



PROTECTING HEARING AT SEA:

ESSENTIAL MEASURES FOR SEAFARERS

SEAFARERS AND OTHER MARITIME PERSONNEL ARE FREQUENTLY EXPOSED TO HIGH NOISE LEVELS DUE TO THE NATURE OF THEIR WORK ONBOARD SHIPS. PROLONGED EXPOSURE CAN CAUSE HEARING DAMAGE, MANIFESTING AS HEARING LOSS, OR OTHER ISSUES SUCH AS TINNITUS.

The preferred method to reduce noise exposure is through limiting exposure and reducing the noise generated from machinery or activity. However, this is not always possible. When exposure to elevated noise levels is unavoidable, personal hearing protection should be used.

Hearing protection should be the last resort when no other reasonable measures can reduce noise exposure. Shipowners and operators need to identify high noise working spaces such as machinery space, cargo pump rooms, funnel exhaust rooms and steering gear rooms, as well as noisy work activities such as chipping/scaling on deck. Appropriate signage should be installed to warn personnel that they are entering a high noise area.

Noise levels above 80 dB(A)¹ require mitigation efforts, and hearing protection is mandatory at 85 dB(A) and above. The installation and use of temporary equipment can also increase noise levels. The effects of noise should be considered in onboard risk assessments and mitigated as necessary.

All hearing protection equipment must comply with approved standards. In Europe, for example, the most commonly adopted standard is EN 352. Factors to consider when choosing appropriate hearing protection include maximum noise level experienced, frequency of exposure, work activity, and even personal preference. Experience shows that uncomfortable PPE will not be worn as often as it should be.

The goal of hearing protection is to lower the noise levels experienced to 80 dB or below. Over-protection, reducing noise to 65-70 dB or lower, can be dangerous as it impairs the ability to hear communications and alarms, leading to the removal of protection and exposure to harmful noise levels.

The hearing protection selected will be rated to show the expected attenuation. Different regions have different classifications, for example the USA uses a Noise Reduction Rating (NRR). Understanding the standard for the area of operation and ensuring compliance when purchasing protective devices is important.



HEARING DAMAGE CAN AFFECT PEOPLE OF ALL AGES. PROTECTING YOUR HEARING IS CRUCIAL AND PROPER USE OF HEARING PROTECTION IS AN EFFECTIVE WAY TO REDUCE THE RISK.

Recommendations for personnel include:

- Always wear the provided hearing protection in required areas. If hearing protection is removed, even for a short period of time, the overall protection provided is reduced considerably
- Before use, ensure the hearing protection is in good condition, free of unofficial modifications and clean. Report any damage or defect immediately
- Follow the instructions for proper use of the protection. For example, when inserting ear plugs, gently pull your outer ear backwards to better align the ear canal for more effective insertion
- Confirm that the hearing protection fits properly. Everyone is different, but many hearing protection devices are standardised, and mass produced. If the equipment is unsuitable, seek guidance from your ship's manager
- Keep your hearing protection clean and maintained according to the manufacturer's instructions.

Irreparable hearing damage can affect people of all ages. Protecting your hearing is crucial and proper use of hearing protection is an effective way to reduce the risk. The provision and wearing of hearing protection is one method of reducing the chances of hearing damage, if donned properly. Familiarise yourself with your hearing protection and don't hesitate to ask questions if you are unsure.

¹ DECIBELS, WITH A-WEIGHTING – USED TO MEASURE AVERAGE NOISE LEVELS. NOTE THAT DECIBELS ARE A LOGARITHMIC SCALE, WITH AN INCREASE OF 3 DB RESULTING IN A DOUBLING OF THE SOUND PRESSURE WITHIN THE EAR.

A SUITABLE RANGE OF HEARING PROTECTION SHOULD BE MADE AVAILABLE TO PERSONNEL, INCLUDING:



Ear defenders or earmuffs: Cover the entire ear and can be helmet mounted or have a head/neck band.

ADVANTAGES: Easy to use, comfortable in cold environments, flexible range of fits.

DISADVANTAGES: It can have poor compatibility with other PPE e.g. safety eyewear and can be bulky, heavy and uncomfortable in hot environments.



Ear plugs: Inserted into and blocking the ear canal, they can be disposable or reusable. Reusable types must be washed regularly.

ADVANTAGES: Compatible with other PPE, lightweight and easy to carry, comfortable in warm environments.

DISADVANTAGES: It can be easily misplaced, difficult to fit properly, cannot be used by someone suffering with an ear infection and may cause ear infections if hygiene is not maintained.



Semi-insert or canal caps: Cover the entrance to ear canal.

ADVANTAGES: These can be useful in work areas that are subject to infrequent high noise levels, where the swift application and then removal of ear protection is required.

DISADVANTAGES: They generally do not provide as much protection as the other types and are not as common in a shipboard environment.