress on the job.

The manual contains guidance for anyone working at or simply visiting the shipyard premises. Safety is everyone's responsibility, starting with you. Please familiarise yourself with this manual, and if you have any questions relating to its content, your immediate superior or another manager can be consulted for guidance.

We hope you will enjoy reading this introduction to safety procedures at Hirtshals Yard A/S, and please always remember:

THE BEST PERSON TO LOOK AFTER YOUR PERSONAL SAFETY IS YOU!
SO TAKE CARE OF YOURSELF AND YOUR COLLEAGUES!

OUR GOALS ARE:

- 0 accidents
- 0 environmental spills
- 0 fallen objects

Kind regards
Peter R. Jørgensen
Managing Director



This is an extremely dangerous workplace where you have to be cautious and alert at all times.

It is of paramount importance to us that no one is injured while working at Hirtshals Yard A/S.

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Introduction

The purpose of this guide is to introduce employees to the work environment at Hirtshals Yard A/S and answer the most fundamental questions about the company's work environment.

As part of the health and safety policy of Hirtshals Yard A/S, we prepare a set of goals each year to further the development of the work environment.

As an employee at Hirtshals Yard A/S, you can participate in this process by submitting proposals to your safety representative. Hirtshals Yard A/S places great emphasis on employee participation, as we believe that those who are most able to point out areas of improvement are the people actually working in the various workshops/sections.

This manual should be treated as part of your introduction to Hirtshals Yard A/S and can be complemented by a tour of the company premises accompanied by one of our safety representatives.

Health and safety policy

Hirtshals Yard A/S has the utmost respect for the well-being and safety of our employees and accordingly seeks to create a safe and healthy work environment while minimising adverse effects of our products and activities in terms of health and safety.

We strive to support our employees, customers, and suppliers in developing rewarding and healthy procedures that lead to good occupational health and safety. Hirtshals Yard A/S sets and regularly monitors goals for occupational health and safety.

Our operational solutions are in accordance with the laws and regulations concerning occupational and health and safety issues.

Staff are informed about and trained in safety and protection as well as risks within their area of responsibility.

Everyone at Hirtshals Yard A/S is familiar with and responsible for compliance with the company's health and safety rules.

Day to day safety procedures

Hirtshals Yard A/S has a Safety and Environmental Committee which deals with all questions and issues concerning safety and environmental matters.

The committee is comprised of five representatives of the company. Currently, the committee consists of the following representatives:



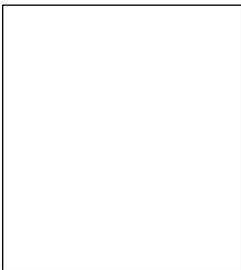
Chairman
Peter R. Jørgensen



Safety representative
Niels Jørgen Larsen
Blacksmith workshop
& dock



Safety representative
Henrik Svendsen
Foreman steel



Safety representative
Birger Nielsen
Stores



Safety representative
Maria Louise Eilers
Office

The committee meets every 3. month and the minutes from these meetings can be found on the so-called "safety boards". Copies can also be found in the storeroom, office, and the internal server's N-drive, located in the folder entitled 'Safety'.

Emergency preparedness

Dial 112 in the event of fires or accidents. Remember to supply the following address: JENS MUNKSVEJ 1, 9850 HIRTSHALS as well as the location on site where assistance is needed. Make sure to station people by the entrance to direct the emergency service personnel to the scene of the incident. Thereafter, walk directly to the assembly point. Remember to alert the foreman and project manager as well.

People working on the ships must assemble by the gangway. People in the workshops or offices must assemble in front of the administration building. Ships in the harbour can activate the alarms located in the dock. If the alarm sounds, the dock must be evacuated immediately. If there are crew on the ship, the docking foreman can arrange for a test of the alarm to ensure that the ship's crew are familiar with the alarm signal.



Personal protective equipment (PPE)

Hirtshals Yard A/S requires all employees to use personal protective equipment that is suited to the respective task being performed.

