



Boatbreakers Boat Dismantling Training

Unit 2

Personal Protective Equipment (PPE)

Aim of Unit 2

By the end of this unit you will:

- Describe why it is important to use Personal Protective Equipment (PPE) on Boat Recycling tasks and what is the legal requirement to wear it.
- Identify which PPEs can be needed to wear in everyday roles and in special situations of Boat Dismantling
- Learn how to wear PPE correctly

What is PPE?

PPE is equipment that will protect the user against health and safety risks at work. It can include items such as safety helmets, gloves, eye protection, high-visibility clothing, safety footwear, safety harnesses or respiratory protective equipment.



What is PPE?

- The purpose of personal protective equipment is to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective to reduce these risks to acceptable levels.
- Any item of PPE imposes a barrier between the wearer/user and the working environment.



Basic Health and Safety Requirements

- Ergonomics
- Highest level of protection possible
- Absence of risks and other "inherent" factors of nuisance effect
- Suitable constituent materials
- Satisfactory surface condition of all PPE parts in contact with the user
- Maximum permissible user impediment
- Adaptation of PPE to the user morphology
- Lightness and design strength
- Compatibility of different classes or types of PPE designed for simultaneous use



Keep In Your Mind

- ALWAYS
 - Ensure your PPEs are maintained in good condition
 - Check your PPEs for any damage



Basic Health and Safety Requirements

- **Information supplied by the manufacturer**

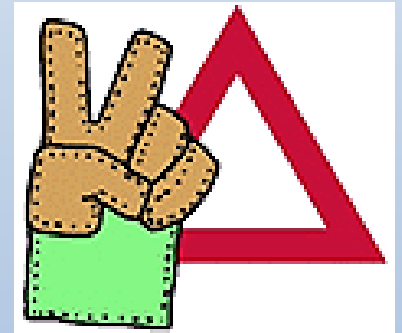
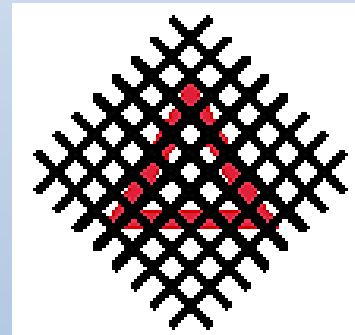
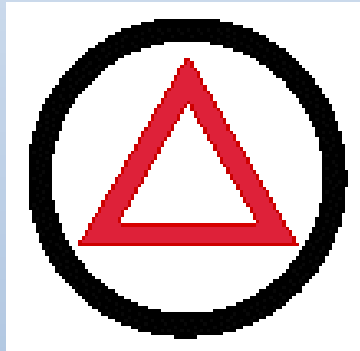
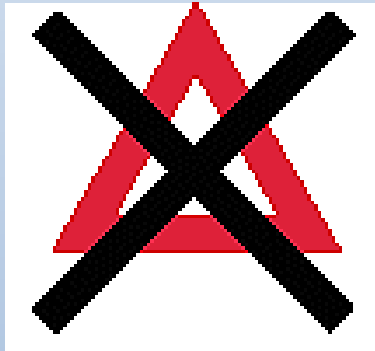
PPE must contain all relevant information on:

- » storage, use, cleaning, maintenance, servicing and disinfection. Cleaning, maintenance or disinfectant products recommended by manufacturers must have no adverse effect on PPE or users when applied in accordance with the relevant instructions;
- » performance as recorded during technical tests to check the levels or classes of protection provided by the PPE in question;

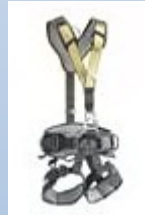
Basic Health and Safety Requirements

- **Information supplied by the manufacturer** (continue)
 - » suitable PPE accessories and the characteristics of appropriate spare parts
 - » the classes of protection appropriate to different levels of risk and the corresponding limits of use
 - » the obsolescence deadline or period of obsolescence of PPE or certain of its components
 - » the type of packaging suitable for transport
 - » the significance of any markings
 - » the name, address and identification number of the notified body involved in the design stage of the PPE

As previously mentioned in the Unit 3 PPE should be used as a last resort.



