

# A GUIDE TO BUYING HEARING PROTECTION



UK.RS-ONLINE (UK customers)  
WWW.RS-COMPONENTS.COM (international customers)



## INTRODUCTION

Welcome to our guide to buying hearing protection equipment from the RS range which we have produced in partnership with one of our leading suppliers, 3M. This guide sets out all the important points to consider when selecting hearing protection; provides details of the different types of hearing protection we offer; shows you how to use different products to get the right fit; and includes an overview of relevant EN Standards. We stock a wide selection of hearing protection products from some of the most popular brands in the world with next day delivery, competitive pricing and bulk discounts.

## PERSONAL HEARING PROTECTION

Hearing protection should be issued to employees:

- Where extra protection is needed above what has been achieved using noise control; or
- As a short-term measure while other methods of controlling noise are being developed

## WHY BUY FROM RS?

As industry experts we offer a wide range of hearing protection products for every requirement and environment, from professionally-approved RS products, to ones from the global market leader 3M. This means you can find all the products you need from one source, with next day delivery, competitive pricing and bulk discounts.

## WHEN IS HEARING PROTECTION REQUIRED AND WHY?

Under The Control of Noise at Work Regulations 2005 employers must provide suitable hearing protection where noise exceeds 80dB(A). All EU member states should have complied with the directive as of February 2006. Continued exposure to noise above 80dB(A) may cause permanent hearing damage costing industry dearly. In addition, noise at work can interfere with communications and make warnings harder to hear causing safety issues.

### IMPORTANT NOTE

Hearing protection must not be used as an alternative to controlling noise. Employers are duty bound to remove or reduce risks to health and safety from noise at work.

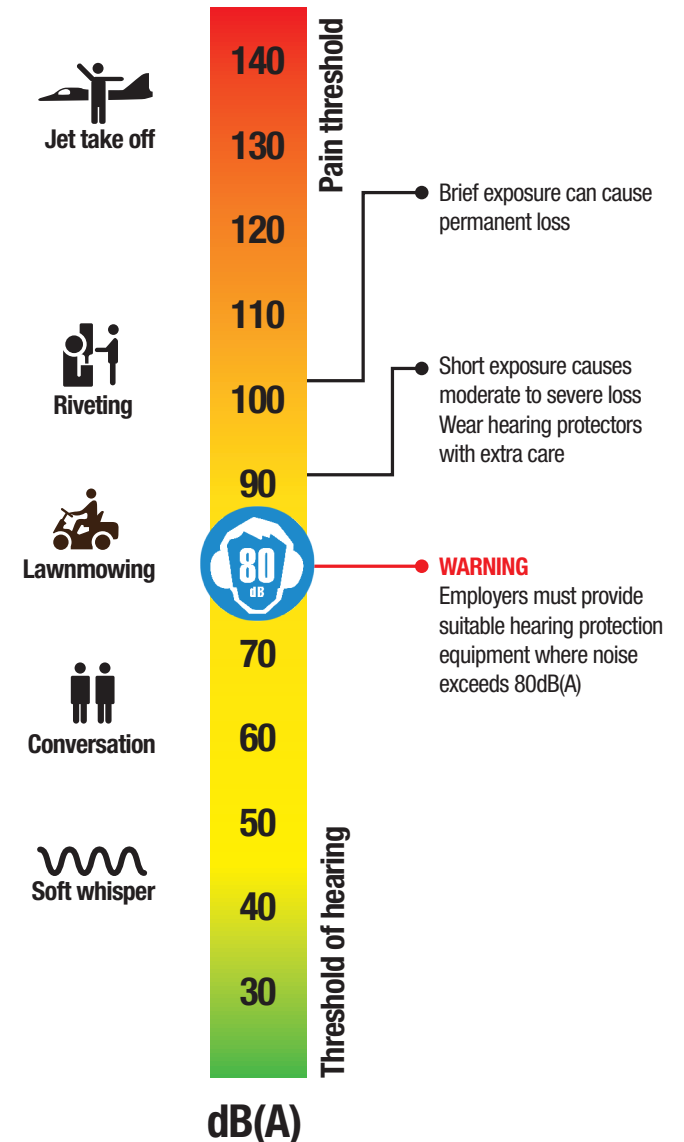
Actions and a risk assessment need to be taken if any of the following apply:

- The noise is intrusive for most of the working day - e.g. vacuum cleaner or busy road
- Voices need to be raised when having a conversation with a person 2 metres away for at least part of the day
- Working with power tools or machinery for more than half an hour a day
- Working in noisy industries, e.g. manufacturing, construction, engineering, road working, entertainment
- Impact noise, e.g. hammering or using pneumatic tools
- Noise from explosive source, e.g. detonators

**Personal hearing protection should ONLY be issued to employees once noise control measures have been taken to minimise noise such as:**

- Using quieter equipment or a quieter process
- Making technical changes to reduce noise at source
- Using screens, barriers, enclosures or absorbent materials
- Limiting employees' time spent in noisy areas

## EASY TO DAMAGE - EASY TO PROTECT



## STEP-BY-STEP GUIDE TO CHOOSING PROTECTION

### 1 Hearing Protection Considerations

When selecting hearing protection, you need to consider:

- Types of protector that are suitable for the work being carried out
- Any other safety equipment such as hard hats, eye protection or masks that need to be used in conjunction with hearing protection equipment
- The attenuation (noise reduction) offered
- Noise exposure patterns
- Environmental factors, such as dirt and dust, or heat and humidity
- Maintenance/replacement costs
- Comfort/user preferences
- Existing medical conditions of wearer

#### How is noise measured?

Noise is measured in decibels (dB). An 'A-weighting' sometimes written as 'dB(A)', is used to measure average noise levels, and a 'C-weighting' or 'dB(C)', to measure peak, impact or explosive noises. You might just notice a 3 dB change in noise level, because of the way our ears work. Yet every 3 dB doubles the noise, so what might seem like small differences in the numbers can be quite significant.

#### INDICATION OF PROTECTION FACTORS

A-weighted noise level (dB)	Select a protector with an SNR of ...
80-90	20 or less
90-95	20-30
95-100	25-35
100-105	30 or more

### 2 Detection

In order to ensure employees noise exposure is kept to a minimum, you will need to measure and monitor noise levels in the workplace. In addition to hearing protection products, RS offers a wide range of Sound Level Meters in our Test & Measurement section. This will help you to understand the level of protection you require and ultimately guide your product selection.

### 3 Hearing Protection Types

#### DISPOSABLE EARPLUGS

These tend to be made from expandable, slow-recovery foam and combine comfort with protection. Once in the ear, foam plugs expand to provide a secure and snug custom fit. This type of earplug should usually be disposed of after single use and is available as individual earplugs or as a corded pair.

#### REUSABLE EARPLUGS

Reusable earplugs, also known as pre-moulded earplugs, are made from flexible materials that are preformed to fit the ear. Generally available with a joining cord to prevent loss these reusable earplugs are hygienic, economical and comfortable to wear. No sizing is required. Also available in metal detectable format.

#### BANDED EARPLUGS

These are easy to use, convenient and extremely comfortable to wear. Easy and quick to put on, take off or store around the neck when not required, these earplugs are ideal for intermittent use.

#### EAR DEFENDERS

Ear defenders consist of rigid cups with soft plastic cushions that seal around the ears to reduce noise. They are a popular choice in hearing protection due to their ease of use and greater levels of comfort. Available in headband, neckband, helmet-attachable and folding models to meet the needs of most applications.



#### COMMUNICATION EAR DEFENDERS

Two options are available within our range of communication ear defenders: **Listen Only** offers the wearer the ability to press a button on the shell to reduce attenuation allowing them to hear a conversation without removing the ear defenders altogether. Or **Speak & Listen** hearing protectors come with a built-in communication radio for cable free short-range communication with other headsets and portable two-way radios programmed on the same frequency.

#### HEARING PROTECTION DISPENSERS & ACCESSORIES

For all your additional hearing protection and maintenance needs, RS offers a range of ear defender hygiene kits to maintain your protection; earplug dispensers to ensure protection is on-hand in key areas; and special storage boxes for ear defenders.



## HEARING PROTECTION USE AND CARE

### HOW TO USE

### CARE AND CLEANING

#### Disposable Earplugs



Slowly roll and compress foam earplugs into a very thin cylinder. While compressed, insert the earplug well into the ear canal. Fitting is easier if you reach around the head to pull the ear outward and upward during insertion.

Keep the earplugs clean and free from material that can irritate the ear canal. Some earplugs may be washed in mild liquid detergent and warm water. Squeeze excess water from the plugs and air dry. Washing may be repeated several times. Discard earplugs if they noticeably change their firmness or do not re-expand to their original size and shape.



#### Reusable Earplugs



Reach around the back of your head and pull outward on the ear while inserting the plug until you feel it sealing. This may seem tight at first, especially if you have never worn earplugs before.

Pre-moulded earplugs could last several months depending on the type and on your work environment, hygiene and body chemistry. They should be replaced if they shrink, harden, tear, crack or become permanently deformed. Wash them in warm soapy water and rinse well. When dry, store them in a carrying case.



#### Banded Earplugs



Hold the large ends of the pods and swivel them to direct the tips into the ear canal openings. Firmly push and wiggle the pods into the ear canal until a snug seal is obtained. Pulling on the outer ear while pushing the pods will be helpful to most wearers.

Most semi-aural hearing protectors can be cleaned in the same way as reusable earplugs. Since the band holds the tips in place to provide an acoustic seal, do not tamper with it otherwise the protection afforded by the device may be reduced.



#### Ear Defenders



Ear defenders must fully enclose the ears to seal against the head. Adjust the headband so cushions exert even pressure around the ears to get the best noise reduction. Pull hair back and out from beneath the cushions. Do not wear caps, store pencils behind the ear, or anything that may break the seal.

Cushions can be cleaned with warm soapy water and rinsed thoroughly. Do not use alcohol or solvents. Cushions normally need replacing at least twice a year or more - whenever they become stiff, cracked or no longer seal. Do not modify ear defenders in any way, and especially do not stretch or abuse the headband as this will reduce protection.