All employees may at any time be provided with personal protective equipment through the storeroom.



Hard hat

Wearing a hard hat at all times is generally mandatory at Hirtshals Yard A/S, but there may be workshops/buildings where this rule is not applicable. Always use a safety helmet when you are in the dock.

Do not alter the hard hat in any way, and if it has been damaged, you must go to the storeroom to obtain a new one.



White helmet
(employees in all departments)



Blue helmet
(subcontractor - borrowed helmet)



Yellow helmet
(foremen, administrative staff)



Red helmet
(visitor - borrowed helmet)



Green helmet
(safety officers)

Your name must be clearly written on Dymo tape attached to the front of the hard hat

Visitors being given a tour of the dock as well as subcontractors may be issued guest helmets.



Protective eyewear

Take care of your eyes. Repeated minor injuries can eventually lead to more serious damage over time. Protective eyewear is required for tasks that entail considerable welding work or any other work that poses a risk to your eyes. Protective eyewear should be worn everywhere on the ships where it is generally required. The protective eyewear is available from the storeroom.



Workwear

Only workwear featuring the company logo is allowed. The workwear must be appropriate to the tasks being performed.



Safety footwear

Always use safety shoes when working in the workshops and in the dock. Visitors are exempted from this rule however.



Hearing protection

Hearing protectors must always be worn during periods of noise exposure, whether indoors or outdoors. Either earplugs or earmuffs should be used according to the level of noise. These are available from the storeroom, and earplugs are also available from dispensers located by the safety boards.



Gloves

Wear protective gloves as and when appropriate. The gloves are available from the storeroom.



Respiratory protection:

Use a breathing mask/respirator if you are exposed to smoke or particles that can be harmful to your respiratory passages. Read more about the use of fresh air masks/respirators under the section further down entitled Respiratory protection.



Fall Protection

Fall protection gear must be used when working at heights exceeding 2m. This also applies to the use of lifts and platforms. There is no need for fall protection gear on approved scaffolding however. Anti-fall equipment is available from the storeroom



Dial 112 in the event of fires or accidents. Remember to supply the following address:

JENS MUNKSVEJ 1, 9850 HIRTSHALS

as well as the location on site where assistance is needed.



First aid equipment

There are two first aid boxes located on the company premises. One can be found in the cafeteria and the other in the dock. Additionally, two smaller kits are stored in the office and foreman office.



Furthermore, band-aid dispensers and eye wash fluid can be found at the following locations:

- The bathroom in the forge
- The wash basin in the forge
- The wash basin in the engineering workshop
- By the "information boards"
- Office
- Foreman office



A defibrillator is available at the entrance to the foreman office, which can be found by following the green arrow signs.



Fire preparedness

There are a number of emergency plans developed by Falck located around the company premises. These emergency plans include instructions on how to react to accidents or fires while also providing layout drawings of the company premises.

These layout drawings allow you to see where the escape routes and fire extinguishers are located.

All employees must at least familiarise themselves with the location of the escape routes, assembly point, fire extinguishers and first aid equipment.



Lifebuoys

In the event of a person falling into the dock basin, there are lifebuoys mounted on the buildings along the quay.



Work-related injuries or accidents

Any work-related injuries or accidents at Hirtshals Yard A/S must be reported as soon as possible to the Danish National Board of Industrial Injuries and at the very latest within 5 days. Accidents are registered and reported from the office.



Near-miss events

A near-miss event is a situation where an accident is liable to occur at any moment. It could also be an event where an accident very nearly occurred.

At Hirtshals Yard A/S, near-miss events must be recorded so that better safety procedures can be implemented based on these events. Employees of Hirtshals Yard A/S are therefore encouraged to report all situations or incidents.

Forms are available in the storeroom and cafeteria. You can either submit the form in the mailbox by the warehouse or to your foreman or safety representative.

Safety data sheet

Products stocked in Hirtshals Yard A/S are accompanied by safety data sheets describing the products. The safety data sheets are available in the folders located in the storeroom and in the office.