Which of
these are
PPE?



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PPE legal requirements and responsibilities for workers

The worker shall

- ✓ make correct use of machinery, apparatus, tools, dangerous substances, transport equipment, other means of production and personal protective equipment
- ✓ immediately inform the employer of any work situation presenting a serious and immediate danger and of any shortcomings in the protection arrangements
- ✓ cooperate with the employer in fulfilling any requirements imposed for the protection of health and safety and in enabling him to ensure that the working environment and working conditions are safe and pose no risks.

Wear the right PPE for the task!



PPE legal requirements and responsibilities for employers

The employer shall:

- ✓ evaluate all the risks to the safety and health of workers, inter alia in the choice of work equipment, the chemical substances or preparations used, and the fitting-out of work places
- ✓ implement measures which assure an improvement in the level of protection afforded to workers and are integrated into all the activities of the undertaking and/or establishment at all hierarchical levels
- ✓ take into consideration the worker's capabilities as regards health and safety when he entrusts tasks to workers;
- ✓ consult workers on introduction of new technologies; ☐ designate worker(s) to carry out activities related to the protection and prevention of occupational risks.



BOATBREAKERS

- ✓ take the necessary measures for first aid, fire-fighting, evacuation of workers and action required in the event of serious and imminent danger
- ✓ keep a list of occupational accidents and draw up, for the responsible authorities reports on occupational accidents suffered by his workers
- ✓ inform and consult workers and allow them to take part in discussions on all questions relating to safety and health at work;
- ✓ ensure that each worker receives adequate safety and health training
- ✓ (in EU OSH Framework Directive 89/391/EEC) Personal protective equipment must comply with the relevant Community provisions on design and manufacture with respect to safety and health.
- ✓ All personal protective equipment must
 - ✓ be appropriate for the risks involved, without itself leading to any increased risk
 - ✓ correspond to existing conditions at the workplace
 - ✓ take account of ergonomic requirements and the worker's state of health
 - ✓ fit the wearer correctly after any necessary adjustment.

Additionally

- **The employer must provide** the appropriate **equipment free of charge** and must ensure that it is in good working order and hygienic condition.
- Where the presence of more than one risk makes it necessary for a worker to wear simultaneously more than one item of personal protective equipment, such equipment must be compatible with each other.
- **Personal protective equipment is**, in principle, intended **for personal use**. If the circumstances require personal protective equipment to be worn by more than one person, appropriate measures shall be taken to ensure that such use does not create any health or hygiene problem for the different users.
- Before choosing personal protective equipment, the employer is required to assess whether the personal protective equipment he intends to use satisfies the requirements of this Directive.
- Employer shall organize training and demonstrate the use of PPE. Workers shall be informed of all measures to be taken.

Personal Protective Equipment that are used for routine boat dismantling tasks

- Head protection
- Eye and face protection
- Hand and arm protection
- Protective clothing
- Foot protection
- Hearing protection
- Respiratory protective equipment



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Head Protection

- Objects might fall from above and strike them on the head.
- You might bump your heads against fixed objects, such as exposed pipes or beams in the boat.
- Also, there is a possibility of accidental head contact with electrical hazards in a boat.