Forklift trucks:

The forklift trucks may only be operated by personnel with a forklift truck certificate. No cargo should be placed on top of gas/fluid-carrying hoses, power lines or structures that are not designed to handle the weight.



Machine use instruction

General instruction is carried out in the respective workshops by the immediate supervisor. There are stationary localised ventilation systems installed in the respective workshops and workspaces. These systems must be used in all processes involving smoke or fumes.

During work involving smoke or fumes being carried out away from such systems, a suction hose must be set up and connected to the nearest ventilation system.



Certificates

All employees are asked to indicate which certificates they possess so that this may be recorded.

This helps the company know who is certified to do what, and thus helps minimise the risk of accidents.



Order and tidiness

It is the responsibility of every employee in a workshop to ensure that it is tidy. Therefore, everyone must clean up after themselves and their own work.

You are responsible for keeping your work space tidy. Cables and hoses should be coiled up after use. Do not leave waste/tools lying about on scaffolding or other places where there is a danger that it may fall.

Cleaning up includes gathering tools, electrodes, strips and consumables.

Inadequate clean-up leads to many near-miss events and this trend must be reversed.

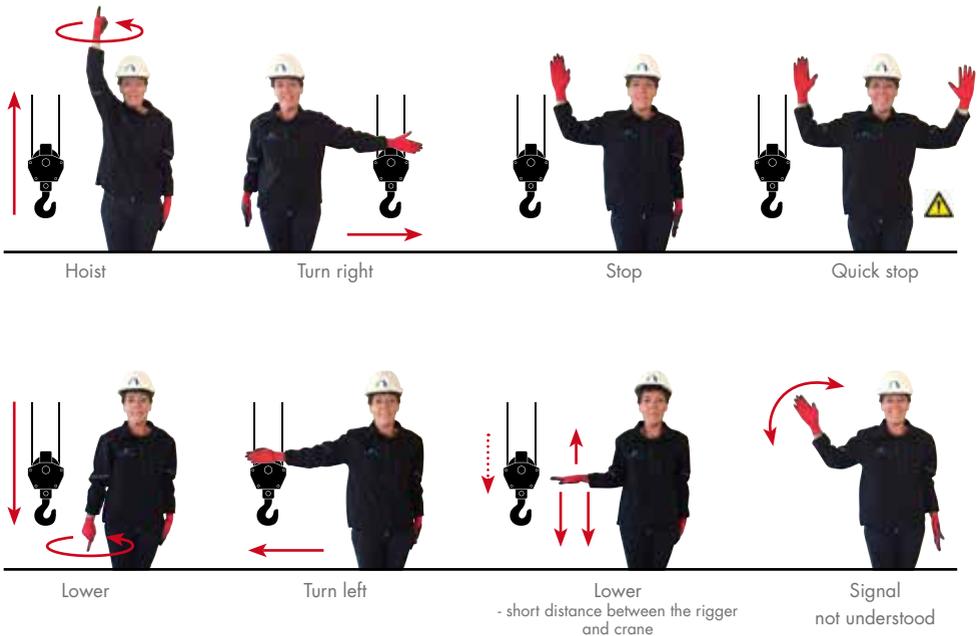


Lifting instructions

- Before using ropes or chains, make sure that there is a valid label and that the equipment's maximum allowable weight is not exceeded.
- Always check straps for signs of damage before use. If there is any visible damage, the strap must be discarded. Also ensure that the maximum allowable weight is not exceeded

Crane routing

- Position yourself so that the operator can see you
- Signal to the crane using clearly visible gestures
- Only one person may direct the crane operator
- If two cranes are being used to lift the same load, they must both be directed by the same person
- The "quick stop" signal is an emergency signal and should therefore be used as seldom as possible
- Persons under 18 are not allowed to perform rigging tasks or direct cranes
- It is prohibited to shorten the straps, for instance by using knots or the like.
Correct any twists or loops
- When lifting with rope, wire hangers or straps, you must always take any sharp edges into consideration



Hoist

Turn right

Stop

Quick stop

Lower

Turn left

Lower
- short distance between the rigger and crane

Signal
not understood



Working aloft

A ladder, lift, scaffold or truck/crane with personnel basket can be used when working aloft. Always use an approved personnel basket.

Working aloft is defined as all work at heights over 2m where there is a possibility of falling.

When working aloft, the points listed below shall be observed when relevant:

- When working on an open deck and/or over prolonged downward or outward openings, a temporary railing should always be erected. The railing must have a minimum height of 1,050mm to the top.
- In the case of temporary openings, it is acceptable to station a person by the hole/opening to keep watch.
- Guard rails may be constructed of steel, chain or band contingent on the size of the opening and conditions.
- Employees installing temporary railings must always wear fall protection gear where practicable.
- Fixed ladders/ramps must always be established between each level on a scaffold with multiple levels. Ladders must be secured with steel wire.
- Fall protection gear must be used when working at height where there is no shielding or scaffolding.
- Fall protection gear must also be used when working from a lift.
- Safety guards must be fitted over manholes.

Ladders are used in conjunction with smaller jobs at lower heights, before which one must ensure that the foundation is solid.

Scaffolding is used at greater heights. If the height exceeds 3m, the scaffolds must be built by authorised scaffold erectors. Personnel who have taken the 1-day course in rolling and trestle scaffolding are allowed to erect scaffolds up to a height of 3m.

Lifts are rented from a rental company, and it must always be ensured that the lifts are approved and include instructions for use. The area under a lift must ALWAYS be blocked off to prevent people from passing under the personnel basket while the lift is in use.

If a forklift truck is used as a lift, ONLY an approved personnel basket may be used.



Scaffolding and ladders

Always inspect scaffolding before it is used and ensure that ladders are properly secured against skidding.

When working on scaffolding, the following precautions must be taken:

- Do not take shortcuts to the work area. Use ladders, gangways and stairs
- Store smaller items in boxes in order to prevent them from falling down
- Do not leave tools and equipment behind on the scaffolding
- Scaffolds must not be loaded with more equipment/staff/etc. than necessary to perform the task





Rigging

- No one is permitted to ride on a rigged load that is being lifted
- When lifting, transporting or depositing a load, strong winds must be taken into consideration
- When using 2 straps of rope, chain or tape, the angle must be taken into account. The strap angle must not exceed 120°

The following safety precautions apply to all rigging equipment:

- The equipment must be strong enough
- Rigging equipment must be inspected every time it is taken into use and must undergo a complete overhaul at least every 12 months.
- Rigging equipment must be labelled with a readable SWL or WLL indicating the permissible load as well as the date of the last inspection.
- Equipment that is submerged in sea water must not be galvanized.



Working on ships at berth and in dock

When the ship arrives

- In consultation with the ship's crew, the safety representative/head of safety shall indicate the location of the battery compartment as well as its ventilation systems.
- The battery compartment must be marked with a 'Warning: Battery compartment' sign.
- The vents shall be marked with a 'Warning: Venting from the battery compartment, explosion hazard, no hot work' sign.
- The safety representative/head of safety must examine whether there are CO2 fire extinguishers aboard the vessel.
- If this is the case, the appropriate procedures are followed.
- A blind flange is inserted in the exhaust pipes from CO2 bottles in consultation with the ship's crew.

Fuel tank placement

A layout drawing of the work site must first be retrieved (these can be found in the dock house).

Before commencing work in tanks and in enclosed spaces, atmospheric testing for oxygen content and the presence of combustible gases must be carried out.

When the appointed personnel or foreman has carried out the atmospheric testing, the area must be marked with a 'Gas tested' sign.

Major repair work

During major repairs where the tank is emptied, the tank must be steam-cleaned to ensure that remnants of oil, sludge, and rust are removed. The tank should be thoroughly vented and atmospheric testing for oxygen content and the presence of combustible gases must be carried out.