Head Protection

ALWAYS

- Use an adjustable chinstrap
- Clean the inside and outside of the helmet
- Check regularly that any damage to the outside is no more than shallow scratches
- Throw head protection away after significant impact by a fixed or falling object
- Wear the helmet so that the brim is level when the head is upright

Head Protection

- » **Never** use the hard hats with cracking or deformity
- » **Never** use the hard hats with indication of exposure heat, chemicals
- » **Never** use bump heads
- » **Never** wear head protection back to front
- » **Never** wear it sloping up or down
- » **Never** customise head protection



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Eye and Face Protection

- During cutting procedures on boat dismantling, particles from the part(can be FRP, wood, pipe, etc.) can be very dangerous to eyes. During this procedures, small particles can hit the eyes and can cause permanent damage, even blindness.
- Also dusts from FRP and wood are also very dangerous to the eyes. Eye protection equipment should be worn at all times during relevant boat dismantling procedures.



BOATBREAKERS

Eye and Face Protection

» Safety spectacles

- These may be separate lenses in a metal or plastic frame or have a single lens/frame moulding.



» Goggles

- These are made with a flexible plastic frame and one or two lenses with a flexible elastic headband.



» Face shields

- These have one large lens with a frame and adjustable head harness or are mounted on a helmet.



Eye and Face Protection



ALWAYS

- » Make sure the eye/face protection fits the user and does not fall off easily
- » Use eye and face protection on a personal basis
- » Consider misting/fogging. Make anti-mist and ventilated eye protection is available
- » Store eye protection in a protective package
- » Follow the manufacturer's instructions on cleaning, not forgetting headbands and frames

Eye and Face Protection



- » **Never** use when visibility is noticeably reduced (e.g. the lenses are deeply scratched, worn or damaged) or the frame, headband or harness is deformed. Throw them away and replace them.
- » **Never** use sunglasses because they do not filter the extreme ultraviolet light as effectively. The plastic used in sunglass lenses will not protect your eyes from sparks.



BOATBREAKERS

Hand and Arm Protection

- » Protection from cuts and abrasions that can be caused by sharp objects on-board the boat
- » To keep hands warm in extreme cold weather
- » Danger from electrical hazards within the boat or recycling yard
- » Handling or coming into contact with chemicals during dismantling tasks.
- » Handling hot or cold materials and work involving accidental contact with naked flames



Hand and Arm Protection



ALWAYS

- » Ensure they fit the wearer properly and are worn correctly for cutting job
- » Ensure users can handle and remove the gloves carefully to avoid contamination of the hands and the inside of the glove
- » Ensure users clean their hands thoroughly when they change gloves and moisturise their hands at least once a day

Hand and Arm Protection



- » **Never** Wear a glove for extended periods
- » **Never** use pre-work creams, sometimes sold as barrier creams, as a replacement for carefully selected gloves. They are not PPE because:
 - they do not provide protection against hazards
 - workers may not apply them properly, leaving part of their skin uncovered
 - there is no information available on the rate of penetration of substances through pre-work creams
 - protection may be removed while working without workers noticing

Body Protection

Clothing can provide sufficient coverage, and be made of suitable materials, to minimize skin burns caused by sparks, spatter.

If disposable outer coveralls are used to protect a reusable coverall, ensure that they are also flame retardant.

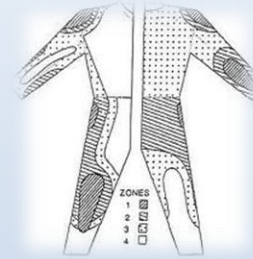


Body Protection

ALWAYS

- » Wear oil-free protective clothing made of wool or heavy cotton
- » Choose clothing that allows freedom of movement and covers all areas of exposed skin
- » Wear long sleeved shirts (no t-shirts), and button the cuffs, pockets, and collar
- » Keep clothing dry
- » Remove all flammables and matches and cigarette lighters from your pockets

Body Protection



- » **Never** wear synthetic (man-made) fabrics because they may burn easily, melt, stick to your skin, and cause serious burns
- » **Never** assume that fire protective clothing will always self-extinguish and make other provision available for extinguishing flame
- » **Never** exceed the highest temperature recommended by the manufacturer during laundering
- » **Never** use more aggressive cleaning agents