Minor repair work

Minor repair welds on tanks may be performed provided that there is no risk of burn-through and only after consultation with the person conducting the atmospheric tests.

Before any hot work operations commence, an assessment must be made with regards to the scope of the task, the purpose of which is to evaluate the risk of igniting fuel vapours.

If it is assessed that the work can be initiated without emptying the tank, the welding seam is executed in stages to prevent critical overheating.

If it is assessed that the tank must be emptied, atmospheric testing must be conducted after emptying the tank. If the gas levels are too high, the tank must be degassed until they have dropped to an acceptable level.



Working in cramped spaces

Appropriate safety equipment must be worn when working in cramped spaces. Another person must be stationed or regularly checking in to monitor the work.

Security lamps must be used.

Confined spaces

A confined space is any space such as tanks, coffer-dams, chain lockers or other similar spaces which may be hazardous.

The danger may be a lack of oxygen, toxic or combustible gases or a risk of someone becoming trapped. Ensure that there is a green sign at the entrance to the confined space.



**Entering a confined space is prohibited
if there is no green sign with a date and time outside.**

Good ventilation is crucial for ensuring a safe atmosphere for persons working in confined spaces. Closed spaces are ventilated externally. If there are risks of atmospheric changes in a confined space, oxygen tests should be conducted at each shift.

Changes in preconditions for test measurements

If there is any change in the preconditions for atmospheric tests, such as spilling flammable liquids, opening additional tanks, vents, etc., and there is reason to doubt that the area is still free of dangerous gases, work must be halted and can only resume once a new atmospheric test has been conducted.

Ventilation

The welding and cutting work area must be well-ventilated. The total air pollution – both in the work area and at other nearby ones – must be as low as possible to keep the concentration of pollutants in the air breathed by employees as low as possible. This can be done by process ventilation.



Respiratory protective equipment

According to Danish law, the use of respiratory protection is only allowed in situations where the work cannot otherwise be safely planned, prepared and executed.

The Danish Working Environment Act stipulates that air pollution in the workplace must be brought down to an absolute minimum and that the effects thereof must also be reduced to as low as possible.

If the impact cannot be reduced sufficiently by means of technical measures, respiratory protection is necessary.

Respiratory protection, however, can sometimes be used as the sole measure. This applies to situations where the work is short-term or occasional, such as cleaning or repair, as well as where respiratory protection is used as a temporary measure until technical improvements will reduce pollution sufficiently.

There can be different types of respiratory protective equipment, such as: dust masks, filter masks or respirators.

A particle filter P2 safety mask must be worn at Hirtshals Yard A/S during the following activities:

- High-pressure/steam cleaning
- Any form of work that involves high levels of airborne dust

A respirator **MUST** be used for the following activities:

- Sandblasting in the dock
- Spray painting in the dock
- Grinding of propeller blades
- Working in cramped spaces





Hot work

Hot work includes:

- Welding
- Flame cutting
- The use of any tool that may cause fire
- Working with the risk of igniting combustible gases, vapour, liquids or solids.

Before commencing hot work, ensure:

- That there is nothing combustible in the vicinity
- Good contact/communication with the fire watch
- That there is fire-extinguishing equipment present
- That exposed components and equipment in the vicinity of the work location are protected

Upon executing hot work, ensure:

- Good contact/communication with the fire watch
- That any changes in the work situation is detected; be vigilant



Welding and arc eye

Avoid staring at a glowing welding seam without a visor. Doing so may lead to lasting damage with loss of eyesight as a result of retinal burns caused by the ultraviolet radiation from the glow.

The symptoms of arc eye (aka welder's flash) appear 4 to 8 hours after the damage has been done and include light sensitivity, running and bloodshot eyes, swollen eyelids and severe discomfort.