Foot Protection

- » **Foot protection is important during boat recycling tasks. Foot protection PPE will not only protect the worker against heavy objects but also for slips and trips with slip resistant soles.**
- » **Safety boots or shoes**
 - The most common type of safety footwear
 - Having protective toecaps and/or other safety features including slip resistant soles, penetration resistant midsoles and insulation against extremes of heat and cold
- » **Wellington boots**
 - Usually made of rubber and used for working in wet conditions
 - Useful in jobs where the footwear needs to be washed and disinfected for hygiene reasons



Foot Protection

ALWAYS

- » Consider the conveniences for the wearer
- » Inspect for wear and tear and loose seams before use
- » Measure both feet
- » Wear a normal work sock
- » Rotate between old and new shoes (for example when you get to three months, go get another pair and then start rotating them)



Foot Protection



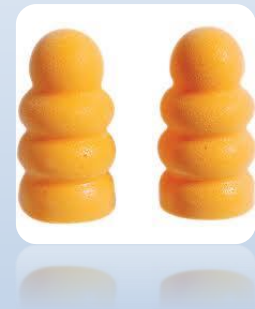
- » **Never** let your feet or legs get too close to moving parts
- » **Never** wear sandals or other shoes that expose any part of your feet
- » **Never** stand in the path of vehicles or other moving equipment that could run over your feet or toes and cause serious injury
- » **Never** jump from tractors or other equipment. That could lead to an awkward landing
- » **Never** wear leather-soled shoes that may cause you to slip

Ear Protection

- » As mentioned in Unit 3, noise is a very common occupational health problem. High noise levels can cause permanent hear loss. In order to prevent damage, ear protections should be used during boat dismantling tasks.

» Earplugs

- Need to fit them into or cover the ear canal, to form a seal. Either permanent (indefinite use), reusable (use only a few times) or disposable (use once).



» Earmuffs

- Normally hard plastic cups, which fit over and surround the ears
- Headband or helmet mounted and some can have communication equipment built into them.



Ear Protection



ALWAYS

- » Check hearing protection regularly for wear and tear.
- » Replace ear cushions or plugs that are no longer available.
- » Replace a unit when head bands are so stretched
- » Wash ear muffs with a mild liquid detergent in warm water, and then rinse in clear warm water
- » Use a soft brush to remove skin oil and dirt
- » Squeeze excess moisture from the plugs or cushions and then place them on a clean surface to air dry

Ear Protection

- » **Never** stand too close to noisy machinery for a long time
- » **Never** reuse disposable earplugs
- » **Never** share earplugs with your co-workers
- » **Never** use too loose or too tight earmuffs
- » **Never** use earmuffs with cracks or other damage
- » **Never** stuff cotton in your ears in place of earplugs

Respiratory Protection

Respirators that rely on filtering contaminants from workplace air

» Simple filtering face pieces



» Respirators



Respiratory Protection

ALWAYS

- » Use respirators in good working condition
- » Use all the straps provided
- » Fit two identical filters to a twin-filter respirator
- » Clean and store the respirators properly
- » Change filters as instructed by the manufacturer
- » Check the fan is providing enough airflow before you use the device
- » Change all the filters on a multi-filter unit together



Respiratory Protection



- » **Never** use in oxygen-deficient atmospheres
- » **Never** use particle-only filters against gas/vapour, or gas/vapour-only filters against particulates
- » **Never** use if dirty, damaged or incomplete, or if not providing enough air
- » **Never** keep working if the fan stops or the flow rate falls. Leave the work area immediately

Key Messages



make sure that PPE:

- » is effective and gives adequate protection against the hazards in the workplace
- » is suitable and matches the wearer, the task and the working environment, so it does not get in the way of the job being done or cause any discomfort; does not introduce any additional risks, e.g. limits visibility;
- » is CE marked to confirm that it has been made to an appropriate standard;
- » is compatible with any other PPE that has to be worn.