The pain can be relieved with an eye ointment called Cinkain (Zinkokain), available at pharmacies without a prescription, but on requisition. If you experience arc eye after working hours, the pharmacy can supply the ointment and fill out a requisition.



Fire guard

There must always be a fire guard present in situations where welding or flame cutting is taking place near combustible material. The fire guard must remain in the vicinity at least 30 minutes after the work has been completed.

Every ship in dock must have 2 gangways as a precautionary measure.



Oxygen and gas hoses

Damaged hoses must be repaired or replaced

Handles may not be placed in toolboxes without having first disconnected the hose.

Hoses must be removed from tanks and small confined spaces and disconnected once the task has been completed.

Hoses are regularly pressure tested by storehouse personnel.



Oxygen and gas cylinders

When using oxygen and gas cylinders, these must be either fastened or positioned horizontally on the ground. Cylinders placed vertically are at risk of toppling and causing injuries.

Any oxygen and gas cylinders stored by the quay area **MUST** be placed in the cylinder cages which **MUST** be closed at all other times.



Working on or near the battery cases

It is necessary to establish good ventilation, by mechanical exhaust ventilation or air diffusion if deemed necessary.

The batteries must be removed before work commences. Disassembly and reassembly of batteries must always be performed by an electrician.

The room must be checked with an explosimeter before work can commence.

If mechanical exhaust ventilation or air diffusion is necessary to ensure good ventilation, the equipment used must be approved for use in hazardous areas.



Sandblasting and painting

Sandblasting and spray painting is only allowed in the dock.

Flammable liquids must always be stored in closed containers. Buckets with paint and/or volatile liquids must be sealed when not in use.

It is prohibited to transport the open buckets in hoisting appliances on the truck or in other ways.

Smoking and the open flames is prohibited in Atex-marked areas. The dock must be thoroughly cleaned after completion of glazing work. The cleaning must be approved by the dock-master or manager if the cleaning has been carried out by subcontractors.

Workplace based assessment:

In accordance with the Danish Working Environment Act, any business with employees must complete a workplace based assessment at least every 3 years or when there are significant changes in operations or fitting-out of work facilities.

The workplace based assessment is a tool for identification, mitigation and prevention of health and safety problems.

A workplace based assessment process is as follows:

- Mapping of the company's work environment
- Assessment of the identified problems
- An action plan that describes how, when and by whom the problems will be solved
- Establishing guidelines for following up on the action plan

Hirtshals Yards' workplace based assessment is available in the Safety folders, which can be found in the storeroom, office, and the internal server's N-drive, located in the folder entitled 'Safety'.

Courses and training

Employees at Hirtshals Yard A/S who perform welding or cutting work must take an occupational health and safety course in welding ("§26 kursus"). If you have not already completed this course, contact your foreman to ensure that you are enrolled as soon as possible.

Safety representatives must take a work environment course ("§9 kursus"). If you have not already completed this course, you must do so as soon as possible. The expenses will be covered by Hirtshals Yard A/S.



Smoking Policy

- Smoking is prohibited in the office building and workshops.
- Smoking outdoors is permitted.
- Smoking in the dock is permitted.
- Smoking aboard ships is prohibited.
- The rules are the same with electronic cigarettes.

Violation of this policy will lead to a warning. Repeated violations can lead to dismissal.

Alcohol and drugs

There is zero tolerance for alcohol and drugs in the yard area.

This applies to employees, contractors, ship's personnel and visitors.

Info for crews and their suppliers

The ship is responsible for:

- Starting and stopping of the ship's equipment
- Oil and water that is pumped within the ship and ashore
- Bunker and oil in tanks
- Ballast and fresh water
- That the crew and the ship's vendors wear proper Personal Protective Equipment (PPE)

The crew must not enter confined spaces without a green sign and approval from the yard supervisor.



**Remember that the yard is an extremely dangerous place to work.
Stay alert and think twice.**

Familiarise yourself with the manual.

**If you have any questions,
your immediate superior or a member of the
Safety and Environmental Committee
can be consulted for guidance.**